



COMPENDIUM OF ACCOBAMS RESOLUTIONS IN FORCE ACCORDING TO THE NEW ACCOBAMS STRATEGY

According to para. 3 of Resolution 7.4 (ACCOBAMS Strategy), the Seventh Meeting of the ACCOBAMS Parties requested *“the ACCOBAMS Permanent Secretariat to prepare a comprehensive compendium of Resolutions in force, ordered by subject matter, in the light of the new Strategy”*. This is the compendium requested.

The Resolutions that have been explicitly replaced by subsequent Resolutions are not included in the compendium.

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SECTION 1

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EFFECTIVENESS OF THE AGREEMENT (EA)

TA1- CONCERNING THE AGREEMENT AND ITS MANAGEMENT

1.1 - Improve the level of implementation of and compliance with the ACCOBAMS Agreement, its Amendments, and its Resolutions, through the involvement of all relevant stakeholders

Resolution 1.2	Establishment of the Permanent Secretariat for the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area
Resolution 1.4	Establishing the Sub Regional Co-ordination Unit for the Mediterranean Sea and Contiguous Atlantic Area
Resolution 1.5	Establishment of the Sub Regional Co-ordination Unit for the Black Sea
Resolution 3.28	Support to the Secretariat
Resolution A/4.1	Amendments: Extension of the ACCOBAMS geographical scope
Resolution 4.2	Approval of the Headquarter Agreement with the Host Country
Resolution 4.24	ACCOBAMS Strategy (period 2013-2023)
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Resolution 7.2	Functional structure and Personnel of the ACCOBAMS Permanent Secretariat
Resolution 7.3	Recruitment procedure for the Executive Secretary
Resolution 7.4	ACCOBAMS Strategy
Resolution 8.2	Work Programme & Budget for the triennium 2023-2025
Resolution 8.3	Scientific Committee
Resolution 8.9	Drifnets
Resolution 8.22	Date and Venue of the Ninth Session of the Meeting of the Parties
Resolution 8.23	Tribute to Organisers

RESOLUTION 1.2 - Establishment of the Permanent Secretariat for the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area

The Meeting of the Parties to the Agreement on the Conservation of the Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Referring to Article III, paragraph 7.b) of the Agreement providing for the first Meeting of the Parties to establish an Agreement Secretariat,

*Recalling Resolution 5.5 adopted at the fifth Meeting of the Conference of the Parties to the Convention, held in Geneva, in 1997, which *inter alia*:*

- confirms that the decision on the location of the Secretariat for any particular Agreement, and all relevant other questions, is a matter to be determined solely by decision of the Meeting of the Parties of that Agreement,
- invites the Contracting Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area to consider, in accordance with their procedures, to consolidate Secretariat functions in the Agreements Unit of the Convention Secretariat at their own expenses,

Thanks the Conference of the Parties to the Convention for its offer to consolidate ACCOBAMS Secretariat functions in the Agreements Unit,

Estimates however that it would be judicious, for obvious practical reasons, to locate the Secretariat in a Range State of the Agreement, without prejudice of the close connections to maintain with the Convention Secretariat as anticipated in Agreement article IV,

Considering furthermore with interest the offer of the Government of the Principality of Monaco to host the Secretariat and to provide its Staff and other relevant resources, as specified in a document submitted to this Meeting, on the Principality' expenses,

Decides:

1. to accept the offer of the Government of the Principality of Monaco (hereafter defined as the "Host Country") to host the Permanent Secretariat;
2. to agree with the terms of reference of this Secretariat as annexed;
3. that this arrangement can be reviewed at each ordinary Meeting of the Parties at the request of the Host Country or any Party, which must reach the Secretariat and the Focal Points of the Agreement Parties not later than 60 days before the beginning of the Meeting of the Parties;
4. to provide the Secretariat for the Agreement with a budget as adopted under resolution MOP1/17.

ANNEX 1 - Terms of reference for arrangements concerning the Secretariat

The Permanent Secretariat will be governed by the following terms of reference:

1. The Permanent Secretariat will be made up of an Executive Secretary and a part-time Secretary provided by the Host Country, which will give them the means to devote the necessary time to carrying out their task successfully.
2. The Host Country is responsible for staff expenses (Executive Secretary and Secretary).
3. Secondment of staff members by Governments of the Parties will be encouraged, provided this is subject to mutually acceptable arrangements between the Host Country and the Government concerned.
4. The Executive Secretary of the Agreement will report to the Executive Secretary of the CMS on his/her relations with UNEP and with other international organizations. She will report to the Parties, especially at the Meeting of the Parties, and to the competent bodies of the Agreement, on his/her work program.
5. The Executive Secretary will report to the competent bodies of the CMS on the implementation of the Agreement and other matters of common interest. S/he will also ensure followed-up contact with the CMS Secretariat and the CMS Agreements Secretariats Unit, with which s/he will have regular meetings.

Financial Arrangements

6. The Agreement's Permanent Secretariat will have recourse to suitable local banking services to conduct day-to-day transactions.
7. The Host Country will facilitate the financial execution of the Agreement's budget, in particular authorizing tax-free expenses.
8. The Host Country will provide facilities and office equipment for the day-to-day functioning of the Secretariat.
9. Operating costs of the Permanent Secretariat: the Host Country will be responsible for use of telephone, photocopying and miscellaneous office supplies.

RESOLUTION 1.4 - Establishing the Sub Regional Co-ordination Unit for the Mediterranean Sea and contiguous Atlantic area

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area:

Referring to Article III, paragraph 7.c), of the Agreement providing for the first Meeting of the Parties to appoint for each sub-region, as defined in Article I.3.j), within an existing institution, a co-ordination Unit to facilitate implementation of the measures prescribed in Annex 2 to the Agreement,

Recalling the Final Act of the Negotiation Meeting of the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area, held in Monaco, in November 1996, which recommends that the interim Secretariat approach relevant intergovernmental Organisations in the Black Sea and the Mediterranean Sea with a view to facilitating identification of the Sub-Regional Co-ordination Units,

Adopts with appreciation the offer made by the Contracting Parties to the Barcelona Convention to entrust its Regional Activities Centre for Specially Protected Areas (RAC/SPA) with this task,

Urges Parties to support co-ordination between their National Agreement Focal Point and their RAC/SPA National Focal Points in order to ensure a good co-ordination,

Decides:

1. to create a Sub Regional Co-ordination Unit for the Mediterranean Sea and contiguous Atlantic area within the framework of the RAC/SPA;
2. to provide financial support through the ACCOBAMS budget to implement this task carried out by the RAC/SPA according to the functions defined in Article V of the Agreement;
3. that this arrangement shall be reviewed at each Ordinary Meeting of the Parties at the request of the RAC/SPA or any ACCOBAMS Party, request which must reach the Secretariat and the national Focal Points of the Parties to the Agreement not later than 60 days before the beginning of the Meeting of the Parties;

Urges the Secretariat to sign a Memorandum of Cooperation with the RAC/SPA.

RESOLUTION 1.5 - Establishing the Sub Regional Co-Ordination Unit for the Black Sea

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area:

Referring to Article III, paragraph 7.c) of the Agreement providing for the first Meeting of the Parties to designate in each sub-region, as defined in Article I.3.j), within an existing institution, a co-ordination Unit to facilitate implementation of the measures prescribed in annex 2 to this Agreement,

Recalling the Final Act of the negotiation meeting to adopt the ACCOBAMS, held in Monaco, in November 1996, which recommends the Interim Secretariat to approach relevant intergovernmental Organisation in Black Sea and Mediterranean Sea with a view to facilitating identification of the Sub-Regional Co-ordination Units,

Adopts with appreciation the positive response by the Black Sea Commission to perform this task,

Urges Parties to support co-ordination between their Agreement national focal points and their relevant subsidiary bodies of Black Sea Commission national focal point in order to ensure co-ordination,

Decides:

1. to create the Sub-regional Co-ordination Unit for the Black Sea in the frame of the Black Sea Commission;
2. to provide a financial support through the ACCOBAMS budget to implement this task by the Sub-Regional Co-ordination Unit according to the functions defined in Article V of the Agreement;
3. that this arrangement shall be reviewed at each ordinary Meeting of the Parties at the request of the Sub-Regional Co-ordination Unit or any ACCOBAMS Party, which must reach the Secretariat and the national focal points of the Agreement Parties not later than 60 days before the beginning of the Meeting of the Parties.

Urges the Secretariat to sign a memorandum of understanding with the Black Sea Commission.

RESOLUTION 3.28 - Support to the Secretariat

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling:

- Article IV of the Agreement establishing the Secretariat of ACCOBAMS and defining its functions,
- Resolution 1.2 annex1 encouraging Parties to support the staff Secretariat through secondment,
- Resolution 1.6 (Annex 3) related to the Terms of Reference for the Administration of the Trust Fund of the Agreement,

Recalling also that ACCOBAMS was negotiated under the auspices of UNEP and CMS,

Desirous of strengthening the capacity of the Secretariat of ACCOBAMS,

Expressing its gratitude to the Government of the Principality of Monaco for hosting the Secretariat and for its valuable human and financial support,

Appreciating also the voluntary contributions provided by Monaco, United Kingdom and Italy to support the Secretariat during the six past years,

Conscious of the need and the interest to increase synergy and consistency between the CMS-related agreements,

Desirous, although appreciating the work fulfilled by the Permanent Secretariat during the past years, to sustain the potential of the permanent Secretariat and to increase it in order to fulfil the new tasks assigned by the Contracting Parties,

1. Invites Parties to continue and improve the help to the Secretariat of ACCOBAMS by covering the costs of seconded staff, or financial support, of administrative, scientific or legal staff;
2. Invites the Host Country to facilitate the administrative steps needed for the stay in Monaco of the staff appointed by Parties to support the Secretariat of ACCOBAMS;
3. Charges the Executive Secretary of CMS, in consultation with the Chair of the Bureau and the assistance of the Executive Secretary of ACCOBAMS, to investigate with the host country authorities ways and means to facilitate the implementation of this Resolution and, in particular, to harmonize, as far as necessary, the status of the Permanent Secretariat with those of the Secretariats of CMS Agreements.

RESOLUTION A/4.1 - Amendments: Extension of the ACCOBAMS Geographical Scope

The Meeting of the Parties to the Agreement on the Conservation of the Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area (ACCOBAMS):

Noting that cetacean populations present in the North of Portugal, Galician and Cantabric Seas are connected, as shown by the most recent scientific studies,

Noting that the European Directive 2008/56/EC, establishing a framework for Community action in the field of marine environmental policy (Marine Strategy Framework Directive), and the OSPAR Convention for the protection of the marine environment of the North-East Atlantic, create the sub-region "Bay of Biscay and the Iberian Coast" in order to implement their obligations,

Noting that the scopes of the ACCOBAMS Agreement and of the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS) are slightly different, with the former including all cetacean species, and the latter focusing only on small cetaceans,

Recognizing that the implementation of the above-mentioned international Instruments together with the ACCOBAMS Agreement, would be coherent,

Affirming their willingness to strengthen their collaboration with the ASCOBANS Parties and Secretariat in order to establish synergies in matters and activities of common interests,

Recognizing that the implementation of conservation and management measures for all cetacean populations along marine waters covered by the sovereignty or jurisdiction of both Portugal and Spain would benefit from the inclusion of all species and populations within one single Agreement,

1. *Replaces* the name of the Agreement with: "Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and neighbouring Atlantic Area";

2. *Replaces* the Article 1.a) with:

"1. a) The geographic scope of this Agreement, hereinafter referred to as the "Agreement area", is constituted by all the maritime waters of the Black Sea and the Mediterranean and their gulfs and seas, and the internal waters connected to or interconnecting these maritime waters, and of the neighbouring Atlantic Area west of the Straits of Gibraltar. For the purpose of this Agreement:

- the Black Sea is bounded to the southwest by the line joining Capes Kelaga and Dalyan (Turkey);
- the Mediterranean Sea is bounded to the east by the southern limits of the Straits of the Dardanelles between the lighthouses of Mehmetcik and Kumkale (Turkey) and to the west by the meridian passing through Cape Spartel lighthouse, at the entrance to the Strait of Gibraltar; and
- the neighbouring Atlantic Area west of the Strait of Gibraltar is bounded to the east by the meridian passing through Cape Spartel lighthouse (Morocco); to the west by the line joining the lighthouses of Casablanca (Morocco) and Cape St. Vicente (Portugal) until this line reaches the parallel of latitude 36° N, then by the parallel of latitude 36° N until it reaches the external limit of marine waters covered by the sovereignty or

jurisdiction of Portugal, then by the external limit of marine waters covered by the sovereignty or jurisdiction of Portugal and Spain until the land border between Spain and France.

3. *Replaces* the Article I, paragraph 3.j) with:
 ““Subregion”, depending on the particular context, means either the region comprising the coastal States of Black Sea or the region comprising the coastal States of the Mediterranean Sea and neighbouring Atlantic Area; any reference in the Agreement to the States of a particular subregion shall be taken to mean the States which have any part of their territorial waters within that subregion, and States, flag vessels of which are engaged in activities which may affect the conservation of cetaceans in that subregion;”

4. *Replaces* the Article XIV (entry into force), paragraph 1, with:
 “This Agreement shall enter into force on the first day of the third month following the date on which at least seven coastal States of the Agreement area or regional economic integration organizations, comprising at least two from the subregion of the Black Sea and at least five from the subregion of the Mediterranean Sea and neighbouring Atlantic Area, have signed without reservation in respect of ratification, acceptance or approval, or have deposited their instruments of ratification, acceptance or approval in accordance with Article XIII of this Agreement”;

5. *Replaces* the headline of the second part of the Annex 1 with:
 “Indicative List of cetaceans of the Mediterranean Sea and neighbouring Atlantic Area to which this Agreement applies”;

6. *Replaces* the paragraph 3 of the Annex 2 (Conservation Plan) with:
 “3. Habitat protection.
 Parties shall endeavour to establish and manage specially protected areas for cetaceans corresponding to the areas which serve as habitats of cetaceans and/or which provide important food resources for them. Such specially protected areas should be established within the framework of the Regional Seas Conventions (OSPAR, Barcelona and Bucharest Conventions), or within the framework of other appropriate instruments”.

RESOLUTION 4.2 - Approval of the Headquarters Agreement with the Host Country

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS):

Recalling Article IV of ACCOBAMS, providing for establishment of the Secretariat of the Agreement,

Desiring to clarify the international juridical personality of the Secretariat of the Agreement,

Expressing all the gratitude to the Government of H.S.H the Prince of Monaco for the support provided since the adoption of ACCOBAMS and in particular for the offer to host the Secretariat of the Agreement which was accepted on 28 February 2002 by the First Meeting of the Parties (Resolution 1.2),

Thanking also the Government of H.S.H the Prince of Monaco for having accepted to cover the expenses for the Executive Secretary and for a full-time staff member of the Secretariat,

Recalling that the financial arrangements between the Government of H.S.H the Prince of Monaco and the Secretariat of ACCOBAMS are specified in Annex 2 to the present Resolution,

1. *Approves* the Headquarters Agreement between the Government of H.S.H the Prince of Monaco and the Secretariat of ACCOBAMS, which is Annex 1 to the present Resolution, as well as the Financial Arrangements between the Government of H.S.H the Prince of Monaco and the Secretariat of ACCOBAMS, which is Annex 2 to the present Resolution;
2. *Mandates* the Chair of the ACCOBAMS Bureau and the Executive Secretary to sign the above-mentioned Headquarters Agreement on behalf of the Parties to ACCOBAMS;
3. *Mandates* the Executive Secretary, after the signature, to notify to the Government of H.S.H the Prince of Monaco that the requirements concerning the coming into force of the Headquarters Agreement have been met, as provided for in Article XVII, paragraph 1, of the said Agreement.

ANNEX 1

Headquarters Agreement between the Government of H.S.H the Prince of Monaco and the Permanent Secretariat of the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic Area

(Original: French)

On the one side, the Government of H.S.H the Prince of Monaco and, on the other, the Permanent Secretariat of the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic Area, hereafter called the "Organisation";

Considering Article III 7 of the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic Area, signed in Monaco on 24 November 1996 and entered into force on 1 June 2001, which provides that the Meeting of Parties at its first session would establish a Secretariat to carry out the secretarial functions enumerated in Article IV 2 of the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic Area;

Considering that the Headquarters of the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic Area is established in Monaco in accordance with the offer made by the Government of H.S.H the Prince of Monaco to host a Permanent Secretariat and the acceptance of the said offer by the Meeting of Parties in its Resolution 1.2 of 28 February 2002 of the First Meeting of Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic Area;

Wishing to determine the conditions which govern the establishment of this Headquarters and to define the privileges and immunities granted to the Organisation and its staff in the Principality of Monaco;

Agree on the following:

Article 1: Legal personality

The Government of H.S.H the Prince of Monaco shall recognize the legal personality of the Organisation and, for the purposes of carrying out its statutory responsibilities, its capacity:

- to contract,
- to acquire and dispose of movable and immovable property,
- to be a party to legal proceedings.

Article 2: Establishment of the Headquarters of the Organisation – Premises

1. The Headquarters of the Organisation shall include the premises it occupies or may occupy for the needs of its activity, with the exception of its staff's residential premises. These premises have been graciously granted by the Government of H.S.H the Prince of Monaco for the requirements of the functioning of the Organisation for a period of (99 years) starting from the date when the present Agreement enters into force.
2. At present the premises occupied by the Organisation are located at Jardin de l'UNESCO – Les Terrasses de Fontvieille – 98000 Monaco.
3. The Government of H.S.H the Prince of Monaco, besides taking charge of the usual expenses of the owner, agrees to take charge, with the exception of expenses caused by negligence or omission on the part of the Organisation's

staff, of the Secretariat's functioning expenses, as well as expenses for heating, lighting, water supply, sewage disposal and garbage collection facilities of the Organisation the Organisation itself taking charge of those other expenses of internal maintenance that are usually borne by a tenant.

4. Without prejudice to the conditions of the present Agreement, the Organisation shall not allow its Headquarters to be used as a refuge for persons who are wanted for a crime or for a flagrant offence, or are subjected to a legal warrant, a criminal conviction, an expulsion order or a decision to be deported or extradited issued by the Monacan authorities.
5. The Headquarters of the Organisation shall be inviolable. The Monacan authorities may only enter it with the consent or at request of the representative of the Organisation. This consent may be presumed in case of fire or other emergency requiring prompt protective action.

Article 3: Immunities of the Organisation

1. Except as otherwise provided by the present Agreement, the Organisation's official activities shall be carried out in compliance with Monacan law in the Principality of Monaco.
2. Within the limits of its official activities, the Organisation and its movable property, wherever found, its premises and its assets shall enjoy immunity from jurisdiction, except insofar as the Chair of the ACCOBAMS Bureau or his representative expressly waives this immunity by notifying the Government of H.S.H the Prince of Monaco.
3. The property mentioned in Paragraph 2 of the present Article shall be immune from all forms of search, requisition, confiscation and seizure, as well as from all other forms of administrative or legal restraint.
4. The immunities provided for in the present Article do not apply to property, premises and assets abandoned by the Organisation.

Article 4: Archives

The Organisation's archives shall be inviolable.

These archives shall include all correspondence, documents, manuscripts, photographs, computer databases, films and records belonging to or held by the Organisation.

Article 5: Flag and emblem

The Organisation shall have the right to display its flag and its emblem in its premises and on its means of transport or those used on its behalf.

Article 6: Exemption from dues and taxes

1. Within the limits of its official activities, the Organisation, its assets, income, premises and other property shall be:
 - exempted from all direct taxes, it being understood however that the Organisation shall not ask to be exempted from the taxes that in fact only constitute payment of services provided;
 - exempted from import or export taxes and dues, interdictions and restrictions on imports or exports as regards goods or articles imported or exported by the Organisation for its operating requirements, it being however understood that, on Monacan or French territory, the goods or articles imported in accordance with

this exemption can only be ceded or lent freely or for money under the conditions previously agreed by the competent Monacan or French authorities.

The above exemptions shall in no way be interpreted as preventing the adoption by the Monacan authorities of appropriate security measures.

2. The Organisation shall pay, as provided for in ordinary law, those indirect taxes that are included into the price of the goods sold or the services provided. However, the taxes relating to major purchases or operations carried out by the Organisation for the requirements defined in the preceding paragraph, shall be reimbursed according to modalities to be decided by mutual agreement between the Government of H.S.H the Prince of Monaco and the Organisation, with the exception of alcohol and tobacco products.

Article 7: Currency and exchange rate

1. Without being subjected to any monitoring, regulation or financial moratorium, the Organisation, within the context of its official activities, can freely:
 - receive, acquire, hold or cede funds, currency and valuables of all kinds and hold bank or other accounts in any currency whatsoever;
 - transfer its funds, currency and valuables within the territory of Monaco and from the Principality of Monaco to another State, or vice-versa.
2. In exercising the rights granted to it in accordance with the present Article, the Organisation takes account of any representation made by the Government of H.S.H the Prince of Monaco insofar as it deems that it can act on it without prejudice to its interests.

Article 8: Communications

Insofar as it is compatible with the provisions of the international conventions, regulations and arrangements to which the Principality of Monaco is a Party, the Organisation shall enjoy, for its official communications of whatsoever kind, treatment that is at least as favourable as that granted to the diplomatic missions in the Principality of Monaco as regards any communications priority.

Article 9: Publications

Importing and exporting the Organisation's publications or any other information materials imported or exported by the Organisation within the limits of its official activities shall not be subjected to any restriction.

Article 10: Representatives at and participants to ACCOBAMS meetings

1. The Government of H.S.H the Prince of Monaco commits itself, unless some reason of public order prevents it, to authorizing the entry and staying in the Principality of Monaco, without visa charges and without delay, for the duration of their functions or missions, of representatives of member States and observers from correspondent States who have been invited to participate to the meetings of the Organisation organs or to conferences and meetings convened by it, as well as of experts or personalities called upon for consultation.
2. The persons referred to in Paragraph 1 of the present Article shall not, for the entire duration of their functions or missions, be obliged by the Monacan authorities to leave the territory of Monaco, unless they have abused the privileges of staying they were granted and are pursuing any activity not related to their Organisation functions or missions. The Government of H.S.H the Prince of Monaco should, however, exercise its right to expel these persons only after having first consulted Chair of the ACCOBAMS Bureau or his representative.

3. The persons referred to in Paragraph 1 of the present Article shall not be exempted from the application of quarantine and public health regulations where appropriate.
4. During their assignments, and during their movements on Monacan territory, the persons referred to in Paragraph 1 of the present Article shall enjoy:
 - personal immunity from arrest or detention or seizure of their personal luggage, except in cases of flagrant offence;
 - inviolability of all their official papers, documents and materials;
 - the right to use codes and to send and receive correspondence and other papers and documents by post or in sealed bags.

In order to help the Government of H.S.H the Prince of Monaco to implement the provisions of the present Article, the Organisation shall communicate to the Government of H.S.H the Prince of Monaco the names of the representatives four weeks before their arrival in the Principality of Monaco.

Article 11: Staff Members

The Organisation's staff shall include the permanent and non-permanent members in charge of the scientific, technical or administrative functions.

Article 12: Staff immunity

1. Except for Monacan nationals, people permanently resident in the Principality of Monaco and employees in charge of administrative functions, the staff shall enjoy:
 - immunity from jurisdiction, even after its functions have ended, for all acts, including words and writings, undertaken in the exercise of its functions and within the limits of its mandate. This immunity shall not apply in the case of any breach of the rules of road traffic committed by a member of the Organisation's staff, or of harm caused by an automobile vehicle belonging to or driven by a member of staff;
 - exemption from any tax on salaries and emoluments paid for his/her activities for the Organisation;
 - the regime set forth in Article 10 as regards entry and staying in the Principality of Monaco;
 - if the person previously lived abroad, the right to import duty free furniture and personal effects owned by or in the possession of that person or which have already been ordered and are intended for his/her personal use or household establishment, when first settling in, with the exception of automobile vehicles, alcohol and tobacco products;
 - a special staying permit issued by the Government of H.S.H the Prince of Monaco;
 - at times of international tension, repatriation facilities granted to members of diplomatic missions.
2. Additionally, staff members in charge of administrative functions shall enjoy the regime of temporary duty free import for their automobile vehicles.

Article 13: Object and waiver of privileges and immunities

1. The privileges and immunities provided for by the present Agreement shall not be established with a view to giving personal advantages to those enjoying them, but solely to ensure that, in all circumstances, the Organisation can operate freely and that the persons on whom they are conferred are completely independent.
2. The Chair of the ACCOBAMS Bureau or his representative or, in the case of representatives of member States, the Government of the State concerned, shall, have the right and duty to waive these immunities when they deem

that they prevent the normal carrying out of justice and that it is possible to dispense with them without prejudicing the interests of the Organisation.

Article 14: Cooperation

1. The Organisation shall fully cooperate in all circumstances with the Government of H.S.H the Prince of Monaco in order to prevent any abuse of the privileges, immunities and facilities provided for by the present Agreement.
2. The provisions of the present Agreement shall in no way affect the right of the Government of H.S.H the Prince of Monaco to take the measures it could deem useful for the security of the Principality of Monaco and the protection of public order.

Article 15: Notification of appointments

1. The Chair of the ACCOBAMS Bureau or his representative shall notify the Government of H.S.H the Prince of Monaco of the appointment of the Executive Secretary and the date on which the Executive Secretary begins or end his/her functions.
2. The Chair of the ACCOBAMS Bureau or his representative shall notify the Government of H.S.H the Prince of Monaco when a member of the staff other than the Executive Secretary begins or end his/her functions.
3. An advance notice of four weeks shall be required for the arrival and final departure of the persons mentioned in 1 and 2.
4. The Chair of the ACCOBAMS Bureau or his representative shall communicate twice a year to the Government of H.S.H the Prince of Monaco a list of all members of staff. The Organisation shall state if these persons are Monacan nationals or are permanently resident in the Principality of Monaco.
5. The Government of H.S.H the Prince of Monaco shall deliver to all the members of staff as promptly as possible after notification of their appointment a "special" card carrying the picture identification of the occupant and identifying him/her as a member of staff, according to the case This card shall be accepted by the Monacan authorities as proof of identity and of appointment. When the member of staff ends his/her functions, the Organisation shall send the concerned person's "special" card back to the Government of H.S.H the Prince of Monaco.

Article 16: Settlement of Disputes

Any dispute between the Government of H.S.H the Prince of Monaco and the Organisation about the interpretation or the implementation of the present Agreement or any question affecting the relations between the Government of H.S.H the Prince of Monaco and the Organisation, when not settled by consultation or negotiation or a method acceptable to both parties, shall be submitted for final decision without appeal to a Committee of three arbitrators composed of:

- a) an arbitrator designated by the Government of H.S.H the Prince of Monaco;
- b) an arbitrator designated by the Organisation;
- c) an arbitrator designated by mutual agreement by the Government of H.S.H the Prince of Monaco and the Organisation, or, when there is disagreement, by the Chair of the International Court of Justice.

Article 17: Entry into force and termination

1. The present Agreement shall enter into force after mutual notification in writing, by the Government of H.S.H the Sovereign Prince and by the Organisation, that their respective requirements concerning the entry into force of the present Agreement have been met.
2. The present Agreement can be modified or terminated on the common decision by the Government of H.S.H the Prince of Monaco and by the Organisation. In deciding to modify or to terminate the present Agreement, the Organisation can only act in compliance with a decision taken by the Meeting of Parties.
3. Should negotiations not lead on to an understanding within one year, the present Agreement may be denounced by the Government of H.S.H the Prince of Monaco or by the Organisation acting in compliance with a decision taken by the Meeting of Parties, with previous notice of two years.
4. Should the Headquarters of the Organisation cease to be located in the Principality of Monaco, the present Agreement shall cease to apply at the end of a reasonable period necessary for the transfer and the cession of the Organisation's property in the Principality of Monaco. In either case, the date of the end of the Agreement is confirmed by an exchange of notes between the Government of H.S.H the Prince of Monaco and the Organisation.

IN WITNESS WHEREOF, the undersigned, being duly authorised to do so, have signed the present Agreement, in two copies, in French language.

Signed in Monaco on Thursday 11th November 2010

For the Principality of Monaco

For ACCOBAMS

H.E. M. Michel ROGER
Government Minister

M. Cyril GOMEZ
Chair of the ACCOBAMS Bureau

For the Permanent Secretariat of ACCOBAMS:

Marie-Christine GRILLO-COMPULSIONE
Executive Secretary of ACCOBAMS

ANNEX 2

Financial arrangements between the Government of H.S.H the Prince of Monaco and the Secretariat of ACCOBAMS

The Agreement Secretariat will be governed by the following terms of reference:

1. The Agreement Secretariat will be made up of an Executive Secretary and a full time Secretary provided by the Host Country.
2. Staff expenses, along with welfare cost, (Executive Secretary and Assistant) are the responsibility of the Host Country. Staff expenses will be limited to the pay scale for the department head of the 3rd group in the Monacan Civil Service for the Executive Secretary, and that in the scale for shorthand typists in the Monacan Civil Service for the Assistant.
3. Secondment of staff members by Governments of the Parties will be encouraged, provided this is subject to mutually acceptable arrangements between the Host Country and the Government concerned.
4. The Executive Secretary of the Agreement will report to the Executive Secretary of the CMS on his/her relations with UNEP and with other international organisations. She will report to the Parties, especially at the Meeting of the Parties, and to the competent bodies of the Agreement, on his/her work program.
5. The Executive Secretary will report to the competent bodies of the CMS on the implementation of the Agreement and other matters of common interest. He will also ensure followed-up contact with the CMS Secretariat and the CMS Agreements Secretariats Unit, with which he will have regular meetings.
6. The Agreement's Permanent Secretariat will have recourse to suitable local banking services to conduct day-to-day transactions.
7. The Host Country will facilitate the financial execution of the Agreement's budget, in particular authorizing tax-free expenses.
8. The Host Country will provide facilities and office equipment for the day-to-day functioning of the Secretariat.
9. Operating costs of the Agreement Secretariat: the Host Country will take in charge the following expenses:
 - rents for the premises (with cellar) and their tenant's maintenance costs,
 - lease hold expenses,
 - telephone costs and subscription
 - rent and maintenance costs of a photocopier,
 - internet subscription,
 - computer stock with maintenance,
 - office equipment and maintenance,
 - upkeep and heating of the premises,
 - cleaning of the premises, and cleaning products,
 - water consumption and electricity,
 - rent and maintenance cost of the archiving place,
 - rent and maintenance cost of 2 flats for the accommodation of the employees,
 - insurance premises,
 - local taxes.

RESOLUTION 4.24 - ACCOBAMS Strategy (Period 2013-2023)

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS):

Recalling Article III, paragraph 8, sub-paragraphs a), b) and c) of the ACCOBAMS,

Considering that the effectiveness of ACCOBAMS and of the resolutions adopted within the ACCOBAMS framework would be strengthened by an elaboration of a long-term Strategy for ACCOBAMS, covering the period 2013-2023,

Convinced that this Strategy will be in line with developments occurring in other relevant fora, such as the United Nations General Assembly, Conference of the Parties to the Convention on Biological Diversity and the European Union,

1. *Agrees* that the vision for ACCOBAMS Strategy for period 2013-2023 is that cetacean populations in the Black Sea, Mediterranean Sea and contiguous Atlantic Area will be moving towards favourable conservation status¹, expressed as healthy populations and habitats with minimised adverse human impacts; and that this will be promoted through active regional cooperation facilitated by ACCOBAMS ”;
2. *Mandates* the Secretariat to:
 - prepare, in close consultation with the Bureau and Scientific Committee, preliminary analysis of effectiveness of ACCOBAMS, and
 - organise a working group to prepare a draft Strategy in support of the vision and using the preliminary analysis as basis for this Strategy. The working group will be opened for the participation of all focal points and partners and it will be active through exchange of e-mails, if necessary meetings, and coordinated by a facilitator to be identified by the Secretariat in consultation with the Bureau and the Chair of the Scientific Committee. The facilitator will report about the progress made in the elaboration of the Strategy and its content to the meetings of the Scientific Committee and Bureau;
3. *Decides* that the draft Strategy (2013-2023) shall be examined for approval by the Fifth Meeting of the ACCOBAMS Parties.

¹ The EU Habitats Directive provides a definition of favourable conservation status.

RESOLUTION 5.1 - ACCOBAMS Strategy (Period 2014 – 2025)²

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article III, paragraph 8, sub-paragraphs a), b) and c) of the ACCOBAMS Agreement,

Recalling Resolution 4.24 “ACCOBAMS Strategy”,

Considering that the effectiveness of ACCOBAMS and of the Resolutions adopted within this framework would be strengthened by an elaboration of a long-term Strategy covering the period 2014-2025,

Welcoming the work carried out by the special Working Group to prepare a draft Strategy, that encompasses results of the evaluation of the Agreement’s effectiveness and reflections about the Agreement’s strengths, weaknesses, opportunities and threats,

Aware that the ACCOBAMS mission is to continue to promote and facilitate regional cooperation at all levels, providing best expertise and standards and supporting implementation of all necessary measures for conserving cetaceans in the region,

Aware also that the ACCOBAMS vision is that cetacean populations in the ACCOBAMS area will be in a favourable conservation status, expressed as healthy populations and habitats with minimized adverse human impacts, with ACCOBAMS having a role of key regional player also in promoting active regional cooperation,

Stressing that the ACCOBAMS overall objective and its supportive specific objectives are linked to the Aichi Biodiversity targets (Decision X/10 of the Conference of the Parties to the Convention on Biological Diversity) and to the targets of the European Union Biodiversity Strategy (2010-2020),

Convinced of the need to set forth an Action Plan that includes a number of activities related to the good management of the Agreement and to concrete cetacean conservation efforts,

Stressing the importance of operational work programmes for the implementation of the Strategy and of regular monitoring of the Strategy implementation progress,

Stressing also the need to develop synergies with the work programmes and strategies of other relevant Organisations, such as with the UNEP/CMS mother Convention and the development of the new Strategic Plan for Migratory Species 2015-2023,

Looking for new sources of external funding and the elaboration of a fundraising strategy, and encouraging Parties to grant at national level and through voluntary contributions through the Secretariat,

1. *Decides* to adopt the ACCOBAMS Strategy (Period 2014 – 2025) which is annexed to the present Resolution;

² This Resolution has been amended by Resolution 7.4 (para.8).

2. *Calls on* the Parties to implement the Action Plan included in the Strategy;
3. *Decides* that the implementation of Strategy shall be based on operational work programmes for triennial periods, elaborating the Strategy Action Plan in more details;
4. *Calls on* the Parties for the monitoring of the Strategy implementation progress through the regular monitoring of ACCOBAMS resolutions and operational work programmes;
5. *Asks* Parties to consider the Strategy in the preparation and the implementation of the work programmes of other relevant instruments for the conservation of cetaceans;
6. *Calls on* the Parties and mandates the Secretariat to engage in the process of developing the Strategic Plan for Migratory Species 2015-2023, with a view to maximizing the benefit of the new Plan for the implementation of the ACCOBAMS Agreement and Strategy.
7. *Mandates* the Secretariat to elaborate a fundraising strategy.

ANNEX
ACCOBAMS Strategy (Period 2014 - 2025)

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ACCOBAMS Factsheet

Full name	Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area
Mother Convention	Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)
Entered into force	1 st of June 2001
Geographical scope	All maritime waters of the Black Sea and the Mediterranean Sea, their gulfs and seas as well as thermal waters connected to or interconnecting to these maritime waters; The Atlantic area contiguous to the Mediterranean Sea west of the Straits of Gibraltar.
Parties (23)	Albania, Algeria, Bulgaria, Croatia, Cyprus, Egypt, France, Georgia, Greece, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Portugal, Romania, Slovenia, Spain, Syria, Tunisia, Ukraine
Partners (36) as of July 2013	Alnilam, Alnitak, Archipelagos Institute of Marine Conservation, ATUTAX, BICREF - Biological Conservation Research Foundation, Blue World Institute of Marine Research and Conservation , BREMA Laboratory, Conservation Biology Research Group - University of Malta , Conservation Information and Research on Cetaceans (CIRCE) , Corsica Mare Osservazione , CRAM Foundation , Dipartimento di Scienze della Terra dell'Ambiente e della vita – DISTAV, écoOcéan Institut, European Cetacean Society (ECS) , Green Balkans , Groupe de Recherche sur les Cétacés (GREC), International Fund for Animal Welfare (IFAW), Israel Marine Mammal Research and Assistance Center (IMMRAC), IUCN - The World Conservation Union, Morigenos - Slovenian Marine Mammal Society, National Institute for Marine Research and Development "Grigore Antipa", Nature Trust, Ocean Care , Oceana Foundation, Oceanographic Museum of Monaco , ORCA , Pelagos Cetacean Research Institute, Project Ninam, Souffleurs d'écume , Syrian Society for the Conservation of Wildlife (SSCW), Swiss Cetacean Society (SCS), Tethys Research Institute , Turkish Marine Research Foundation (TUDAV), University of Valencia, Whale and Dolphin Conservation (WDC), WWF - Mediterranean Programme Office
Depositary	Principality of Monaco
Secretariat's Headquarters	Principality of Monaco
Organisations with signed Memorandum of Understanding (14)	Association «FLORA & FAUNA», Association Nationale de Développement Durable et la Conservation de la Vie Sauvage (ANDDCVS), Black Sea Council for Marine Mammals (BSCMM), Blue World Institute, Green Balkans NGO, Institute of Fish Ressources in Varna, , Institut National des Sciences et Technologies de la Mer (INSTM), Mare Nostrum, MedPAN, National Council for Scientific Research of Lebanon, National Research Institute for Marine Research and Development "Grigore Antipa", RAC/SPA, Tethys Research Institute, TUDAV
Average annual budget	325.000 EUR
Sources of funding	54%-Voluntary Contributions, 44% Ordinary Contributions, 2% - Other
Official website	www.accobams.org

Summary

ACCOBAMS was concluded as a tool to promote conservation of cetaceans through regional cooperation. After almost 10 years of operations, the Fourth Meeting of Parties decided to develop a long-term Strategy.

A special Working Group was organised to prepare a Strategy proposal, based on the analysis of the ACCOBAMS effectiveness for the 2002 – 2010 period. This Working Group included 24 members: ACCOBAMS Bureau, representatives of the Parties, Partners, Consultants and Secretariat of the Bonn Convention. In addition, 20 participants of the regional workshops, representing Parties and relevant regional agreements, actively contributed to preparation of the strategic document.

The Strategy includes seven main elements: *Analysis of present state of ACCOBAMS affairs; ACCOBAMS Mission; Vision; Objectives; Action plan; Implementation and financing; Monitoring and revision of the Strategy.*

The *Analysis of present state* encompasses results of the evaluation of the ACCOBAMS effectiveness and reflections of the Working Groups' members about the Agreement's strengths, weaknesses, opportunities and threats (SWOT). According to the effectiveness analysis, ACCOBAMS has not succeed in ensuring good status of cetacean populations, but it managed to improve regional cooperation; both by linking scientists and facilitating that countries with good human and financial capacities help those with no or weak capacities. The willingness to help countries with less resources and high motivation of some members of the ACCOBAMS structure were identified as the main strengths on which the Strategy should be built upon. On the other hand, insufficient support of the sectoral stakeholders has been identified as the most relevant weakness, followed with weak compliance. The constant demand to address emerging issues and the potential for synergies with existing and operating international agreements are the best opportunities to use, while energy crisis, political instability in some regions and financial crisis are challenges that should be considered in the future.

ACCOBAMS purpose, as expressed in the *Mission* is to continue to promote and facilitate regional cooperation at all levels, providing best expertise and standards and propelling implementation of all necessary measures for conserving cetaceans in the region.

ACCOBAMS *Vision* is that cetacean populations in the ACCOBAMS area will be in a favourable conservation status, expressed as healthy populations and habitats with minimised adverse human impacts, with ACCOBAMS having a role of key regional player.

The ACCOBAMS's overall *objective* and 10 supportive specific objectives were identified and linked to the Aichi targets and targets of the EU Biodiversity Strategy 2010-2020. The overall objective is to improve current conservation status of cetaceans and their habitats in the ACCOBAMS area by 2025, more specifically to achieve that status of at least all the regularly present species listed as endangered (EN) in the IUCN Red List downgraded to at least vulnerable (VU), with support of ACCOBAMS and ensure good environmental status (GES) as defined in the MSFD and according to the Ecosystem approach process implemented by the Mediterranean Action Plan, at least in the areas representing critical habitats. The specific objectives are grouped in two chapters: Management of the Agreement and Cetacean conservation efforts. Good management of the Agreement includes improvement of communications, better involvement of all key stakeholders in ACCOBAMS's operations, insurance of adequate funding, improvement of compliance and implementation monitoring, as well as application of ACCOBAMS's cetacean conservation standards in the adjacent areas. Cetacean conservation efforts are focused to improvement of knowledge about state of cetaceans; reduction of human pressures, particularly those related to interaction with fisheries and habitat loss and degradation; enhancement of public awareness; improvement of national capacities; and effective conservation of cetacean critical habitats.

The *Action plan* includes 75 activities: 28 for good management of the Agreement and 47 as part of concrete cetacean conservation efforts. The management of the Agreements' activities address information and communication, existing partnerships, new partnerships, new funding opportunities, compliance to work programme and resolutions, monitoring overall effectiveness, enter into force of already adopted geographical extensions and potential geographical extensions. Cetacean conservation efforts activities are grouped under all relevant themes: cetacean

populations estimates and distribution, population structure, monitoring cetaceans status, interaction with fisheries, chemical pollution, anthropogenic noise, ship strikes, cetaceans watching, marine debris, climate change, species conservation plans, captivity related issues, public awareness, functional stranding networks and responses to emergency situations, capacities to use photo ID, undertake aerial surveys and other issues, cetacean conservation postgraduate programmes, protected areas for cetaceans.

The *implementation* of the Strategy will be based on the operational work programmes for triennial periods, elaborating Strategy Action plan in more details. The Agreement funds (trust fund, voluntary contributions) will remain as the important source of *funding*, but more emphasis should be given to use of external funding.

Monitoring of the Strategy implementation progress will include regular monitoring of operational work programmes and resolutions implementation. The overall effectiveness will be evaluated after 5 years of implementation and at the end of the Strategy period, as a basis for the Strategy revision.

1. Introduction

The ACCOBAMS was developed as a cooperative tool for conservation of cetaceans in the Mediterranean and Black Seas and contiguous Atlantic area. The conclusion of the Agreement is a result of consultations between the Secretariats of the three Conventions: the Convention on the Protection of the Marine Environment and the Mediterranean Coast (Barcelona Convention), the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) and the Convention relative to the Conservation of European Wildlife and Natural Habitats (Bern Convention), whose standing Committee decided, in 1989, to create an informal group on little cetaceans that met in Palma de Majorca in 1991 with the view of drafting an Agreement. The Bucharest Convention on the protection of the Black Sea Against Pollution joined the group of Conventions later. The Agreement has been ready for signature in Monaco since the 24th of November 1996 and entered into force the 1st of June 2001.

Almost 10 years later, with 23 Parties and 36 Partners, ACCOBAMS has matured and become ready for evaluation whether invested efforts resulted with desired outcomes and how to adapt and strategically plan further work. In this regard the 4th Meeting of Parties to ACCOBAMS agreed to develop the ACCOBAMS Strategy for the next 10 years period using the participatory approach (Resolution 4.24.). During this process, a need for synergy with other relevant strategic planning processes was taken into account. It particularly refers to the Convention on Biological Diversity Strategic Plan 2011 – 2020; Aichi targets and the EU Biodiversity Strategy for the 2010 – 2020 period. The ACCOBAMS Strategy implementation period will also overlap with the "Strategic Plan for Migratory Species 2015-2023", which should be adopted in 2014 at the eleventh Conference of Parties.

2. Methodology of the Strategy development

Process of the Strategy development started in 2011 with **initial planning** of the process itself, which included proposal of development steps pursuant to the Resolution 4.24., including timetable and responsibilities. The proposal was reviewed by the Scientific Committee, Bureau and Executive Secretary.

The **evaluation of ACCOBAMS effectiveness** for 2002-2010 period was prepared, using the existing data and where necessary, interviews with relevant representatives of ACCOBAMS bodies or other stakeholders. This document was a basis for the work of the **Working Group for preparation of the Strategy**. The Working Group consisted of 24 members including the WG coordinator, members of the Bureau, representatives of Scientific Committee, interested Parties and Partners and Consultants as well as a representative of the Bonn Convention (Appendix 1). It was opened for participation to all Focal Points, Partners and other interested participants throughout the Strategy development process. The interaction of the Working Group members was based on the e-mail correspondence.

The Working Group was coordinated through several steps leading to preparation of the Draft Strategy. The most active members were representatives of the Scientific Committee, Partners and Consultants. In addition, half day facilitated workshops were organised adjoining regional workshops in 2012, with participation of national focal points or other representatives of Parties and other organisations (Appendix 2). The participants were informed about the

Strategy development progress and they actively discussed and proposed activities that represented core of the Strategy.

All suggestions and comments were compiled into the Strategy Working document and sent for review to the Working Group members, focal points and subsequently meetings of the Scientific Committee and the Bureau. All comments were integrated, and this version of the document was published on the ACCOBAMS site for public consultations during one month. In that period comments were received from two organisations: Secretariat of the Bonn Convention and MedPAN and included in the document presented to the ACCOBAMS Extended Bureau. Resolution on the Strategy is presented to the 5th Meeting of Parties for approval.

3. Analysis of present state of ACCOBAMS affairs

The Evaluation of ACCOBAMS's effectiveness 2002 – 2010 (Summary in Appendix 3) showed that ACCOBAMS has only partly fulfilled its overall objective; conservation status of cetacean populations is still poor, but at the same time it contributed to a better regional cooperation. In this regard, ACCOBAMS particularly promoted better linkages between scientists and facilitated that countries with good human and financial capacities help those lacking these capacities. The latter, as well as the high motivation of some members of the ACCOBAMS structure, were identified by the Working Group as the main strengths on which the Strategy should be built (Appendix 4). On the other hand, insufficient support of the sectoral stakeholders has been identified as the most relevant weakness, followed with low level of compliance by Parties and low political power of the Agreement. The most important external opportunities for the Agreement to seize are the constant demand to address emerging issues (such as marine debris, climate change) and the potential for synergies with existing and operating international marine conservation agreements. Energy crisis, as a trigger for intensification of relevant activities, along with political instability in some regions and financial crisis are threats or challenges that should be taken into account.

4. Mission³

“ACCOBAMS promotes and facilitates active regional cooperation at all levels, providing best expertise and standards and propelling implementation of all necessary measures for conserving cetaceans in the Black Sea, Mediterranean Sea and contiguous Atlantic Area. “

5. Vision⁴

„Cetacean populations in the Black Sea, Mediterranean Sea and contiguous Atlantic Area will be in a favourable conservation status⁵, expressed as healthy populations and habitats with minimised adverse human impacts, with ACCOBAMS having a role of key regional player. “

³ Reference – Res. 4.24.

⁴ Reference – Res.4.24

⁵ The EU Habitats Directive provides a definition of favourable conservation status

6. Objectives

Overall objective	Desired outcomes	Achievement indicator	Link to Aichi Strategy ⁶ (strategic goal)	Link to EU 2020 Biodiversity Strategy ⁷ (target)
Improve conservation status of cetaceans and their habitats in the ACCOBAMS area by 2023 ⁸	<p>Status of at least all the regularly present species listed as endangered (EN)⁹ in the IUCN Red List downgraded to at least vulnerable (VU) with support of ACCOBAMS</p> <p>Good environmental status (GES) achieved in at least areas representing cetaceans' critical habitats</p>	<p>IUCN/ACCOBAMS Cetacean Red List Status trend</p> <p>Conservation status of cetaceans' trend pursuant to Article 17 of the EU Habitats Directive</p> <p>GES according to the EU Marine Strategy Framework Directive (MSFD)</p> <p>GES according to the Ecosystem approach process implemented by the Mediterranean Action Plan</p>	<p>Strategic Goal B: Targets 6,8</p> <p>Strategic Goal C: Target 12</p>	Targets 1, 4 (action 14) and 6

⁶ <http://www.cbd.int/sp/targets/>

⁷ http://ec.europa.eu/environment/nature/biodiversity/comm2006/pdf/2020/1_EN_ACT_part1_v7%5B1%5D.pdf

⁸ Black Sea, Mediterranean Sea and contiguous Atlantic Area

⁹ Including species that are currently identified as data deficient (D.D.) but could have EN status. (Relation B.1.)

A. MANAGEMENT OF THE AGREEMENT

No.	Specific objectives	Desired outcomes	Achievement indicator	Link to Aichi Strategy (strategic goal)	Link to EU 2020 Biodiversity Strategy (target)
A.1.	Improve communication across, up and down ACCOBAMS as an organisation	All ACCOBAMS Bodies, national focal/contact points, Partners and other relevant national institutions, organisations and experts are familiar with activities implemented by or relevant for ACCOBAMS and share accurately information	<p>Percentage of relevant national institutions/organisation or independent experts familiar with or involved in ACCOBAMS activities</p> <p>Number of information on emerging issues shared accurately¹⁰ with or via Secretariat</p>	Not applicable	Not applicable
A.2.	Strengthen involvement of all key stakeholders in ACCOBAMS's operations, including all riparian countries	<p>All key stakeholders actively cooperate with ACCOBAMS, particularly the EC, GFCM, IMO, representatives of navy, oil and gas exploration and exploitation industry</p> <p>All riparian countries become Party to the ACCOBAMS</p>	<p>Percentage of key stakeholders cooperating with ACCOBAMS</p> <p>Percentage of riparian countries that ratified ACCOBAMS</p>	Strategic Goal A: Target 4 and supportive to Strategic Goal E: Target 17	Target 1: Action 3

¹⁰ Within 24 hours after actual occurrence

A.3.	Ensure adequate funding, in particularly for conservation activities	Real budget for conservation is increased and fulfils at least 50% of needs	Percentage of the fulfilled conservation activities needs	Not directly applicable, although supportive to Strategic goal E: Target 20	Target 6: Action 18, Target 20
A.4.	Improve the level of implementation of and compliance with ACCOBAMS resolutions as well as the monitoring of its progress	High level of implementation of ACCOBAMS resolutions (provisions) by Parties and overall work programmes implementation, amounting to at least 70%, with progress monitored at least once per triennium, ACCOBAMS effectiveness is improved for 50%	Percentage of resolutions and work programme implementations evaluated at least at triennial rate Overall ACCOBAMS effectiveness level	Not applicable	Not applicable
A.5.	Ensure implementation of the ACCOBAMS's cetacean conservation standards in the adjacent areas in close cooperation with other CMS instruments	All countries from adjacent areas implement ACCOBAMS cetacean conservation standards	Level of compliance to ACCOBAMSs resolutions implementation on behalf of riparian countries not yet Parties to ACCOBAMS	All of the above	Not specifically addressed

B. CETACEAN CONSERVATION EFFORTS

No.	Specific objectives	Desired outcomes	Achievement indicator	Link to Aichi Strategy (strategic goal)	Link to EU 2020 Biodiversity Strategy (target)
B.1	Improve the knowledge about state of cetaceans	<p>Sufficient data collected to be able to assign all currently D.D. species to one of the IUCN categories</p> <p>New knowledge about/related to state of other species gained with support of ACCOBAMS</p>	<p>Updated IUCN/ACCOBAMS Cetacean Red Lists</p> <p>New literature, published articles or other references</p>	Strategic Goal E: Target 19	Target 1: Action 4
B.2	Reduce human pressures on cetaceans, particularly those related to interaction with fisheries, habitat loss and degradation	<p>Mortality rate and number of animals injured through activities caused by humans are decreased by at least 30%</p> <p>No recorded redistribution of cetacean populations that can be linked to human pressures.</p>	<p>Mortality trends and cases of animals injured through human activities</p> <p>Trends of cetaceans' redistribution in relation to human impacts</p>	Strategic Goal B: Targets 5,6 and 8	Target 4: Actions 14, 15 and Target 6; Action 17

B.3	Enhance public awareness about cetaceans	General public and other relevant stakeholders in at least 20% of Parties are aware about cetaceans and need for their conservation through activities supported by or linked to ACCOBAMS	Level of awareness of general public and other relevant stakeholders (public awareness index)	Strategic Goal A: Target 1	Target 1, Action 4
B.4	Improve capacities of national organisations and experts	Trained staff/experts at least for two topics promoted through ACCOBAMS, particularly in south Mediterranean and Black Sea countries	Number of national staff/experts with acquired knowledge about topics promoted through ACCOBAMS	Strategic Goal E: Target 19	Not specifically addressed
B.5	Enhance effective conservation of cetaceans' critical habitats	State of cetaceans in at least 5 areas containing critical habitats is maintained or improved with certain support by ACCOBAMS	Management effectiveness level of protected areas for cetaceans	Strategic Goal C: Target 11	Target 1: Actions 1 and 2

7. Action plan

A. MANAGEMENT OF THE AGREEMENT

A.1. Specific objective: *Improve communication across, up and down ACCOBAMS as an organisation*

No.	Activity	Subject(s) in charge	Expected outputs	Possible sources of funding ¹¹	Priority level ^{12,13}	Target species	Relation to other activities
A.1.1. INFORMATION AND COMMUNICATION							
A.1.1.1.	Establish regular platform of communication to inform all relevant subjects about ongoing activities, cooperation possibilities, project call of proposals and other relevant information	Secretariat, Scientific Committee, Parties, Partners	Regularly exchanged information	AF	Ongoing	All species	A.3
A.1.1.2.	Maintain and regularly update ACCOBAMS database ¹⁴ , including information about all cetacean conservation related scientists and experts operating in the region	Secretariat, Parties, Scientific Committee, Partners	New and updated information filled into ACCOBAMS database	AF	Ongoing	All species	-
A.1.1.3.	Maintain regular communication of ACCOBAMS Bodies	All Bodies	Regular meetings of all bodies (f.e. for SC and Bureau at least twice in each triennium)	AF	Ongoing	All species	A.3.
A.1.1.4.	Continue organising regional workshops with representatives of Parties and introducing participation of representatives of Scientific Committee	Secretariat, Parties, Scientific Committee	Regional workshops once in each triennium	AF	Ongoing	All species	A.4.

¹¹ AF= Agreement Funds (Trust Fund, Voluntary Contributions granted by specific country(ies) to the Agreements budget); NC - national co-funding/in kind through logistic, etc....; EF= External Funds

¹² Very high = activity should be completed before the end of the first triennium, High = activity should be completed by the end of the first triennium/beginning of the second , Medium = activity should be completed by the end of the second triennium/ beginning of the third, Low = activity should be completed by the end of the third triennium/beginning of the forth, Ongoing – for activities implemented regularly during all triennia

¹³ Proposed prioritization level is based on scores given during regional workshops on desired priorities for the upcoming triennium and inputs of WG members

¹⁴ Note: Development of comprehensive ACCOBAMS database is in progress and it should be established by 2013 (including information about institutions, projects, experts, etc....)

A.1.1.5.	Continue organising biennial conferences for the Southern Mediterranean countries	Secretariat, Mediterranean Sub-regional Coordination Unit	Biennial conferences once in each triennium	AF	Ongoing	All species	-
A.1.1.6.	Regularly update ACCOBAMS website, including FINS	Secretariat	New and accurate information available on the website	AF	Ongoing	All species	A.3.1.4.

A.2. Specific objective: Strengthen involvement of all key stakeholders in ACCOBAMS's operations

No.	Activity	Subject(s) in charge	Expected outputs	Possible sources of funding ¹⁵	Priority level ¹⁶	Target species	Relation to other activities
A.2.1. EXISTING PARTNERSHIPS							
A.2.1.1.	Continue active cooperation with GFCM	Secretariat, Scientific Committee	Participation in the work of relevant GFCM bodies/working groups Joint projects	AF	Ongoing	DD, GM, OO, PP, SC, TT ¹⁷ (depredation)	B.2.1.
A.2.1.2.	Start more active cooperation with IMO	Secretariat, Scientific Committee	Joint activities/projects	AF	Medium - High	All species	B.2.3., B.2.4.
A.2.1.3.	Intensify collaboration with CMS and relevant CMS agreements such as ASCOBANS in line with the relevant resolutions, as well as activities with other relevant nature conservation and environmental protection agreements such as the Barcelona Convention, IWC, etc.....	Secretariat	Regular meetings of the Secretariats Joint projects Joint working groups on particular issues (such as ship strikes with IWC, anthropogenic noise with ASCOBANS, etc...)	AF	High	All species	B.2.2., B.2.3., B.2.4.
A.2.1.4.	Include cetacean conservation activities in the strategic documents and other planning documents of relevant stakeholders, such as EU Biodiversity Strategy, marine strategies in the ACCOBAMS area (MSFD ¹⁸), CBD	Secretariat, Parties	Cetacean conservation activities included in all relevant regional strategic documents	AF	High	All species	All B activities, A.3.

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¹⁷ DD=*Delphinus delphis* – short-beaked common dolphin, GM=*Globicephala melas* – long-finned pilot whale, OO=*Orcinus orca* – killer whale, PP=*Phocoena phocena* – harbour porpoise, SC = *Stenella coeruleoalba* – striped dolphin, TT=*Tursiops truncatus* – common bottlenose dolphin,

¹⁸ EC Marine Strategy Framework Directive

	Strategy, Strategic Plan for Migratory Species 2015-2023, SAP BIO, GFCM, IMO, MedPAN , etc....						
A.2.1.5.	Mobilise more actively international, regional and local NGOs for lobbying about cetacean conservation interests at decision-making level	Secretariat, Partners	Regular communication/meetings with representatives of the relevant international NGOs	AF	High	All species	-
A.2.2. NEW PARTNERSHIPS							
A.2.2.1.	Negotiate accession of all riparian states to the Agreement	Secretariat, Parties	All riparian states are Parties to ACCOBAMS	AF	Very high	All species	-
A.2.2.2.	Establish formal partnership with the EC jointly with ASCOBANS and as feasible with assistance from CMS, having a role of expert adviser for cetacean conservation issues	Secretariat, relevant Parties, Partners	Formal Agreement Participation in the relevant EC fora Contribution to the determination and monitoring of the GES (MSFD) and favourable conservation status (HD) Joint projects	AF	Very high	All species	B.1.1., B.1.2., B.1.5.
A.2.2.3.	Establish formal partnership with NATO - NURC	Secretariat, Parties	Formal Agreement Participation in the meetings Joint projects	AF	High	All species	B.2.3.
A.2.2.4.	Establish formal partnership with International association of oil and gas producers (OGP)	Secretariat	Formal Agreement Participation in the meetings Joint projects	AF	High	All species	B.2.2., B.2.3.

A.2.2.5.	Establish connections with International Council for the Exploration of the Sea (ICES)	Secretariat	Participation in meetings Joint activities	AF	Medium - High	All species	B.1.2.
A.2.2.6.	Establish connections with the European Boating Association (EBA)	Secretariat	Participation in meetings Joint activities	AF	Medium	All species	B.2.3., B.3.1.4.
A.2.2.7.	Establish connections with the WTO (World Tourism Organisation)	Secretariat	Participation in meetings Joint activities	AF	Medium	All species	B.2.3., B.2.5.

A.3. Specific objective: *Ensure adequate funding, in particularly for conservation activities*

No.	Activity	Subject(s) in charge	Expected outputs	Possible sources of funding ¹⁹	Priority level ²⁰	Target species	Relation to other activities
A.3.1. NEW FUNDING POSSIBILITIES							
A.3.1.1.	Appoint one projects preparation/implementation assistance and fundraising officer in the Secretariat	Parties, Secretariat	Project and fundraising officer as a member of the Secretariat staff	AF, NC	High	All species	All B activities
A.3.1.2.	Analyse available funding possibilities in the region (EU funds, private funds, etc....) and develop a funding strategy	Secretariat	Overview of available funding possibilities in the region Funding Strategy	AF	Very high	All species	All B activities
A.3.1.3.	Regularly inform Parties about project call of proposals and other funding possibilities	Secretariat, Scientific Committee, Partners	Information exchanged via e-mailing list	AF	Ongoing	All species	A.1.1.1., all B activities
A.3.1.4.	Encourage development of multilateral/ transboundary projects	Secretariat, Parties, Partners, Scientific Committee	Submitted project proposals prepared with assistance of ACCOBAMS bodies	AF	High	All species	All B activities

¹⁹ AF= Agreement Funds (Trust Fund, Voluntary Contributions granted by specific country(ies) to the Agreements budget); NC - national co-funding/in kind through logistic, etc....; EF= External Funds

²⁰ Very high = activity should be completed before the end of the first triennium, High = activity should be completed by the end of the first triennium/beginning of the second , Medium = activity should be completed by the end of the second triennium/ beginning of the third, Low = activity should be completed by the end of the third triennium/beginning of the fourth, Ongoing – for activities implemented regularly during all triennia

A.4. Specific objective: Improve the level of implementation of and compliance with ACCOBAMS resolutions as well as the monitoring of its progress

No.	Activity	Subject(s) in charge	Expected outputs	Possible sources of funding ²¹	Priority level ²²	Target species	Relation to other activities
A.4.1. COMPLIANCE TO WORK PROGRAMME AND RESOLUTIONS							
A.4.1.1.	Evaluate work programmes implementation progress and level of resolutions implementation by Parties as a basis for new triennial work programme planning	Secretariat, Bureau, Follow-up Committee	Analyses of work programmes implementation and implementation of resolutions report	AF	High	All species	A.1.1.4., All B activities
A.4.1.2.	Propose remedy actions in cases of non-compliance and infringements	Follow-up Committee	Proposal of remedy actions	AF	High	All species	-
A.4.2. MONITORING OVERALL EFFECTIVENESS							
A.4.2.1.	Evaluate overall Agreement's effectiveness, at least prior to the Strategy revision	Secretariat, External Assistance	Evaluation of ACCOBAMS effectiveness	AF	Low	All species	B.1.3., B.3.1.6., B.5.1.3.

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A.5. Specific objective: *Ensure implementation of the ACCOBAMS's cetacean conservation standards in the adjacent areas*

No.	Activity	Subject(s) in charge	Expected outputs	Possible sources of funding ²³	Priority level ²⁴	Target species	Relation to other activities
A.5.1. ENTER INTO FORCE OF ALREADY APPROVED GEOGRAPHICAL EXTENSION							
A.5.1.1.	Enforce ratification by Parties of the existing Amendment for geographical extension to the Atlantic	Depositary, Parties	Amendment entered into force	NC	Very high	All species	-
A.5.2. POTENTIAL GEOGRAPHICAL EXTENSIONS							
A.5.1.2.	Analyse added value of extension to the adjacent areas, particularly of the Red Sea extension	Secretariat, Relevant Parties, Scientific Committee, other experts	Proposal of further actions regarding extension of the Agreement	AF, NC	Medium	All species	-

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B. CETACEAN CONSERVATION EFFORTS

B.1. Specific objective: *Improve knowledge about state of cetaceans*

No.	Activity	Subject(s) in charge	Expected outputs	Possible sources of funding ²⁵	Priority level ²⁶	Targeted species	Relation to other activities
B.1.1. CETACEAN POPULATIONS ESTIMATES AND DISTRIBUTION							
B.1.1.1.	Undertake two comprehensive surveys of abundance and distribution of cetaceans in the Mediterranean Sea using aerial surveys where possible	ACCOBAMS Secretariat, Scientific Committee, Parties, Partners; RAC/SPA (Mediterranean Sub-regional coordination unit); IUCN; French Marine Protected Areas Agency; other experts	Study report of distribution and abundance of cetaceans in the Western, Central, part of the South and Eastern Mediterranean Sea based on results of the survey	AF, EF, NC	Very high	All species	B.1.3.
B.1.1.2.	Assist in development and implementation of sub-regional (transboundary) abundance and distribution survey projects in the areas where aerial surveys are not possible	Secretariat, Scientific Committee, other experts, Parties, Partners	Study report of distribution and abundance of cetaceans based on results of the survey	AF, NC	Very high	All species	B.1.3.
B.1.1.3.	Facilitate undertaking the 2 nd survey of abundance and distribution of cetaceans in the Black Sea	Secretariat, Scientific Committee, Parties, Partners, other experts, Black Sea Commission (Black Sea Sub-regional coordination unit)	Study report of distribution and abundance of cetaceans in the Black Sea based on results of the 2nd survey	AF, NC, EF	Low	All Black Sea species	B.1.3.
B.1.2. POPULATION STRUCTURE							
B.1.2.1.	Implement population structure priorities based on knowledge gap analysis	Scientific Committee, Partners, other experts, IWC, ASCOBANS	Analyses/studies of population structure	AF, E	High-Medium	All species	-

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B.1.3. MONITORING CETACEANS STATUS							
B.1.3.1.	Monitor mortality trends and cases of animals injured through different human activities, using existing tools (such as MEDACES), at least on triennial basis	Secretariat, RAC/SPA (Mediterranean Sub-regional coordination unit), Parties, Partners	Mortality trend reports	AF, NC EF	Ongoing	All species	A.4.2.1., B.2.1. – B.2.7.
B.1.3.2.	Assess IUCN threat status of cetaceans in the ACCOBAMS area and update it regularly	Scientific Committee, Partners, IUCN, other experts	Threat assessment reports Updates available on the IUCN, ACCOBAMS websites	AF, EF	Very high	All species	B.1.1., B.1.2., all B.2.
B.1.3.3.	Prepare Red Books of cetaceans in the ACCOBAMS Region	Scientific Committee, Partners, IUCN, other experts	Red Books of cetaceans	AF, EF	High	All species	As above
B.1.3.4.	Assess favourable conservation status of cetaceans in the entire ACCOBAMS area (link to the EU Habitat Directive reporting obligation)	Scientific Committee, Partners, other experts	Report on the state of cetaceans	AF, EF	High	All species	As above

B.2. Specific objective: Reduce human pressures on cetaceans, in particularly those related to bycatch, habitat loss and degradation (pollution)

No.	Activity	Subject(s) in charge	Expected outputs	Possible sources of funding ²⁷	Priority level ²⁸	Target species	Relation to other activities
B.2.1. INTERACTION WITH FISHERIES (BYCATCH and DEPREDATION)							
B.2.1.1.	Assess cetaceans' bycatch and depredation impacts on cetaceans in the Mediterranean Sea and adjoining Atlantic area and propose mitigation measures focusing on pilot areas through a joint GFCM/ACCOBAMS project ²⁹	Secretariat, Scientific Committee, Parties in cooperation with GFCM	Analysis of cetacean bycatch in the Mediterranean Sea and proposal of mitigation measures	EF, NC	Very high - High	DD, GM, OO, PP, SC, TT (depredation)	B.1.3., A.2.1.1.
B.2.1.2.	Prepare a cetacean's bycatch reduction strategy for the Mediterranean Sea and adjoining Atlantic area, based on the results of the joint GFCM/ACCOBAMS project	ACCOBAMS Secretariat, Scientific Committee	Bycatch reduction strategy for the Mediterranean Sea and adjoining Atlantic area	EF, NC	High-Medium	As above	A.2.1.1.
B.2.1.3.	Participate in the EC research and conservation project on the Adverse Fisheries Impacts on Cetacean Populations in the Black Sea (2012-2014), addressing impacts of interaction of fisheries on cetaceans and preparing a draft Strategy for reducing cetacean bycatch in the Black Sea and adjacent waters	Other experts, Black Sea Commission (Black Sea Sub regional coordination unit), Secretariat, Scientific Committee, Parties	Analysis of cetacean bycatch in the Black Sea Bycatch reduction strategy for the Black Sea	EF, NC	Very high	All Black Sea species	A.2.1.1.

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²⁹ Development of the project started in 2012

B.2.1.4.	Organise a connection with the EU bycatch reporting system	Secretariat, Scientific Committee	Joint data collection system	EF, NC	High	As 2.1.2.	A.2.2.1., A.2.2.5.
B.2.2. CHEMICAL POLLUTION							
B.2.2.1.	Assess the impact of chemical pollution on cetaceans	Scientific Committee, other experts	Assessment of impacts of pollution on cetaceans in the ACCOBAMS area	AF, EF	Medium	All species	B.1.3., A.2.1.3.
B.2.3. ANTHROPOGENIC NOISE							
B.2.3.1.	Identify anthropogenic noise/cetaceans' interactions hot spots in the ACC. area	Scientific Committee, other experts, Partners	Overview of noise hot spots	AF, EF	Very high	All species, particularly ZC, PM ³⁰	A.2.2.2., A.2.2.4.
B.2.3.2.	Monitor all activities in the region including noise component	Secretariat, Parties	Overview(s) of approved activities including noise component	AF, NC, EF	Very high	All species	A.2.1.3., A.2.2.2., A.2.2.3., A.2.2.4., A.2.2.6.
B.2.3.3.	Map and develop a monitoring of sea ambient noise, particularly in critical habitats	Scientific Committee, other experts, Partners	Map of sea ambient noise Monitoring protocol(s)	AF, EF	High	All species	As above
B.2.3.4.	Develop and update more detailed guidelines to mitigate impacts of anthropogenic noise, using the existing guidelines	Secretariat, ASCOBANS, other experts	Revised guidelines to mitigate impacts of anthropogenic noise	AF, EF	High	All species	As above
B.2.4. SHIP STRIKES							
B.2.4.1.	Identify high risk areas for ship strikes in the Mediterranean Sea	Scientific Committee, other experts, Partners, Parties	Overview of high-risk areas for ship strikes	AF, EF	Medium	BP, PM ³¹	A.2.1.2.

³⁰ PM = *Physeter macrocephalus* – sperm whale, ZC = *Ziphius cavirostris* – Cuvier's beaked whale

³¹ BP= *Balaenoptera physalus* – fin whale, PM = *Physeter macrocephalus* – sperm whale

B.2.4.2.	Promote use of mitigation measures, particularly REPCET system to shipping companies in the region	Secretariat, Partners, Parties	Ships/boats in areas inhabiting large whales using the REPCET or other systems	AF, EF	High	BP, PM	A.2.1.2.
B.2.4.3.	Develop a protocol for investigating and documenting ship strikes injuries and mortalities	Scientific Committee, IWC, other experts	Protocol	AF	High	BP, PM	B.1.3.1.
B.2.5. CETACEAN WATCHING							
B.2.5.1.	Promote use of ACCOBAMS / Pelagos cetacean watching label	Secretariat, Pelagos Sanctuary, Partners, Parties	All states with intensive cetacean watching use labelling	AF, EF	–Medium - Low	All species	-
B.2.5.2.	Revise cetacean-watching guidelines when new information is available, include. data collection protocols	Scientific Committee	Revised guidelines on cetacean-watching	AF	Ongoing	All species	A.2.2.6.
B.2.5.3.	Assess and monitor cetacean watching activities in ACCOBAMS area	Scientific Committee, Secretariat, Parties	Assessments of cetacean watching activities with monitoring protocols	AF	Ongoing	All species	-
B.2.6. MARINE DEBRIS							
B.2.6.1.	Assess the impact of ghost nets on cetaceans in the ACCOBAMS area	Secretariat, other experts	Assessment of ghost nets impacts on cetaceans	AF, EF	High	All species	B.1.3.
B.2.6.2.	Assess the impact of plastic bags, microplastic and other plastic materials ingestion on cetaceans in cooperation with existing initiatives, such as IWC	Secretariat, Scientific Committee, MedPOL, IWC	Assessment of plastic materials impacts on cetaceans	AF, EF	High	All species	B.1.3.
B.2.7. CLIMATE CHANGE							
B.2.7.1.	Assess impacts of climate change on cetaceans and identify indicator species, in cooperation with existing initiatives, such as IWC, IUCN GFCM, etc....	Secretariat, Scientific Committee, Partners (IUCN), other experts, IWC, GFCM	Assessment of climate change impacts on cetaceans	AF, EF	Low	All species	B.1.3.

B.2.8. SPECIES CONSERVATION PLANS							
B.2.8.1.	Revise regional conservation plan for Black Sea cetaceans, in cooperation with relevant stakeholders	Black Sea Commission (Sub-regional coord. unit), Secretariat, other experts, Parties	Revised regional conservation plan for Black Sea cetaceans	AF, EF	High	All Black Sea species	B.2.1., B.2.2., B.2.3., B.2.6.
B.2.8.2.	Finalize conservation plans for fin whale, bottlenose dolphin and Cuvier's beaked whale	Scientific Comm., Partners, other experts	Conservation plans	AF	High	BM, TT, ZC	B.1.1., B.2.3., B.2.4
B.2.8.3.	Assist in development and implementation of national action plans, particularly in the South Mediterranean and in Black Sea countries	Secretariat, RAC/SPA, Black Sea Commission (Sub-regional coord. units), Scientific Committee, other experts	National action plans	AF	High	All species	B.1.1., B.2.1.
B.2.9. CAPTIVITY RELATED ISSUES							
B.2.9.1.	Assess and monitor specimens held in captivity in the ACCOBAMS area	Secretariat, Scientific Committee, Sub-regional coordination units, Parties, Partners, Other Experts	Assessments of specimens in captivity	AF	Ongoing	All species, particularly Black Sea TT	-

B.3. Specific objective: Enhance public awareness about cetaceans

No.	Activity	Subject(s) in charge	Expected outputs	Possible sources of funding ³²	Priority level ³³	Target species	Relation to other activities
B.3.1. PUBLIC AWARENESS							
B.3.1.1.	Introduce ACCOBAMS cetacean's day and promote annual celebration	Secretariat, Partners, Parties	ACCOBAMS cetacean's day regularly celebrated in the area	AF, NC	Medium	All species	-
B.3.1.2.	Use new tools to communicate with public via ACCOBAMS's website, such as social networks, smart phone applications, Google applications, etc....	Secretariat, Partners	Exchanges through social networks New applications	AF	Medium	All species	-
B.3.1.3.	Undertake public information activities targeted to future generations (children), using different tools (such as designing a special part of the website for children, promote educational kits ³⁴ , etc....)	Secretariat, Partners	Section for children available on ACCOBAMS website Educational kit distributed to relevant subjects	AF, NC	Medium	All species	B.4.3.

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³⁴ Note: Educational kit should be produced in 2013

B.3.1.4.	Promote cetacean conservation during different events, such as meetings of parties of ACCOBAMS and other relevant international agreements, IUCN's world congress, MedPAN promoted forum of MPAs in the Mediterranean, fairs with participation of tour operators, representatives of recreational boating and leisure fishing , etc....	Secretariat, Partners, Parties	Side-events, such as lectures, exhibitions	AF	Ongoing	All species	A.1.1.4.
B.3.1.5.	Regularly inform media about cetacean conservation activities and other aspects of ACCOBAMS work	Secretariat, Partners, Parties	Press releases, Web-site updates	AF, NC	Ongoing	All species	-
B.3.1.6.	Organise public awareness related survey	Secretariat, other experts, Parties	Survey format and instructions Survey report	AF	High	All species	A.4.2.1.

B.4. Specific objective: *Improve capacities of national organisations and experts*

No.	Activity	Subject(s) in charge	Expected outputs	Possible sources of funding ³⁵	Priority level ³⁶	Target species	Relation to other activities
B.4.1. FUNCTIONAL STRANDING NETWORKS AND RESPONSES TO EMERGENCY SITUATIONS							
B.4.1.1.	Undertake systematic trainings on necropsies, live strandings and response to emergency situation in the ACCOBAMS region	Secretariat, Partners	Trained participants from all Parties with identified needs	AF, NC	Ongoing	All species	B.1.3.1.
B.4.1.2.	Establish (sub)regional mailing lists of participants in the stranding networks to facilitate exchange of information, in particular in the South Mediterranean region	Secretariat, Parties	Regularly exchanged information on stranding events	AF, NC	Ongoing	All species	A.1.1.1., B.1.3.1.
B.4.1.3.	Establish a regional Emergency Task Force as advise to Parties and develop an operational protocol	Secretariat, Scientific Committee, Partners	Operational regional Emergency Task Force nominated	AF	Very high	All species	B.1.3.1.

³⁵ AF= Agreement Funds (Trust Fund, Voluntary Contributions granted by specific country(ies) to the Agreements budget); NC - national co-funding/in kind through logistic, etc....; EF= External Funds

³⁶ Very high = activity should be completed before the end of the first triennium, High = activity should be completed by the end of the first triennium/beginning of the second , Medium = activity should be completed by the end of the second triennium/ beginning of the third, Low = activity should be completed by the end of the third triennium/beginning of the forth, Ongoing – for activities implemented regularly during all triennia

B.4.2. CAPACITY TO USE CETACEANS PHOTO ID AND UNDERTAKE AERIAL SURVEYS							
B.4.2.1.	Undertake systematic trainings on the use of photo-id and carrying out of aerial surveys designed for both cetacean professionals and non-professionals (particularly MPAs practitioners)	Secretariat, Partners, MedPAN	Trained experts from all Parties with identified needs	AF, EF	Medium	All species	B.1.1.
B.4.2.2.	Provide photo-id equipment to the Parties with least capacities	Secretariat	Relevant Parties with provided equipment	AF, EF	Medium	All species	B.1.1.
B.4.2.3.	Promote and facilitate exchange of expertise, such as participation of experts with less knowledge in the specific projects implemented by experienced researchers, etc...	Secretariat, Parties	Experts trained through participation in the specific projects	AF, NC	Low - Medium	All species	B.1.1.
B.4.3. CAPACITY BUILDING FOR OTHER CETACEAN CONSERVATION ISSUES							
B.4.3.1.	Facilitate organisation of study tours and trainings with participation of protected areas managers from the areas containing cetacean critical habitats in the similar areas using good management practices	Secretariat, MedPAN, Parties	Experts participated in the study tours/trainings facilitated by ACCOBAMS	AF	Ongoing	All species	B.5.1.
B.4.3.2.	Enable practice of cetacean conservation staff on relevant issues in the ACCOBAMS Secretariat	Parties, Secretariat	Trained cetacean conservation staff from the Parties	AF, NC	Ongoing	All species	
B.4.4. CETACEAN CONSERVATION AND POSTGRADUATE PROGRAMMES							
B.4.4.1.	Introduce cetacean conservation modules in the existing postgraduate programmes	Secretariat, Partners	Post-graduate programmes with included cetacean conservation modules	AF, NC, EF	Ongoing	All species	

B.5. Specific objective: Enhance effective conservation of cetaceans' critical habitats

No.	Activity	Subject(s) in charge	Expected outputs	Possible sources of funding ³⁷	Priority level ³⁸	Target species	Relation to other activities
B.5.1. PROTECTED AREAS FOR CETACEANS							
B.5.1.1.	Update regularly a list of areas containing critical habitats of cetaceans in the ACCOBAMS region	Scientific Committee, Partners, other experts	Lists of areas containing critical habitats of cetaceans	AF	High	All species	B.1.1.
B.5.1.2.	Develop tools for adequate management of areas containing critical habitat, including evaluation of management effectiveness and using examples of best practice	Secretariat, MedPAN, Scientific Committee, other experts	Guidelines on adequate management of areas containing critical habitats	AF	High	All species	B.2.
B.5.1.3.	Evaluate effectiveness of protected areas containing critical habitats for cetaceans using existing initiatives (such as MedPAN endeavours in that context), at least after 5 years of Strategy adoption	Secretariat, Scientific Committee, other experts, RAC/SPA (Mediterranean Sub-regional coordination unit), MedPAN	Evaluation of effectiveness of protected areas for cetaceans, fore mostly their contribution to achievement/maintenance of favourable conservation status	AF, EF	High	All species	A.4.2.1.

³⁷ AF= Agreement Funds (Trust Fund, Voluntary Contributions granted by specific country(ies) to the Agreements budget); NC - national co-funding/in kind through logistic, etc....; EF= External Funds

³⁸ Very high = activity should be completed before the end of the first triennium, High = activity should be completed by the end of the first triennium/beginning of the second , Medium = activity should be completed by the end of the second triennium/ beginning of the third, Low = activity should be completed by the end of the third triennium/beginning of the fourth, Ongoing – for activities implemented regularly during all triennia

8. Implementation and financing

The Strategy will be implemented through operational work programmes for triennial periods. The work programmes will be prepared with active cooperation between all ACCOBAMS bodies, Parties and other stakeholders, with coordination of the Secretariat. The work programmes will elaborate activities from the Strategy (Action Plan chapter) in more details, in particular regarding concrete responsibilities of subjects in charge, sources of funding and estimation of costs of each activity (Appendix 5).

The Agreement funds (trust fund, voluntary contributions) represent steady source of funding that will be used for management of the agreement and to certain extent for actual cetacean conservation activities. However; for successful implementation of the Strategy, in particular large projects planned under cetacean conservation efforts (f.e. dedicated surveys); it is critical to use external funding such as the EU funds, private funding, etc... National co-financing/in-kind is expected as logistic for implementation of certain activities.

9. Monitoring and revision of the Strategy

Monitoring of the Strategy implementation progress will include regular monitoring of operational work programmes and resolutions implementation (as described in the A.4. section of the Action Plan). The overall effectiveness will be evaluated after 5 years of Strategy implementation, taking opportunity of triennial regional workshops, and at the end of the Strategy period, as a basis for the Strategy revision. In cases of some emerging trends and developments, the evaluation of the effectiveness and Strategy revision could be undertaken before conclusion of the 12 years period. The decision will be made by the Meeting of Parties or the Bureau, after consultation with other ACCOBAMS bodies.

10. Appendices

Appendix 1. Working Group for the development of Strategy

Coordinator: Ana Štrbenac (Croatia)

Partners and consultants	
Ana CANADAS	ALNILAM (ACCOBAMS Partner)
Adriana VELLA	BICREF (ACCOBAMS Partner)
Dani KEREM	ICRAM (ACCOBAMS Partner)
Alexandre GANNIER	GREC (ACCOBAMS Partner)
Léa DAVID	EcoOcéan Institute (ACCOBAMS Partner)
Margi PRIDEAUX	Migratory Wildlife Network
Sarah MUSCAT	Nature Trust (ACCOBAMS Partner)
Niki ENTRUP	Consultant agency
Renaud de STEPHANIS	Department of Conservation Biology and CIRCE (ACCOBAMS Partner)
Ayaka OZTURK	TUDAV (ACCOBAMS Partner)
ACCOBAMS Focal Points	
Mahmoud FOUAD	Egypt
Carmen MIFSUD	Malta
Celine VANKLAVEREN	Monaco
Members of the Scientific Committee	
Alexei BIRKUN	Chair of the ACCOBAMS SC
Giuseppe NOTARBARTOLO DI SCIARA	Task manager/former Chair
Greg DONOVAN	IWC representative
Simone PANIGADA	ECS representative
Members of the Bureau	
Cyril GOMEZ	Chair of ACCOBAMS (Monaco)
Andrej BIBIC	Slovenia
Volodymyr DOMASHLINETS	Ukraine
Gaby KHALAF	Lebanon
Marina SEQUEIRA	Portugal
CMS	
Heidrun FRISCH	ASCOBANS Coordinator and Marine Mammals Officer for CMS

Appendix 2. Regional workshops participants involved in the Strategy development process

Samia BENSMAIL	ALGERIA
Tihomira SLAVEYKOVA	BULGARIA
Ana STRBENAC	CROATIA
Mahmoud FOUAD	EGYPT
Martine BIGAN	FRANCE
Hélène LABACH	FRANCE
Zurab GURIELIDZE	GEORGIA
Eleni TRYFON	GREECE
Robert GIANGRECO	ITALY
Gaby KHALAF	LEBANON
Ibrahim BENAMER	LIBYA
Carmen MIFSUD	MALTA
Florence DESCROIX-COMANDUCCI	MONACO
Abderraouf BENMOUSSA	MOROCCO
Marina SEQUEIRA	PORTUGAL
Camelia DUMITRACHE	ROMANIA
Andrej BIBIC	SLOVENIA
Isabel LÓPEZ PÉREZ	SPAIN
Olga LAMAS	SPAIN
Mohamed HAMANI	TUNISIA
Mohamed Nejmeddine BRADAI	TUNISIA
Ayaka Amaha OZTURK	TURKEY (Observer)
Volodymyr DOMASHLINETS	UKRAINE
Alexei BIRKUN	ACCOBAMS Scientific Committee
Marie-Christine GRILLO-COMPULSIONE	ACCOBAMS Secretariat
Chedly RAIS	ACCOBAMS Secretariat
Valeria ABAZA	BLACK SEA COMMISSION – Permanent Secretariat
Lobna BEN NAKHLA	RAC/SPA

Appendix 3. Summary of Evaluation of the ACCOBAMS effectiveness for the 2002 – 2010 period³⁹

The evaluation of ACCOBAMS effectiveness was carried out using the species management effectiveness evaluation methodology. Existing written documents, mostly produced in the scope of ACCOBAMS, provided sufficient information for the assessment. Certain information was provided by the Executive Secretary, former and current Chairs of the Scientific Committee and the representative of the Mediterranean Sub-regional coordination unit – RAC/SPA.

Cetacean populations in the Black and Mediterranean Seas and contiguous Atlantic area (ACCOBAMS Area) represent the main value and the ACCOBAMS overall objective is to achieve and maintain a favourable conservation status of cetaceans in the Black and Mediterranean Seas and contiguous Atlantic area through coordinated effort at regional level.

The **context** of ACCOBAMS operations is rather complex. Human activities represent the source of all threats to cetacean populations in the ACCOBAMS area; the most significant are interactions with fisheries, foremostly bycatch, and habitat loss and degradation. At least 10 stakeholders' groups operate in the ACCOBAMS area, ACCOBAMS being a member of the nature conservationists and environmentalists stakeholders group. The stakeholders having the most impacts of cetacean populations have the most political power, in particularly fishermen, shipping and recreational boating and navy. Nature conservationists and environmentalists are most active; they have a great interest and human potential, but least political power. International cetacean conservation related legislation framework is well established, although the implementation is weak.

ACCOBAMS management planning adequacy is partial. No long-term strategy was developed, but a mid-term work programmes which are adopted on regular basis (each triennium). Not all relevant stakeholders actively participate in the decision-making process, even when invited, in particularly representatives of relevant sectors. These programs are also not linked to other regional sectoral plans or strategies. They are also not clearly structured. Lack of any monitoring indicators represents a problem for evaluation of their level of implementation and effectiveness evaluation in general.

Human **inputs** at the ACCOBAMS structure level have been fairly adequate, particularly those of the Scientific Committee in a broader sense. Partners played an important role in that respect. Discontinuities of Secretariat's composition, apart from the Executive Secretary, and lack of adequate contribution of most of the regional representatives to the work of the Scientific Committee have been two problematic factors. The latter had an important share in not using the full potential of national experts and scientist. Financial needs for administration and general management issues have mostly been sufficient, particularly thanks to the support of Monaco. National focal and contact points were appointed in almost all of Parties, they are usually low or middle ranked officers and have responsibilities for a range of different activities and agreements. Although Parties staff costs are not financed from the ACCOBAMS budget, Parties human capacity is important for implementation of work programme activities. Parties' human capacities are weak, mostly in the south Mediterranean and Black Sea countries.

The work programmes **implementation process** was carried out with partial adequacy. Information basis needed for implementation of activities and consequently draft future ones were hardly adequate, but still useful. Mostly adequate research was planned at the regional level, in particularly comprehensive survey; less attention was given to socio-economic surveys. As the planning was done without participation of sectoral stakeholders, they also have not participated in the work programmes implementation. In addition, no monitoring of work programmes implementation was carried out in this phase, due to already indicated absence both of planned indicators and monitoring programmes

Outputs assessment showed that altogether 55% of the work programmes stipulated activities were implemented to some extent in the 2002 – 2010 periods, and 37% were not commenced. The Scientific Committee and Secretariat were responsible for implementation of the most activities. The low level of fulfilled financial needs for conservation actions; 26%, mostly contributed to that level, along with combination of human capacities issues of all ACCOBAMS structures and Parties. The whale watching was among best implemented activities. The average implementation rate amounts around 50%. Other activities as stranding networks and tissue banks, capacity building and the Emergency

³⁹ Štrbenac A. (2012). Evaluation of the ACCOBAMS effectiveness for the 2002 – 2010 period

Task Force were implemented at different levels and the issue interaction with fisheries was the least implemented one.

Number of resolutions covering all relevant cetacean conservation issues, including guidelines to facilitate and standardise best available practices, were developed and adopted in the scope of ACCOBAMS. According to the analysis of the implementation of adopted provisions on behalf of Parties, around 38% were implemented to some extent. The average implementation rate amounts around 44%. The best implemented were those activities referring to the captivity related issues, followed with interactions with fisheries. The least implementation level is reached with the issue of anthropogenic noise. Although work programmes have foundation in adopted resolutions, resolution's provisions are formulated more generally, in terms of recommendations or guidelines without time limits. It is reflected in a discrepancy between levels of implementation of the same thematic issues. Spain, Italy, Croatia, Portugal and Monaco reached the best implementation levels when compared to the other countries. Italy, Spain, France and Monaco also ensured substantial voluntary contribution which enabled implementation of conservation activities and provided assistance to countries with the least capacities. The level of implementation is unknown for Greece and Libya, Parties which do not actively participate in ACCOBAMS work.

The level of achievement of specific objectives is substantially lower than work programme implementation rate. Lack of clear indicators for specific objectives and lack of data challenged their assessment in general. In addition, adequate linkages between planned work programme activities and fulfilment of desired objectives may be considered. Several objectives could not be evaluated at all in the absence of monitoring indicators evaluation; in particular level of public awareness increase achieved through ACCOBAMS and state of critical habitats. Out of other specific objectives, the best achieved is probably the one on increased human capacities in terms of gained knowledge.

ACCOBAMS has only partly fulfilled its overall objective and desired **outcome**; conservation status of cetacean populations is still poor, but ACCOBAMS contributed to a better regional cooperation. In this respect, ACCOBAMS in particular helped to improve linkages between scientists and also facilitated that countries with good human and financial capacities help those lacking these capacities.

Main ACCOBAMS's **strengths** are; established ACCOBAMS institutional framework; high motivation of some members of ACCOBAMS bodies, representatives of partners and Parties; significant knowledge and expertise; financial contribution of countries like Italy, Monaco, France and Spain and their willingness to assist less favoured countries; amount of work done so far, particularly regarding developed guidelines and formulated best practices covering all relevant cetacean conservation issues; existence of planning of ACCOBAMS work. Main **weaknesses** include weak political position; limited financial and human capacities, particularly those of Parties; lack of transparency in the selection of the Scientific Committee members; not used potential of local scientist and experts; poor involvement of many countries, in particularly those containing critical habitats of some species; weak information flow between national focal points and ACCOBAMS's bodies; lack of active involvement of the EU and representatives of the other stakeholders (fishermen, shipping and boating; navy , etc....); lack of general public and future generations involvement-, lack of long-term strategy and any programme to monitor level of implementation of the planned activities. Main general recommendations are targeted to mitigate weaknesses building up on existing strengths and they include: improvement of financial and human capacities through investigation of new funding possibilities and increase of the relevant Secretariats capacities as well as some improvements to better use the potential of local scientists and experts and ensure better information flow between Parties and ACCOBAMS's bodies intersessionally; increase the cooperation with other stakeholders (in particularly the EU) at regional levels through formalisation of relations and involvement in joint projects; improvement of implementation of ACCOBAMS resolutions through introduction of control mechanisms similar to case files and better linkages with Parties through periodical organisation of regional workshops; improvement of public awareness through planned systematic campaigns in cooperation with partners and improvement of existing planning through development of long-term strategy, amendment of existing planning documents and development of monitoring programmes both for work programmes implementation and to measure ACCOBAMS effectiveness prior to any long term planning.

Appendix 4. SWOT analysis of present state of ACCOBAMS affairs

No.	Strengths	Score (1-5) ⁴⁰
S.1	Highly motivated members within the ACCOBAMS structure, in particular the Executive Secretary and the assisting staff, former Chair and most of the members of the Scientific Committee, several active Parties and partners (mostly NGOs),	4,71
S.2	Willingness of financially stronger countries like Italy, Monaco, France and Spain to contribute to implementation of conservation activities and thus to help countries with less resources,	4,71
S.3	Significant knowledge and expertise, especially within the Scientific Committee which has members with world renowned expertise,	4,28
S.4	Existence of mechanism to involve civil sector directly into ACCOBAMS's structure (Partner status),	4,00
S.5	Established and operating ACCOBAMS's organisational structure, comprising of ACCOBAMS entities,	3,83
S.6	Existence of work planning, as good procedural standard for an organisation,	3,57
S.7	Already started strategic partnerships with regional organisations representing fishermen and shipping, such as GFCM and IMO,	3,57
S.8	Strategic partnerships with regional agreements competent for marine biodiversity conservation such as Barcelona Convention and Bucharest Convention (Sub-regional coordination units' status),	3,43
S.9	Number of developed and adopted resolutions, including technical documents, to assist Parties to address cetacean conservation key issues in the best possible and standardised way,	3,43
No.	Weaknesses	Score (1-5)
W.1	Insufficient support of certain key stakeholders such as the EU and the representatives of navy, oil and gas exploitation industry,	4,71
W.2	Low level of compliance to provisions of adopted resolutions by Parties,	4,55
W.3	Low political power of ACCOBAMS as organisation,	4,33
W.4	Lack of funding for conservation activities at ACCOBAMS's level,	4,28
W.5	Still significant negative impacts of human activities on cetaceans, in particularly bycatch and habitat loss and degradation	4,00
W.6	Lack of knowledge about the state of cetaceans in the region (distribution, abundance, threats),	4,00
W.7	Lack of human and financial resources, in particularly in the south Mediterranean and some Black Sea countries,	3,85
W.8	Weak information flow between national focal/contact points, Secretariat and other ACCOBAMS bodies in particularly intersessionally,	3,71
W.9	Lack of evaluation of ACCOBAMS's effectiveness, as a tool to adapt current management more accurately,	3,71
W.10	Weak information flow between national focal/contact points and other relevant subjects (such as competent authorities, NGOs) within each Party,	3,57
W.11	Insufficient continuity and connection with other overlapping or similar CMS species agreements,	3,43
W.12	Lack of defined and regular monitoring of ACCOBAMS's strategy and work programmes implementation,	3,43
W.13	Array of local scientists and experts not included in the ACCOBAMS's work,	2,85

⁴⁰ Score range 1 to 5: 1 = not relevant

2 = low importance

3 = important

4 = high importance

5 = very high importance

No.	Opportunities	Score (1-5)
O.1	Demand to accurately address emerging issues related to cetaceans (f.e. marine debris, climate change, etc....),	3,57
O.2	Complement the work with other regional nature conservation related organisations efforts to ensure more holistic conservation of marine biodiversity,	3,57
O.3	Strategic partnership with other relevant civil society,	3,43
O.4	Generally positive human perception of cetaceans as species, as potential to use for promotion of cetaceans' conservation,	3,28
O.5	Future generations are great potential to ensure public support in the future,	3,14
O.6	Need for further expertise for standardisation of cetacean conservation related practices and processes at regional level,	3,14
O.7	Extension of the geographical coverage of the Agreement to the Red Sea, as the adjacent sea	3,00
O.8	Need for technical assistance/expertise to EU countries to meet obligations stipulated in the EU Directives – in particularly Habitats Directive, MSFD	3,00

No.	Threats or Challenges	Score (1-5)
T.1	Energy crisis triggers intensification of related activities that already affect cetaceans, such as deep-sea oil and gas exploration and exploitation,	4,14
T.2	Political instability in some regions/countries, affecting transboundary cooperation at all levels (between scientist, decision-makers, etc....), particularly in the Eastern Mediterranean,	3,85
T.3	Financial crisis contributing to decline of national funding and other funding opportunities for nature conservation	3,71
T.4	Increase of regional differences/north – south, etc....,	3,57
T.5	Decrease of existing capacities of Parties due to financial crisis,	3,43
T.6	Overextension of resources, in particularly those of Government institutions through competing demands from overlapping or similar CMS species agreements,	3,14

Appendix 5. Proposal of the Work Programme Format

Main specific objectives group title (f.e. B. Cetacean conservation efforts)

Group of activities title (f.e. B.1.1. Cetacean population estimates and distribution)						
Activity specified in the ACCOBAMS Strategy (f.e. B.1.1.1. Undertake a comprehensive survey...)						
Relevant resolutions:						
Action	Responsible subject	Subject (s) participating in implementation	Outputs	Timeline	Estimated costs	Budget line(s)

RESOLUTION 6.2 - Amendment to the Headquarters Agreement with the Host Country

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Considering that, in accordance with to Resolution 1.2, the Meeting of the Parties accepted the offer by the Government of the Principality of Monaco to host the Permanent Secretariat and agreed with the terms of reference of the Secretariat, as annexed to the same Resolution,

Considering also that paragraph 1 of the annex to the above-mentioned Resolution specifies that the Principality of Monaco will provide the Executive Secretary and give to the Permanent Secretariat the means to devote the necessary time to carrying out their task successfully,

Recalling Resolution 4.2, adopted at the Fourth Meeting of the Parties, that approves the Headquarters Agreement between the Government of H.S.H. the Prince of Monaco and the Permanent Secretariat of ACCOBAMS, an Agreement enforced by the Sovereign Ordinance No. 3.060 of 27 December 2010,

Recalling Resolution 5.6 which:

- highlights the need to adopt a procedure for the designation and appointment of the ACCOBAMS Executive Secretary and to amend the Headquarters Agreement accordingly,
- requests the Secretariat to prepare the draft amendments, in collaboration with the Government of the Principality of Monaco,
- requests the Secretariat to present them to the Bureau and to submit them for adoption to the Sixth Meeting of the Parties,

Taking note of the recommendation by the Bureau to adopt the Headquarters Agreement, as amended,

1. *Thanks* the Government of the Principality of Monaco for the continuous support granted to the ACCOBAMS Permanent Secretariat and for the amendment proposal of the Headquarters Agreement;
2. *Adopts the proposed amended Headquarters Agreement which includes the financial rules, as annexed to the present Resolution;*
3. *Mandates the President of the Bureau and the Executive Secretary to sign the above-mentioned Headquarters Agreement on behalf of the Parties to ACCOBAMS and of the Permanent Secretariat, respectively;*
4. *Mandates the Executive Secretary, after the signature, to notify the Government of H.S.H. the Prince of Monaco that the requirements concerning the entry into force of the amended Headquarters Agreement have been met, as provided for in Article XVII, paragraph 1, of the said Agreement.*

ANNEX 1

**Amendment to Headquarters Agreement between the Government of H.S.H the Prince of Monaco and the
Permanent Secretariat of the Agreement on the Conservation of Cetaceans of the Black Sea,
the Mediterranean Sea and the Contiguous Atlantic Area**

(Original: French)

The Government of H.S.H. the Prince of Monaco from one side,

and,

the Permanent Secretariat of the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic Area, hereafter called "the Permanent Secretariat" on the other;

Considering Article III 7 of the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic area (ACCOBAMS), signed in Monaco on 24 November 1996 and entered into force on 1 June 2001, which provides that the Meeting of Parties at its first session would establish a Secretariat to carry out the secretarial functions enumerated in Article IV 2, par 2 of the Agreement above mentioned;

Considering that the Headquarters of the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic area is established in Monaco in accordance with the offer made by the Government of H.S.H the Prince of Monaco and the acceptance of the said offer by the Meeting of Parties in its Resolution 1.2 of 28 February 2002 of the First Meeting of Parties to the Agreement here above mentioned;

Recalling Resolution 4.2 adopted during the Fourth Meeting of Parties approving the Agreement between the Government of the Principality of Monaco and the Permanent Secretariat of the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic area related to its Headquarters and its privileges and immunities on the territory of the Principality of Monaco, enforced by the Sovereign Ordinance No. 3.060 of 27 December 2010;

Wishing to clarify the conditions which govern the establishment and the functioning of the Permanent Secretariat;

Agree to amend the Headquarters Agreement as follows:

Article 1: Legal personality

6. The Government of H.S.H. the Prince of Monaco shall recognize the legal personality of the Permanent Secretariat and, for the purposes of carrying out its statutory responsibilities, its capacity:
- to contract,
 - to acquire and dispose of movable and immovable property,
 - to be a party to legal proceedings.

7. The President of the Bureau of the Agreement is qualified to represent the Agreement.

Article 2: Establishment of the Headquarters of the Permanent Secretariat – Premises

1. The Headquarters of the Permanent Secretariat include the premises it occupies or may occupy for the needs of its activity, with the exception of its staff's residential premises. These premises have been graciously granted by the Government of H.S.H. the Prince of Monaco for the requirements of its functioning for a period of (99 years) starting from the date when the present Agreement enters into force.
2. At present the premises occupied by the Permanent Secretariat are located at Jardin de l'UNESCO – Les Terrasses de Fontvieille – 98000 Monaco.
3. With the terms outlined in the Appendix 1, the Government of H.S.H. the Prince of Monaco, besides taking charge of the usual expenses of the owner, agrees to take charge, with the exception of expenses caused by negligence or omission on the part of the Permanent Secretariat's staff, of the functioning expenses of the said Secretariat, as well as expenses for heating, lighting, water supply, sewage disposal and garbage collection of the Permanent Secretariat facilities, the Permanent Secretariat Organisation the Organisation itself taking charge of those other expenses of internal maintenance that are usually borne by a tenant.
4. Without prejudice to the conditions of the present Agreement, the Permanent Secretariat shall not allow its Headquarters to be used as a refuge for persons who are wanted for a crime or for a flagrant offence, or are subjected to a legal warrant, a criminal conviction, an expulsion order or a decision to be deported or extradited issued by the Monacan authorities.
5. The Headquarters of the Permanent Secretariat shall be inviolable. The Monacan authorities may only enter it with the consent or at request of the representative of the Permanent Secretariat. This consent may be presumed in case of fire or other emergency requiring prompt protective action.

Article 3: Immunities of the Permanent Secretariat

1. Except as otherwise provided by the present Agreement, the Permanent Secretariat's official activities shall be carried out in compliance with Monacan law in the Principality of Monaco.
2. The Permanent Secretariat shall enjoy, on the territory of the Principality of Monaco, of the independence, and of the freedom of actions for the achievement of missions and activities entrusted by the ACCOBAMS and by the Meeting of the Parties, in conformity with the provisions of the present Agreement.
3. Within the limits of its official activities, the Permanent Secretariat and its movable property, wherever found, its premises and its assets shall enjoy immunity from jurisdiction, except insofar as the President of the ACCOBAMS Bureau or his representative expressly waives this immunity by notifying the Government of H.S.H the Prince of Monaco.

4. The property mentioned in Paragraph 3 of the present Article shall also be immune from all forms of search, requisition, confiscation and seizure, as well as from all other forms of administrative or legal restraint.
5. The immunities provided for in the present Article do not apply to property, premises and assets abandoned by the Permanent Secretariat.

Article 4: Archives

1. The Permanent Secretariat's archives shall be inviolable.
2. These archives shall include all correspondence, documents, manuscripts, photographs, computer databases, films and records belonging to or held by the Permanent Secretariat.

Article 5: Flag and emblem

The Permanent Secretariat shall have the right to display the flag and the emblem of ACCOBAMS in its premises and on its means of transport, its own or those used on its behalf.

Article 6: Exemption from dues and taxes

1. Within the limits of its official activities, the Permanent Secretariat, its assets, income, premises and other property shall be:
 - exempted from all direct taxes, it being understood however that the Permanent Secretariat shall not ask to be exempted from the taxes that in fact only constitute payment of services provided;
 - exempted from import or export taxes and dues, interdictions and restrictions on imports or exports as regards goods or articles imported or exported by the Permanent Secretariat for its operating requirements, it being however understood that, on Monacan or French territory, the goods or articles imported in accordance with this exemption can only be ceded or lent freely or for money under the conditions previously agreed by the competent Monacan or French authorities.

The above exemptions shall in no way be interpreted as preventing the adoption by the Monacan authorities of appropriate security measures.

The Permanent Secretariat shall pay, as provided for in ordinary law, those indirect taxes that are included into the price of the goods sold or the services provided. However, the taxes relating to major purchases or operations carried out by the Permanent Secretariat for its needs, according to Article 6.1, shall be reimbursed according to modalities to be decided by mutual agreement between the Government of H.S.H. the Prince of Monaco and the Permanent Secretariat, with the exception of alcohol and tobacco products.

Article 7: Currency and exchange rate

1. Without being subjected to any monitoring, regulation or financial moratorium, the Permanent Secretariat, within the context of its official activities, can freely:
 - receive, acquire, hold or cede funds, currency and valuables of all kinds and hold bank or other accounts in any currency whatsoever;
 - transfer its funds, currency and valuables within the territory of Monaco and from the Principality of Monaco to another State, or vice-versa.

2. In exercising the rights granted to it in accordance with the present Article, the Permanent Secretariat takes account of any representation made by the Government of H.S.H. the Prince of Monaco insofar as it deems that it can act on it without prejudice to its interests.

Article 8: Communications

Insofar as it is compatible with the provisions of the international conventions, regulations and arrangements to which the Principality of Monaco is a Party, the Permanent Secretariat shall enjoy, for its official communications of whatsoever kind, treatment that is at least as favourable as that granted to the diplomatic missions in the Principality of Monaco as regards any communications priority.

Article 9: Publications

Importing and exporting the Permanent Secretariat's publications or any other information materials imported or exported by the Permanent Secretariat within the limits of its official activities shall not be subjected to any restriction.

Article 10: Representatives at and Observers to ACCOBAMS meetings

1. The Government of H.S.H. the Prince of Monaco commits itself, unless some reason of public order prevents it, to facilitate the entry and staying in the Principality of Monaco, for the duration of their functions or missions, of representatives of Member States and observers from correspondent States who have been invited to participate to the meetings of the ACCOBAMS organs or to conferences and meetings convened by the Permanent Secretariat, as well as of experts or personalities called upon for consultation.

2. The persons referred to in Paragraph 1 of the present Article shall not, for the entire duration of their functions or missions, be obliged by the Monacan authorities to leave the territory of Monaco, unless they have abused the privileges of staying they were granted or are pursuing any activity not related to their Permanent Secretariat functions or missions.

3. The persons referred to in Paragraph 1 of the present Article shall not be exempted from the application of quarantine and public health regulations where appropriate.

4. During their assignments, and during their movements on Monacan territory, the persons referred to in Paragraph 1 of the present Article shall enjoy:

- personal immunity from arrest or detention or seizure of their personal luggage, except in cases of flagrant offence;
- inviolability of all their official papers, documents and materials;
- the right to use codes and to send and receive correspondence and other papers and documents by post or in sealed bags.

In order to help the Government of H.S.H. the Prince of Monaco to implement the provisions of the present Article, the Permanent Secretariat shall communicate to the Government of H.S.H the Prince of Monaco the names of the representatives before their arrival in the Principality of Monaco.

Article 11: Staff Members of the Permanent Secretariat

The Government of the Principality of Monaco takes in charge the Executive Secretary and a full time Assistant, according to the procedures set out in Appendix 1.

Article 12: Staff immunity

1. The staff members shall be entitled of immunity from jurisdiction, even after termination their duties, for all acts, including their words and writings, undertaken by them in the exercise of their functions and within the limits of their mandate. This immunity shall not apply in the case of any breach of the rules of road traffic committed by a member of the Permanent Secretariat's staff, or of harm caused by an automobile vehicle belonging to or driven by a member of staff.
2. At times of international tension, the staff members shall be entitled of repatriation facilities granted to members of diplomatic missions.
3. Except for Monacan nationals and permanent resident in the Principality of Monaco, the staff shall enjoy:
 - a. exemption from any Monacan tax on salaries and emoluments paid for his/her activities for the Permanent Secretariat;
 - b. the regime set forth in article 10 as regards entry and staying in the Principality of Monaco.

Article 13: Object and waiver of privileges and immunities

1. The privileges and immunities provided for by the present Agreement shall not be established with a view to giving personal advantages to those enjoying them, but solely to ensure that, in all circumstances, the Permanent Secretariat can operate freely and that the persons on whom they are conferred are completely independent.
2. The President of the ACCOBAMS Bureau or, in the case of representatives of Member States, the Government of the State concerned, shall have the duty to waive these immunities when they deem that they prevent the normal carrying out of justice and that it is possible to dispense with them without prejudicing the interests of the Permanent Secretariat.

Article 14: Cooperation

1. The Permanent Secretariat shall fully cooperate in all circumstances with the Government of H.S.H. the Prince of Monaco in order to prevent any abuse of the privileges, immunities and facilities provided for by the present Agreement.
2. The provisions of the present Agreement shall in no way affect the right of the Government of H.S.H. the Prince of Monaco to take the measures it could deem useful for the security of the Principality of Monaco and the protection of public order.

Article 15: Notification of appointments

1. The President of the ACCOBAMS Bureau or his representative shall notify the Government of H.S.H. the Prince of Monaco of the appointment of the Executive Secretary and the date on which the Executive Secretary begins or end his/her functions.
2. The Executive Secretary of the ACCOBAMS shall notify the Government of H.S.H. the Prince of Monaco when a member of the staff other than the Executive Secretary begins or end his/her functions and shall indicate if this person is a Monacan national or a permanent resident in the Principality of Monaco.
3. During the first quarter of each year, the Executive Secretary shall provide the Government of H.S.H. the Prince of Monaco with an updated list of all members of staff, stating if these persons are Monacan nationals or are permanently resident in the Principality of Monaco.
4. The Government of H.S.H. the Prince of Monaco shall deliver to all the members of staff as promptly as possible after notification of their appointment a "special" card carrying the picture identification of the occupant and identifying him/her as a member of staff of the Permanent Secretariat. This card shall be accepted by the Monacan authorities as proof of identity and of appointment. When the member of staff ends his/her functions, the Permanent Secretariat shall send the concerned person's "special" card back to the Government of H.S.H. the Prince of Monaco.

Article 16: Settlement of Disputes

Any dispute between the Government of H.S.H. the Prince of Monaco and the Permanent Secretariat about the interpretation or the implementation of the present Agreement or any question affecting the relations between the Government of H.S.H. the Prince of Monaco and the Permanent Secretariat, when not settled by consultation or negotiation or a method acceptable to both parties, shall be submitted for final decision without appeal to a Committee of three arbitrators composed of:

- a. an arbitrator designated by the Government of H.S.H. the Prince of Monaco;
- b. an arbitrator designated by the President of the ACCOBAMS Bureau;
- c. an arbitrator designated by mutual agreement by the Government of H.S.H. the Prince of Monaco and the President of the ACCOBAMS Bureau, or, when there is disagreement, by the Chair of the International Court of Justice.

Article 17: Entry into force and termination

1. The present Agreement shall enter into force after mutual notification in writing, by the Government of H.S.H. the Sovereign Prince and by the President of the ACCOBAMS Bureau, that their respective requirements concerning the entry into force of the present Agreement have been met.
2. The present Agreement can be modified or terminated on the common decision by the Government of H.S.H. the Prince of Monaco and by the Permanent Secretariat. In deciding to modify or to terminate the present Agreement, the Permanent Secretariat can only act in compliance with a decision taken by the Meeting of Parties.
3. Should negotiations not lead on to an understanding within one year, the present Agreement may be denounced by the Government of H.S.H. the Prince of Monaco or by the Permanent Secretariat acting in compliance with a decision taken by the Meeting of Parties, with previous notice of two years.
4. Should the Headquarters of the ACCOBAMS Permanent Secretariat cease to be located in the Principality of Monaco, the present Agreement shall cease to apply at the end of a reasonable period necessary for the transfer and the cession of the Permanent Secretariat's property in the Principality of Monaco.
5. In case provided for in paragraph 3 and 4, the date of the Agreement termination will be confirmed by an exchange of notes between the Government of H.S.H. the Prince of Monaco and the Permanent Secretariat.

IN WITNESS WHEREOF, the undersigned, being duly authorised to do so, have signed the present Agreement, in two copies, in French language.

Signed in Monaco on the twenty-second of November two thousand sixteen.

For the Government
of His Serein Highness
the Prince of Monaco,

The Minister of State,

H.E. M. Serge TELLE

For the ACCOBAMS Bureau,
The President

H.E.M. Xavier STICKER

For the Permanent Secretariat of the ACCOBAMS,

The Executive Secretary,

Mrs. Florence DESCROIX-COMANDUCCI

Appendix 1
Financial arrangements between the Government of H.S.H the Prince
of Monaco and the Permanent Secretariat of ACCOBAMS

1. The Government of the Principality of Monaco provides the Permanent Secretariat with an annual grant, which will be paid in two equal instalments at the beginning and in the middle of the civil year, and which use will allow the Permanent Secretariat to take in charge the following expenses:
 - heating, lighting, water supply, wastewater discharge and garbage collection,
 - maintenance of the premises,
 - rent and maintenance costs of a photocopier,
 - telephone and internet costs and subscription,
 - computer stock with maintenance,
 - office equipment and maintenance,
 - staff cost according to the conditions defined under items 3, 4 and 5 hereunder.
2. The Host Country takes directly care of:
 - rent of the premises and their maintenance costs,
 - lease hold expenses,
 - cost for the rent, maintenance, insurance and related taxes for two governmental apartments, located in France, for staff housing.
3. The Government of Monaco takes in charge the Executive Secretary and a full time Assistant.
4. The staff expenses of the Executive Secretary, are covered by the Host Country through reimbursement of relevant expenditures incurred by the Permanent Secretariat, within the limit of a gross annual remuneration equivalent to the one provided to the civil servants classified as Department Head of the 3rd group of the Monacan Civil Service. This ceiling amount shall be communicated to the Executive Secretary by the Government of the Principality of Monaco before each budget year.
5. The Assistant is recruited by the Executive Secretary. Staff expenses, along with welfare cost, are covered by the Host Country through reimbursement of relevant expenditures incurred by the Permanent Secretariat, within the limit of a gross annual remuneration equivalent to the one provided to the civil servants classified in the scale of Attaché, Principal Attaché and Highly Qualified Attaché of the Monacan Civil Service. This ceiling amount shall be communicated to the Executive Secretary by the Government of the Principality of Monaco before each budget year.
6. The Executive Secretary shall be entitled upon entry on duty, of an allowance of maximum 5 000 € linked to the inflation rate and covered by the Host Country, to cover the possible moving expenses.
7. The Permanent Secretariat has recourse to suitable local banking services to conduct day-to-day transactions.
8. In support to its request for the following year budget allowance, the Permanent Secretariat will provide a detailed provisional budget of expenditures, for which the support is requested, together with the latest closed accounts listing the related items and signed-off by the fund management controller.

RESOLUTION 6.4 - Amendments to the Rules of Procedures for the Bureau

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article VI of the Agreement,

Recalling Resolution 5.7 on the Rules of Procedure for the Bureau,

Recalling Resolution 6.2 on the amendment to the Headquarters Agreement,

Considering the need to amend the Rules of Procedure for the Bureau to improve and facilitate the functioning of the Bureau,

1. *Decides* to amend text of the Rules of Procedure for the Bureau, as annexed to this Resolution:

- Article 1, sub-paragraph b): the word “and” is deleted;
- Article 1, sub-paragraph c): a semicolon replaces the full stop and the word “and” is added after the semicolon;
- Article 1: the following sub-paragraph d) is added:
“d) officially appoint the ACCOBAMS Executive Secretary, in conformity with the agreed procedures;”
- Article 1: the following paragraph 2 is added:
“2. The President of the Bureau is entitled to waive the immunities of the ACCOBAMS staff members in conformity with Article 13 of the Headquarters Agreement with the Host Country.”;
- Article 1: the following paragraph 3 is added:
“3. All members and alternate members of the Bureau shall exercise their functions in their personal capacity and shall not represent any single ACCOBAMS Party.”;
- Article 2: the previous Article 2 becomes the new paragraph 1 of the new Article 2;
- Article 2, paragraph 1, second sentence: replace “Meeting of Parties” with “Meeting of the Parties” (twice);
- Article 2: the following paragraph 2 is added:
“2. If unable to attend a Meeting, any member of the Bureau may be replaced by an alternate member appointed by the ACCOBAMS Party concerned.”;
- Article 2: the following paragraph 3 is added:
“3. Any member of the Bureau may be assisted by an advisor of his/her choice. The Party concerned shall cover the travel and accommodation expenses of the advisor.”;
- Article 2: the following paragraph 4 is added:

“4. All decisions of the Bureau shall be adopted by consensus. If consensus cannot be achieved, a decision may be adopted by the majority of the Bureau members.”;

2. *Decides* to adopt the Rules of Procedure for the Bureau as annexed to the present Resolution (amendments in bold);
3. *Decides* that the present Resolution replaces Resolution 5.7.

ANNEX

Rules of procedure for the Bureau of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area ⁴¹

Article 1

1. The Bureau shall:

- a) provide general policy guidance and operational and financial direction to the Agreement Secretariat and the subregional Co-ordination Units concerning the implementation and promotion of the Agreement;
- b) carry out, between sessions of the Meeting of the Parties, such interim activities on its behalf as may be necessary or assigned to it by the Meeting of the Parties;
- c) represent the Parties vis-à-vis the Government of the Host Country of the Agreement Secretariat and the Meeting of the Parties, the Depositary and other international Organizations on matters relating to the Agreement and its Secretariat; **and**
- d) officially appoint the ACCOBAMS Executive Secretary, in conformity with the agreed procedures.**

2. The President of the Bureau is entitled to waive the immunities of the ACCOBAMS staff members in conformity with Article 13 of the Headquarters Agreement with the Host Country.

3. All members and alternate members of the Bureau shall exercise their functions in their personal capacity and shall not represent any single ACCOBAMS Party.

Article 2

1. The Bureau shall meet at least twice between two Meetings of the Parties. One of these Meetings shall be held six months before each Meeting of the Parties and will act as a preparatory Meeting for the Meeting of the Parties.

2. If unable to attend a Meeting, any member of the Bureau may be replaced by an alternate member identified by the ACCOBAMS Party concerned.

3. Any member of the Bureau may be assisted by an advisor of his/her choice. The Party concerned shall cover the travel and accommodation fees of the advisor.

4. All decisions of the Bureau shall be adopted by consensus. If consensus cannot be achieved, a decision may be adopted by the majority of the Bureau members.

Article 3

1. At its preparatory meeting for the Meeting of the Parties and in the accomplishment of the functions provided for in Article 1, a) and b), the Bureau shall be supported, as observers, by:

- a representative of the State holding the next Meeting of the Parties, if not already represented in the Bureau,
- a representative of each of the two sub-regional Co-ordination Units,
- a Working Group.

The Bureau, with the help of these observers, will have the task to examine:

- the progress made in the activities of the Secretariat and the sub-regional Co-ordination Units;
- the proposals made by the Scientific Committee, and
- the drafts of Recommendations and Resolutions to be submitted to the Meeting of the Parties.

2. The Working Group shall be made up of three experts having extensive experience in social and economic aspects of conservation and management of marine biodiversity. The three experts shall be selected before the third year of

⁴¹ The composition and functions of the Bureau are settled by Article VI of the Agreement. The Rules of procedure of the Bureau, acting as Bureau of the Meeting of the Parties, are already stated in the general Rules of procedures of the Meeting of the Parties which will apply *mutatis mutandis* to the meetings of the Bureau.

each triennium by the Bureau in close consultation with the Secretariat, according to the development of the Working Programme and the priorities to be taken in consideration for the subsequent triennium. The three experts shall be selected based on their curriculum vitae.

3. Cumulative function between member of the Scientific Committee and member of the Working Group shall be avoided.

4. The Secretariat shall invite the three selected experts to attend the Bureau Meeting on a voluntary basis and shall cover their travel and accommodation fees.

5. Each Party can send an observer to the Meeting of the Bureau preparatory for the Meeting of the Parties. The Party concerned shall cover the travel and accommodation fees of the observer.

Article 4

1. The precise dates of the Meetings shall be set by the President of the Bureau, after consultation with the Secretariat and the other members. The Secretariat shall inform the members of the Bureau, as well as all Parties of the date, place and agenda of each Meeting and shall invite them to participate.

2. The Secretariat shall inform the members of the Working Group of the date, place and agenda of the Meeting of the Bureau preparatory to the Meeting of the Parties and shall invite them to participate.

Article 5

The Secretariat shall prepare the provisional agenda of each Meeting, in consultation with the President of the Bureau.

Article 6

The Bureau shall provide a report on its activities for each session of the Meeting of the Parties that shall be circulated to all Parties in advance of the session by the Agreement Secretariat.

Article 7

The Chairperson of the Scientific Committee shall be invited to participate as an observer in the Meetings of the Bureau.

Article 8

The Agreement Secretariat shall provide secretariat services for the Bureau Meetings.

Article 9

These rules may be amended as required by the Meeting of the Parties.

RESOLUTION 6.10 - Acceptance of the ACCOBAMS Amendments on the extension of the ACCOBAMS Geographical Scope

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling that, in 2010, the Fourth Meeting of the ACCOBAMS Parties adopted Resolution A/4.1 which amended the text of the ACCOBAMS Agreement and extended its geographical scope to include an enlarged neighbouring Atlantic area,

Reaffirming the importance of the above-mentioned Resolution, which is based on the scientific evidence that cetacean populations present in waters to the north of Portugal and the Galician and Cantabrian Seas are connected, as shown by the most recent scientific studies,

Aware that, under Article X, paragraph 3, an amendment to the Agreement, after having been adopted by the Meeting of the Parties, enters into force on the thirtieth day after the date on which two thirds of the Parties to the Agreement at the date of the adoption of the amendment have deposited their instruments of acceptance with the Depositary, corresponding in this specific case to sixteen acceptances,

Recalling the steps regularly taken by the Depositary and the Secretariat to promote the acceptance of the amendments,

Noting with concern that, so far, only eight Parties have deposited their acceptance of the amendments,

Stressing the need to have the amendments in force as soon as possible,

1. *Calls upon* Parties to ACCOBAMS that have not yet done so to treat the acceptance of the above-mentioned amendments as a matter of priority.

RESOLUTION 7.2 - Functional Structure and Personnel of the ACCOBAMS Permanent Secretariat

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Considering that, under Resolution 1.2, the Meeting of the Parties accepted the offer of the Government of the Principality of Monaco to host the Permanent Secretariat and agreed with the terms of reference, as annexed to the said Resolution,

Recalling Resolution 6.2, amending the Headquarters Agreement with the Host Country,

Conscious that there is a need to formally establish a functional structure for the Permanent Secretariat and its personnel,

Recalling Resolution 6.3, requesting the Executive Secretary, on the basis of a functional assessment of the ACCOBAMS Permanent Secretariat, and in consultation with the Host Country and the Bureau, to develop a proposal on the structure of the Permanent Secretariat of ACCOBAMS and a mechanism to implement the proposal to be submitted to the Seventh Meeting of the Parties,

Having entrusted the Permanent Secretariat to hire a specialized consultant to carry out a functional assessment of the personnel needs of the ACCOBAMS Permanent Secretariat and the associated costs,

Taking note of the recommendations listed in the report of the functional assessment of the ACCOBAMS Permanent Secretariat,

1. *Adopts* the Functional Structure and Personnel of the ACCOBAMS Permanent Secretariat, as in the Annex to the present Resolution;
2. *Charges* the Executive Secretary, without prejudice to any acquired rights, to implement the present Functional Structure;
3. *Decides* that the present Resolution replaces Resolutions 5.6 and 6.3.

ANNEX

Functional structure and personnel of the Permanent Secretariat of the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS)

PREAMBLE

At their First Meeting in 2002, Parties to the ACCOBAMS adopted Resolution 1.2 creating a Permanent Secretariat whose functions are defined in Article IV of the Agreement.

A Headquarters Agreement, signed between the Government of the Principality of Monaco and the ACCOBAMS Permanent Secretariat on the 11th November 2010 and adopted by Parties at their 4th Meeting under Resolution 4.2, provided the Permanent Secretariat with a legal personality, allowing to act as an employer as per the Monegasque legislation. An Amendment to the Headquarters Agreement was adopted by Parties in November 2016 at their 6th Meeting, through Resolution 6.2.

1- DEFINITION OF THE POSITIONS AT THE ACCOBAMS PERMANENT SECRETARIAT

At the Permanent Secretariat, the positions include those supported by the Host Country under the Headquarters Agreement, as well as positions funded through the Agreement Trust Fund or through specific projects, and those seconded by Parties, as described in documents ACCOBAMS-MOP7/2019/Doc22 and ACCOBAMS-MOP7/2019/Doc23 related to the position profiles and salary scales.

1.1 Positions under the Headquarters Agreement

These positions, core of the Permanent Secretariat, include those listed in the amended Headquarters Agreement and financially supported by the Host Country, namely:

- ✓ Executive Secretary
- ✓ Assistant to the Executive Secretary

1.2 Positions under the Agreement Trust Fund

These positions ensure the remaining scientific, technical and administrative functions.

1.3 Positions funded under specific projects and/or seconded by Parties

These positions ensure specific scientific, technical or administrative functions. They are supported by external funds or seconded by Parties and their duration is limited to the extent of the specific project or activity.

2- RULES GOVERNING THE PERMANENT SECRETARIAT PERSONNEL

The Permanent Secretariat of ACCOBAMS is registered with the Monegasque Employment Service as an employer. Its employees are subject to the laws in force that regulate the conditions of hiring and dismissal in the Principality of Monaco (Law No. 629 of July 1957) and set, in particular, the following points:

- ✓ Weekly working time;
- ✓ Duration of annual leave;
- ✓ Official public holidays observed being the legal holidays envisaged in the Principality of Monaco by the Law No. 798 of 18 February 1966.

3- FUNCTIONAL ORGANISATIONAL STRUCTURE OF THE PERMANENT SECRETARIAT

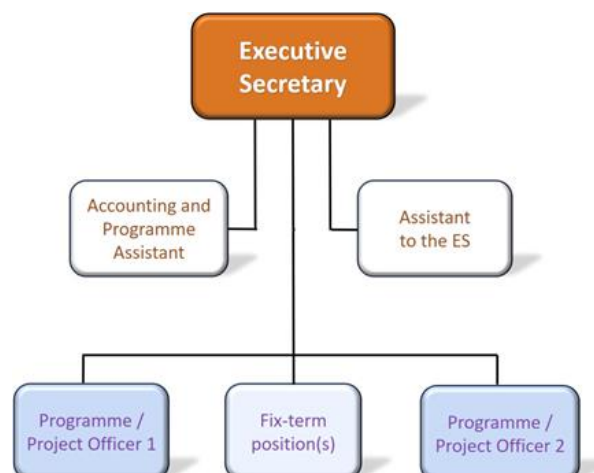
The functional organizational structure of the Permanent Secretariat is supported by documents ACCOBAMS-MOP7/2019/Doc22 and ACCOBAMS-MOP7/2019/Doc23. It is as follows:

- ✓ Executive Secretary, in charge of leading and managing the Permanent Secretariat, the personnel and the Agreement budget;
- ✓ Assistant to the Executive Secretary, providing direct secretariat support and general office assistance to the Executive Secretary; general communication / information assistance; logistical, operational and administrative support for institutional meetings, including travel arrangements and translation of documents;
- ✓ Programme and Project Officer (1), developing and implementing the Programme of Work on assigned topics; in charge of identifying, developing and managing specific co-funded projects and preparing and presenting documents for institutional meetings and conferences;
- ✓ Programme and Project Officer (2), developing and implementing the Programme of Work on assigned topics; in charge of identifying, developing and managing specific co-funded projects and preparing and presenting documents for institutional meetings and conferences;
- ✓ Accounting and Programme Assistant performing the accounting of the ACCOBAMS Funds and providing administrative support related to human resources and to the implementation of the Programme of Work and projects, including workshops and meetings;
- ✓ Staff recruited on a fix-term basis, according to the duration of a specific project or activity or provided through secondment by a Contracting Party to support Work Programme implementation.

The Executive Secretary is the supervisor of the personnel of the Permanent Secretariat and all of them report to her/him. However, the Executive Secretary may request a Programme and Project Officer to oversee the work of a staff recruited, on a fix-term basis, for a specific project or activity.

The positions, other than those included in the Headquarter Agreement, are not permanent and depend on the workload and the available financial resources. The personnel are contracted accordingly and in compliance with legislation of the Principality of Monaco.

The functional organizational chart of the ACCOBAMS Permanent Secretariat is as follows:



4- SALARIES AND OTHER REMUNERATIONS

The Monegasque legislation stipulates that the classification of employees in the various occupational categories is determined by the employer or his representative, under the supervision of the labor inspector⁴².

Salaries and other remuneration shall be paid in Euros. The minimum amount of wages is fixed by Ministerial Decree⁴³.

- ✓ The salary of the Executive Secretary position is provided by the Host Country through its allowance for the functioning of the Permanent Secretariat. A ceiling amount is set as per the provisions of the Headquarters Agreement which specifies the equivalent grade in the Monegasque civil services and the corresponding salary scale (Resolution 6.2 Appendix 1, para. 4, b). The ACCOBAMS Permanent Secretariat salary scale for this position is identified as A5, step 3 of the A5 salary scale corresponding to the above-mentioned ceiling amount, as referred in Annex 2 of Resolution 7.3. In addition, a Housing Allowance is provided from the Trust Fund to the Executive Secretary if not a national from the Host Country.
Considering that the Executive Secretary is recruited for a limited period of maximum nine years, then he/she shall be appointed at step 1 of the salary scale and have a normal step increase every three years.
- ✓ The salary of the Programme and Project Officer positions is supported by the Trust Fund.
In addition, the two apartments provided to ACCOBAMS by the Principality of Monaco according to the provisions of the Headquarters Agreement, are allocated to these positions by the Executive Secretary, taking into account the income and the family quotient.
- ✓ The salary of the position of Assistant to the Executive Secretary is supported by the Host Country allowance for the functioning of the Permanent Secretariat. A ceiling amount is set as per the provisions of the Headquarters Agreement which specifies the equivalent grade and the corresponding salary scales (Resolution 6.2, Appendix 1, para. 5). The remuneration grid of the ACCOBAMS Permanent Secretariat for this position, inspired by salary scales used by the Monegasque Civil Services for B category employees, starts at B1 scale, continues with B2 scale and terminates at B3 scale (at the above-mentioned ceiling amount) as referred in document ACCOBAMS-MOP7/2019/Doc23.
- ✓ The grade level at appointment shall normally begin at Step 1 of the lowest scale. However, under exceptional circumstances, the Executive Secretary might decide that the appointment is done at a higher step to reflect seniority and/or experience.

The salary for the position of Accounting and Programme Assistant is supported by the Trust Fund.

The salary of the personnel recruited over the life of a particular project or activity, with limited duration, is determined and supported under this project or this activity.

The performance of the personnel, other than the Executive Secretary, shall be assessed annually in January by the Executive Secretary.

⁴² **Article 11. 1** of Law n. 739 – March 1963 regarding the salary.

⁴³ **Article 11:** of Law n° 1.068 of December 1983: Except as otherwise provided by law, the minimum amounts of salaries, bonuses, allowances of any kind and supplements other than those provided for by the legislative provisions relating to hours of work may not be lower than those fixed by ministerial decree. Subject to the provisions of the following paragraph, they shall be at least equal to those prescribed under regulations or collective agreements, for identical working conditions, in the same occupations, businesses or industries of the neighbouring economic region.

5- RECRUITMENT PROCEDURES FOR THE PERSONNEL OF THE PERMANENT SECRETARIAT

5.1 Executive Secretary

The Executive Secretary is recruited according to the provisions of Resolution 7.3 “Procedure for the Recruitment of the Executive Secretary”.

5.2 Personnel other than the Executive Secretary

Personnel working in the Permanent Secretariat is recruited by the ACCOBAMS Permanent Secretariat acting as employer, namely by the Executive Secretary, in accordance with the Monegasque legislation (in particular Law No. 629 of July 1957 on the conditions of hiring and dismissing in the Principality of Monaco).⁴⁴

Recruitment is carried out according to the qualifications required and according to the laws in force in Monaco. It is undertaken on the basis of a job offer submitted to the Employment Service of the Principality of Monaco and can be effective, for a foreign national, after obtaining a work permit⁴⁵ only.

Personnel can also be seconded by Parties to support the implementation of the Programme of Work.

6- SEPARATION FROM SERVICE

a) Personnel of the Permanent Secretariat, including the Executive Secretary, may resign at any time in accordance with the terms of the laws in force which regulate the conditions of hiring and dismissal in the Principality of Monaco (Law No. 629 of July 1957 and Law No. 729 of March 1963).

The Executive Secretary shall give a six months prior notice. A shorter period shall be approved by the Bureau.

b) The Executive Secretary, or the Bureau in concertation with the Government of the Principality of Monaco in the case of the Executive Secretary, may terminate the appointment of staff members, upon prior written notice (period of notice set under Law No. 729 of March 1963), when this is deemed to be for the benefit of the operating efficiency of the Permanent Secretariat, due to the restructuring of the Permanent Secretariat as a consequence of budget shortage, or if it is considered that the staff member’s services are not satisfactory.

In the event of the resignation of a staff member or the decision by the employer of termination of services, the corresponding indemnities are established in accordance with the Law in force in the Principality of Monaco (Law N° 845 of June 1968).

⁴⁴ **Article 5** of Law No. 1.091 of 26 December 1985;

For job candidates who have the qualification required for the post, and in the absence of candidates of Monegasque nationality, the authorization provided for in the preceding article (hiring or rehiring) shall be issued in the following order of priorities:

- 1) foreigners married to Monegasques who have kept the Monegasque nationality and are not legally separated, and non-Monegasques who have a Monegasque parent;
- 2) foreigners who are domiciled in Monaco and have already been in employment there;
- 3) foreigners who are domiciled in neighbouring communes and are authorized to work there.

⁴⁵ **Article 1:** (Modified by Law No. 1.429 of 4 July, 2016) No foreigner may be employed in the private sector in Monaco unless that person has a work permit. He may not be employed in a trade or profession other than that stated on the permit. The work permit application mentions, where applicable, the exercise of a teleworking activity and the places where it is performed.

RESOLUTION 7.3 - Recruitment procedure for the Executive Secretary

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article IV of the ACCOBAMS, setting the functions of the Agreement Secretariat,

Aware that under Resolution 1.2, the Meeting of the Parties accepted the offer of the Government of the Principality of Monaco to host the ACCOBAMS Permanent Secretariat and agreed with its terms of reference, as annexed to the said Resolution,

Recalling Resolution 6.2 amending the Headquarters Agreement with the Host Country which defines, *inter alia*, the financial arrangements for the Executive Secretary position expenses,

Recalling Resolution 6.3, entrusting the Bureau, in consultation with the Host Country, to address the question of the recruitment procedure for the Executive Secretary as a matter of priority,

1. *Adopts* the recruitment procedure for the Executive Secretary, as in Annex 1, the profile of the Executive Secretary position and salary scale, as in Annex 2, and the selection criteria, as in Annex 3 to the present Resolution;
2. *Entrusts* the Executive Secretary with the implementation of the Agreement, in consultation with the President of the Bureau and the Host Country;
3. *Entrusts* the Bureau to make any proposal for amendments to Annexes 2 and 3 and to submit them to the subsequent Meeting of the Parties for adoption.

ANNEX 1
Recruitment Procedure for the ACCOBAMS Executive Secretary

When the position of ACCOBAMS Executive Secretary is or becomes vacant, the following recruitment procedure shall be used:

1. The Bureau initiates, in the shortest period of time, a recruitment procedure according to the modalities below and designates, if necessary and in coordination with the Host Country, an Executive Secretary *ad interim* until the recruitment procedure is completed. If the *ad interim* or current Executive Secretary is a candidate, she/he shall not be involved in the recruitment procedure;
2. The Bureau, to which a representative of the Host Country is added (if not already member), acts as Recruitment Committee, with the assistance of the Permanent Secretariat, using the Rules of Procedure for the Bureau as set out in Resolution 5.7 and amended by Resolution 6.4. Parties willing to send a representative as observer may do so at their own cost;
3. Upon request by the President of the Bureau, the Permanent Secretariat publishes on the ACCOBAMS website, a vacancy notice in English and French, including a deadline for application, based on the selection criteria presented in Annex 2 and notifies all National Focal Points, all ACCOBAMS Partners and the Secretariats of the relevant Conventions as well (CMS, CBD, Barcelona Convention, IWC, etc.) for publication on their institutional web site and in the media considered appropriate;
4. After the deadline set in the vacancy notice, all *curricula vitae*, references and other documents presented by the candidates are compiled by the Permanent Secretariat to assist the Recruitment Committee in the preparation of an analytical table of applications, based on, but not necessarily limited to and without priority order, the selection criteria presented in Annex 3 of the present Resolution and on the description of the duties and responsibilities contained in Article IV of the ACCOBAMS;
5. On the basis of the scores of the analytical table, the Recruitment Committee prepares a list of maximum four candidates;
6. The Recruitment Committee decides a date and a place considered as the most convenient and cost effective to meet and invites the four candidates for an interview face to face;
7. The Recruitment Committee proceeds with the interviews and ranks the four candidates;
8. The employment process is finalized in compliance with the law in force in the Principality of Monaco, regulating, among others, the conditions of hiring and dismissal; the President of the Bureau signs the declaration of employment of the candidate retained;
9. The name of the candidate retained, as well as the date of entry on duty, are notified to the Parties by the President of the Bureau;
10. The Executive Secretary is recruited for a period of six (6) years, including the first year on probation. Before the end of the first year, the Bureau prepares an assessment of the effectiveness of the person concerned, in order to issue an advice on the continuation of the mandate. The term of office of six (6) years may be extended for a period of three (3) years;
11. The meeting of the Recruitment Committee is private, and its deliberations are considered as confidential.

ANNEX 2

Profile of the ACCOBAMS Permanent Secretariat Executive Secretary Position and Salary Scale

A- PROFILE OF THE ACCOBAMS PERMANENT SECRETARIAT EXECUTIVE SECRETARY POSITION

1. IDENTIFICATION OF POST

1. Role: Executive Secretary
2. Place of work: Agreement Headquarters, ACCOBAMS Permanent Secretariat, Principality of Monaco.

2. MAIN PURPOSE OF THE POSITION

1. The position of the Executive Secretary of the ACCOBAMS Permanent Secretariat is supported by the Principality of Monaco as per the provisions of the Headquarters Agreement.
2. The Executive Secretary is in charge of managing the ACCOBAMS Permanent Secretariat, the functions of which are set out under Article IV of the ACCOBAMS.

3. ORGANISATIONAL STRUCTURE

1. Posts supervised: staff on long term and temporary positions, comprising at least three scientific and technical employees and an administrative employee responsible for accounting and day-to-day administration.
2. Post supervisor: Meeting of Parties.

4. DUTIES AND RESPONSIBILITIES

- Responsible for the operation of the Permanent Secretariat, coordinates and supervises staff and their activities;
- Encourages and assists countries to implement the Agreement;
- Facilitates implementation of the ACCOBAMS work programme;
- Develops and maintains contact with National Focal Points, Ministers, Heads of ministerial departments and the diplomatic corps of Parties and other governments in the geographical area covered by the Agreement and the relevant ministers in those countries, in order to assess their needs and the level of implementation of the Agreement and/or its objectives;
- Ensures relationships with the Chairperson of the Meeting of the Parties and the Bureau, the Scientific Committee, working groups and media representatives;
- Manages the Agreement budget and Host Country grant in connection with the Headquarters Agreement;
- Seeks extra budgetary funding for activities related to the work programme priorities;
- Establishes the triennial work programme for adoption by the Parties;
- Promotes the objectives and interests of the Agreement; coordinates and supervises its implementation;

- Represents ACCOBAMS at the national and international level, establishing links with officials and members of government institutions and governmental and non-governmental organisations, with the aim of encouraging their involvement in implementing the Agreement;
- Facilitates the integration of Agreement activities with those of other relevant intergovernmental and non-governmental organisations;
- Formalises links with these organisations and sign relevant interinstitutional agreements;
- Actively participates in CMS' family activities and promote them in the ACCOBAMS' area;
- Organises Meetings of the Parties, of the Scientific Committee and of the Bureau, workshops and working groups set up as part of the operation of the Agreement;
- Reports to the Bureau and the Parties on the operations of the Secretariat and its efforts to implement the Agreement objectives;
- Ensures compliance with the provisions of the Headquarters Agreement;
- Maintains a close relationship with the Host Country within the framework of the Headquarters Agreement;
- Encourages non-member Range States to become Parties to the Agreement;
- Carries out awareness-raising activities for the public and media at the national and international level.
- Develops proposals for international events;
- Interprets the Resolutions/Recommendations of the Meeting of the Parties, the decisions made by the Bureau and the Recommendations of the Scientific Committee;
- Is self-directing and accountable to the Meeting of the Parties.

B- SALARY SCALE FOR THE EXECUTIVE SECRETARY POSITION

Considering that work-related laws in force in the Principality of Monaco shall apply to the personnel of the ACCOBAMS Permanent Secretariat, then a salary scale has been elaborated, in collaboration with the Government of the Principality of Monaco, following a Decision of the Bureau at its 12th Meeting (3-4 December 2018).

The provisions of the amended Headquarters Agreement (Res. 6.2 Appendix 1, para. 4, b) specify that “the staff expenses of the Executive Secretary are covered by the Host Country through reimbursement of relevant expenditures incurred by the Permanent Secretariat within the limit of a gross annual remuneration equivalent to the one provided to civil servants classified as **Department Head of the 3rd Group** of the Monaco Civil Services”. Based on the above, the salary scale **A5**, inspired of those used for senior A category employees of the Monegasque Civil Services, is set for the Executive Secretary position.

Salary scales are based on steps. The career plan shall begin at Step 1 of the salary scale. The normal step increase is each three years. On an exceptional basis, the elapsed period among two steps could be reduced to two or one year, on the basis of demonstrated outstanding performance and upon proposal by the Bureau.

The Executive Secretary is appointed for a maximum of 9 years. Therefore, and considering that Step 3 corresponds to the ceiling amount set as per the provisions of the Headquarters Agreement, then the normal career progression for the Executive Secretary position, will be as follows:

SALARY SCALE	STEPS	STEP INCREASE (years)	ANNUAL GROSS SALARY (€)	ANNUAL SALARY MASS (€) <i>(Supported under HQ)</i>
A5	1	+3	81 709	120 823
A5	2	+3	84 185	124 503
A5	3	+3	86 661	128 156

These are indicative values, as at 1st January 2019, and may change according to what is provided in the ACCOBAMS Headquarters Agreement.

ANNEX 3**Selection Criteria for the Appointment of the Executive Secretary**

In the selection of the Executive Secretary, the Recruitment Committee shall be guided by, but not necessarily limited to, the following criteria:

ESSENTIAL CRITERIA

1. Diploma equivalent or superior to Master 2;
2. Fluency in English and French;
3. A minimum of 7 years of professional skills in several of the fields related to the job description;
4. Familiarity with biodiversity conservation issues;
5. Demonstration of an appropriate level of leadership and experience in managing staff and financial resources and in organising high-level meetings;
6. Experience or detailed knowledge of the operations of environmental Intergovernmental Organisations;
7. Excellent interpersonal, representation and promotional skills, especially within a multicultural/multilingual environment.

DESIRABLE CRITERIA

8. National of an ACCOBAMS Party;
9. Familiarity with marine biodiversity conservation;
10. Knowledge of a third official language of the Agreement;
11. Publications and reports related to the position profile;
12. Participation with active role, to meetings or conferences within intergovernmental bodies.

RESOLUTION 7.4 - ACCOBAMS Strategy

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article III, paragraph 8, sub-paragraphs a), b) and c), of the ACCOBAMS Agreement,

Recalling Resolution 4.24 “ACCOBAMS Strategy” adopted at the Fourth Meeting of the Parties to ACCOBAMS (Monaco, 9-12 November 2010),

Recalling also Resolution 5.1 adopted at the Fifth Meeting of the Parties to ACCOBAMS (Tangier, Morocco, 5-8 November 2013) on the 2014-2025 ACCOBAMS Strategy, since Parties consider that the effectiveness of ACCOBAMS and of the Resolutions adopted within this framework would be strengthened by an elaboration of a long-term Strategy,

Stressing that chapter 9 of the ACCOBAMS Strategy (Annex 1 to the Resolution 5.1) states that monitoring of the progress on the implementation of the Strategy will include regular monitoring of operational work programmes and implementation of Resolutions,

Aware that the ACCOBAMS mission is to continue to promote and facilitate regional cooperation at all levels, providing best expertise and standards and supporting implementation of all necessary measures for conserving cetaceans in the region,

Aware also that the ACCOBAMS vision is that cetacean populations in the ACCOBAMS area will be in a favourable conservation status, expressed as healthy populations and habitats with minimized adverse human impacts, with ACCOBAMS also having the role of a key regional player in promoting active regional cooperation,

Aware of the developments at the international level that need to be taken into consideration in concrete terms in the present ACCOBAMS Strategy,

Stressing the importance of operational work programmes for the implementation of the Strategy and of regular monitoring of progress in implementing the Strategy,

Welcoming the new format of the online national report on the NETCCOBAMS website,

Welcoming the work carried out by the expert contracted to evaluate the level of effectiveness of the ACCOBAMS Strategy 2014 – 2025,

1. *Takes note* of the report on the evaluation of the effectiveness of the ACCOBAMS Strategy 2014-2025 as presented in the document MOP7/Inf38;
2. *Decides* to adopt the new ACCOBAMS Strategy, as presented in the Annex of the present Resolution;
3. *Requests* the ACCOBAMS Permanent Secretariat to prepare a comprehensive compendium of Resolutions in force, ordered by subject matter, in the light of the new Strategy;

4. Requests the ACCOBAMS Permanent Secretariat to produce a final guidance document on the roles and responsibilities of ACCOBAMS National Focal Points;
5. *Invites* Parties to encourage their ACCOBAMS National Focal Points to:
 - further liaise, for the implementation of the Strategy, with all the relevant National Focal Points of other international or regional instruments involved in marine conservation (such as Convention on the Conservation of Migratory Species of Wild Animals, the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean , the Bucharest Convention on the Protection of the Black Sea against Pollution, etc.), in order to identify the actions already or to be taken at the national level (integrated approach) and to include them in the relevant sections of their national reports (in particular in relation to fisheries, pollution, marine spatial planning, conservation areas and climate change);
 - provide, for capacity building, a realistic list of needs of the country in order for the Permanent Secretariat to develop projects or programmes for tackling the regional top priorities;
 - identify potential international funding options opportunities and develop projects with other countries and the Permanent Secretariat. This could allow the Permanent Secretariat to prepare or develop a fundraising plan on priority topics;
 - liaise with other relevant national entities, for science, education, awareness, communication, and communicate information on actions to the Permanent Secretariat for regional dissemination;
6. *Encourages* ACCOBAMS Partners to liaise with their National Focal Point and provide him/her with information regarding their activities to be included in the national report;
7. *Encourages* Parties, after completing the relevant sections of their national report, to proceed to a self-evaluation and repeat this regularly to improve the national implementation of the Strategy;
8. *Decides* that the present Resolution amends Resolution 5.1.

ANNEX
New ACCOBAMS Strategy

Overall objective: “to manage effectively the Agreement and to improve the conservation status of cetaceans and of their habitats in the area of competence of the Agreement by 2030”

Section 1: Effectiveness of the Agreement (EA)			
<i>Leadership/supervision</i>	<i>Thematic areas (TA)</i>	<i>Specific objectives (SO)</i>	<i>Activities</i>
<p>Under the leadership of the Parties and the Permanent Secretariat</p> <p>Under the supervision of the Parties, the Bureau, the Follow-up Committee and the Permanent Secretariat</p>	<p>TA1- Concerning the Agreement and its management</p>	<p>1.1 - Improve the level of implementation of and compliance with the ACCOBAMS agreement, its amendments and its resolutions, through the involvement of all relevant stakeholders</p>	<p>Negotiate accession of all riparian states to the Agreement and promote the adoption of the amendments</p> <p>Strengthen involvement of all key stakeholders for cetacean conservation in the area of application of the Agreement</p> <p>Organise Meeting of Parties, Meetings of the Bureau, Meetings of the Scientific the Committee, Meeting of National Representatives to develop the Programme of Work regional or sub-regional conferences and workshops, events for supporting cetacean conservation</p>
		<p>1.2- Assist the other instruments or organisations that tackle more specific issues (such as fisheries, navigation, tourism) or more general ones (such as pollution, climate change) with an impact on the conservation of cetaceans or of their habitats</p>	<p>Pursue / Intensify collaboration with:</p> <ul style="list-style-type: none"> - Relevant international or regional nature conservation and environmental protection agreements (such as CBD, the Barcelona Convention, IWC, etc.), - Relevant international stakeholders (such as NATO, IMO and WTO), - Regional or sub regional organisations or initiatives (such as GFCM, IMO, EU Biodiversity Strategy and MSFD, SAP BIO, IUCN, WWF, MedPAN, etc.), - ACCOBAMS partners

		1.3- Monitor the progress in all the sectors of activities of the Agreement and propose the necessary adjustment	<p>Develop a complete monitoring system for all activities using in particular the Follow-up Committee</p> <p>Evaluate regularly the Agreement's overall effectiveness</p> <p>Propose the necessary adjustment in organisational matters of all the constituents (composition, staff, rules of procedure, etc.)</p>
<p>Under the leadership of the Parties and the Permanent Secretariat</p> <p>Under the supervision of the Parties and the Permanent Secretariat</p>	TA2- Concerning the funding	2.1- Develop, implement and review as needed a funding strategy, for the management of the agreement, for enhancement the communication and awareness, for the improvement of knowledge, for the development of conservation activities and for the upgrade of local, national and regional capacities.	<p>Develop, implement and review as needed a funding strategy for mobilizing and diversifying funding sources</p> <p>Inform Parties about project calls proposals and funding possibilities</p> <p>Participate in the development of multilateral or national projects, with the support and advice of the scientific community</p>
<p>Under the leadership of the Parties and the Permanent Secretariat</p> <p>Under the supervision of the Parties and the Permanent Secretariat</p>	TA3- Concerning the enhancement of capacities for conservation of cetaceans	3.1- Develop, implement and monitor a capacity enhancement plan	Identify needs and priorities at the regional or national levels on most relevant topics (such as photo-identification, aerial surveys, necropsies, live stranding, response to emergency situation at regional and national levels, exchange and study tours, university or educational cursus, small projects implementation, ...)
<p>Under the leadership of all constituents</p> <p>Under the supervision of all constituents</p>	TA4- Concerning the communication and awareness	4.1- Develop, implement and monitor a common communication, information and awareness plan	Develop a mechanism to be used as the central tool for communication, information and awareness and progressively as the central repository of knowledge about cetaceans in the ACCOBAMS Area

			Identification of the cetacean community, including Parties, Partners, international, regional and national entities, scientific institutes and scientists, NGOs, volunteers, etc.
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Section 2: Conservation Actions (CA)			
<i>Leadership/supervision</i>	<i>Thematic areas</i>	<i>Specific objectives</i>	<i>Activities</i>
Under the leadership of the Parties and the Scientific Committee Under the supervision of the Parties, the Permanent Secretariat and the Scientific Committee	TA5- Concerning the improvement of knowledge for conservation	5.1- Centralize, organize and disseminate the existing knowledge on cetaceans, their habitat, the pressures and impacts, the national institutions, legislations and capacities	Develop a mechanism for centralising and disseminating knowledge on cetaceans (documents, projects, events, photos, etc.), in particular on legislation, populations abundance, structure and distribution, species monitoring and status (IUCN red list assessment), strandings, mortalities and casualties, ...
		5.2- Identify the gaps in knowledge and propose actions or programmes to improve the knowledge on cetaceans	Develop international, regional or sub-regional, national projects or programmes: - to identify gaps in knowledge - based on identified gaps in knowledge
Under the leadership of the Parties and the Scientific Committee Under the supervision of the Parties and the Scientific Committee	TA6- Concerning the development of conservation activities and of management measures	6.1- Identify the pressures on cetaceans and propose measures to reduce the impacts on the species or their habitats	Pursue the ACCOBAMS threats-based management approach based on pressures such as: Interactions with fisheries (all), Pollution including marine litter, Anthropogenic noise, Ship strikes, Cetacean watching, Captivity related issues, Climate change impacts, others, ... Prepare relevant management or conservation tools such as guidelines for eliminating, reducing or mitigating the impacts considering the regional or national needs
		6.2- Identify cetaceans' critical habitats and based on the existing pressures propose changes in the national	Identify Critical Habitats for Cetaceans (CCHs), Identify or list other areas of interest for cetacean conservation,

		<p>legislation (environment, fisheries, maritime transport, etc.) and support the implementation of area-based conservation measures</p>	<p>Propose conservation, management and monitoring measures for areas of interest for cetacean conservation and in particular: Important Marine Mammals Areas (IMMAs), Ecologically and Biologically Sensitive Areas (EBSAs), Sanctuaries, Marine Protected Areas (MPAs), Fisheries Restricted Areas (FRAs), Fisheries Reserves, Other Effective area-based Conservation Measures (OECMs)</p> <p>Prepare and implement Species Conservation Management Plans and/or Conservation areas for cetacean's management plans (such as National Action Plan, Regional Conservation Plan, ...)</p> <p>Support the preparation of tools for management (such as legislation or guidelines)</p> <p>Monitor management effectiveness</p>
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RESOLUTION 8.2 - Work Programme and Budget for the triennium 2023-2025

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Acting in accordance with the commitments of the Parties to conserve cetaceans in conformity with the Agreement, especially the fundamental obligations placed upon Parties in Article II,

Recalling Article IX, paragraphs 1 and 2, of the Agreement, stating that the Parties shall determine the scale of contributions to the budget and that the Meeting of the Parties shall adopt a budget by consensus,

Taking into account the ACCOBAMS Strategy (2014-2025), as adopted under Resolution 5.1, as well as the new ACCOBAMS Strategy as adopted under Resolution 7.4,

Acknowledging the relevant work being carried out in other organizations, in particular within the framework of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), the United Nations Convention on the Law of the Sea, the International Whaling Commission (IWC), the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention), the Convention on the Protection of the Black Sea against Pollution (Bucharest Convention) and the Agreement for the Establishment of the General Fisheries Commission for the Mediterranean (GFCM),

Acknowledging with appreciation:

- a. the financial support and in-kind contributions provided by the Government of H.S.H. the Prince of Monaco for the ACCOBAMS Secretariat under the Headquarters Agreement,
- b. the voluntary contributions provided by the Governments of Italy, Malta, Monaco, and Spain,
- c. the co-financing from SPA/RAC and International Union for Conservation of Nature (IUCN),
- d. the financial support provided by MAVA Foundation and European Union through specific projects,
- e. the support from Partner organisations for Agreement activities,

Thanking the Scientific Committee for its work and advice to Parties in setting up accurate conservation measures,

Thanking also the Sub-Regional Coordination Units and the ACCOBAMS Partners for their continuous support to the implementation of the Agreement,

Aware that scientific research in Agreement area remains essential to identify populations with the least favourable conservation status and to address the conservation priorities,

Conscious that the current heterogeneity of management and research capacity in the area covered by the Agreement must be addressed by capacity-building and public awareness,

Stressing the need to increase collaboration with those international organisations whose mandates encompass interrelated aspects in the same area of the Agreement, in the spirit of the ecosystem approach,

Recognizing the need to set priorities,

Taking into consideration the results of Meeting of National Representatives organised in July 2021, where the needs and priorities of Parties for the implementation of the Agreement have been identified,

Stressing the importance of the payment by all Parties of the contributions due to the budget of the Agreement,

Recalling that Article IX, paragraph 3, calls for voluntary contributions to increase the funds available for monitoring, research, training and projects related to conservation,

Recalling Resolutions 1.7 and 7.8, establishing and implementing a Supplementary Conservation Fund,

1. *Takes note* of the audited accounts for the period 2020-2022 presented by the ACCOBAMS Secretariat;
2. *Agrees* to provide financial support for the participation to the ACCOBAMS Meetings of the Parties of delegates (one delegate by country) from countries with middle and low incomes, as classified by the World Bank in 2022 and as listed in [Annex 5](#) to the present Resolution, excluding countries with arrears of more than three years of contribution to the Trust Fund;
3. *Adopts* the Budget for 2023-2025, as in [Annex 1](#) to the present Resolution;
4. *Confirms* that Parties shall contribute to the budget, in accordance with Article III, paragraph 8 (e), of the Agreement, at the scale agreed upon by the Meeting of the Parties;
5. *Agrees* to apply, for the calculation of the minimum ordinary contributions, a percentage of the total budget, instead of a fixed amount;
6. *Agrees* to the scale and amounts of contributions of Parties to the Agreement, as listed in [Annex 2](#) to the present Resolution, and to the application of that scale to new Parties *pro rata* of the remaining financial year;
7. *Requests* Parties, in particular those that pay the minimum contribution, to consider paying for the entire triennium in one instalment at the beginning of the period;
8. *Further requests* Parties to pay their contributions as promptly as possible, but, in any case, no later than at the end of March of the corresponding year and in compliance with national legislation;
9. *Asks* the Parties that have unpaid pledges to pay their pending contributions within a reasonable time, at the latest two to three months after the end of 2022, in order to close the budget for the 2020-2022 triennium as soon as possible;
10. *Requests* the Secretariat to use the amount of 10 000€ from the expected remaining amounts, in order to replenish the secured funds mentioned in paragraph 19 of Annex 3 on the Terms of Reference for Administration of the Budget;

11. *Requests* the Bureau to:
 - a. monitor the accrual of unspent funds on the ACCOBAMS budget with a view to providing the Secretariat with guidance to prevent the accumulation of unspent funds or, as appropriate, on their timely utilization;
 - b. propose to the Meeting of the Parties a procedure concerning the management and the recovery of the long term pending contributions;
 - c. monitor the maintenance by the Secretariat of an adequate secured fund, and the application of paragraph 19 of Annex 3 to Resolution 8.2 on the Terms of Reference for Administration of the Budget.
12. *Invites* Parties, Range States and organisations to consider the feasibility of providing personnel for the ACCOBAMS Secretariat;
13. *Also invites* Parties and States that are not Parties to the Agreement, as well as governmental, intergovernmental and non-governmental Organizations and other possible donors, to consider contributing to the implementation of the Agreement on a voluntary basis;
14. *Approves* the terms of reference for administration of the Agreement Budget for the period 2023-2025, as set out in [Annex 3](#) to the present Resolution, as well as the guidelines for the acceptance of financial contributions, as set out in [Annex 4](#), provided that no voluntary contribution shall entail any present or future financial liability for the Agreement Trust Fund without the prior consent of the Parties or the Bureau;
15. *Entrusts* the ACCOBAMS Secretariat with the task of exploring the availability of appropriate external funds to support the implementation of the Agreement;
16. *Adopts* the Programme of Work for 2023 – 2025, as presented in [Annex 6](#) to the present Resolution;
17. *Urges* Parties to support projects and activities in line with the Work Programme by means of financial and in-kind contributions and to report thereon to the Ninth Meeting of the Parties;
18. *Urges* Parties to fully commit themselves in the ACCOBAMS Meeting of National Representatives, which should be organized in 2024, by having a representative attending the Meeting;
19. *Recommends* Parties, in order to prepare this ACCOBAMS Meeting of National Representatives, to organize through ACCOBAMS Focal Points a half-day national meeting to collect all the relevant data prior the Meeting, if necessary;
20. *Urges* Parties and specialized international and national organizations to develop international cooperative projects for implementation of the Work Programme and to keep the ACCOBAMS Secretariat fully informed of progress;
21. *Further urges* Parties and *encourages* national and international organizations and other donors to provide financial assistance to Countries in need of capacity-building to support the implementation of the Agreement and of the Work Programme, directly or through the financial mechanisms of the Agreement, in particular through the Supplementary Conservation Fund;

22. *Asks* Parties, non-Parties, Partners, all relevant organizations and experts to share all relevant information regarding their activities in NETCCOBAMS;
23. *Calls on* the Scientific Committee, the ACCOBAMS Secretariat, the Bureau, the Sub-Regional Coordinating Units, ACCOBAMS Partners and international and national non-governmental Organizations to promote the actions necessary to facilitate implementation of the Work Programme, bearing in mind the Resolutions adopted by the Meetings of the Parties;
24. *Calls on* the Scientific Committee to further promote cooperation with scientific Institutions of the ACCOBAMS Area;
25. *Requests* the ACCOBAMS Secretariat to strengthen co-operation and develop activities with other relevant bodies;
26. *Instructs* the ACCOBAMS Secretariat to:
 - a. prepare a zero nominal growth scenario and a real nominal growth scenario to be included as reference scenarios in the draft Programme of Work and Budget for the triennium 2026-2028, to be submitted to MOP9;
 - b. disseminate the Work Programme for priority actions for 2023-2025, collaborate closely in its implementation with the Secretariats of other relevant conventions, international organizations and ACCOBAMS Partners, and seek appropriate donors;
 - c. inform in time the National Focal Points of workshops and meetings, as well as of the establishment of working groups within the ACCOBAMS framework.

ANNEXES

[Annex 1](#): Budget 2023 -2025

[Annex 2](#): Overview of expected incomes and expenses & Annual contributions of Parties to the ACCOBAMS Trust Fund 2023-2025

[Annex 3](#): Terms of reference for administration of the Budget

[Annex 4](#): Guidelines for accepting voluntary financial contributions

[Annex 5](#): Eligibility for funding to attend Meetings of the ACCOBAMS Parties

[Annex 6](#): Draft Programme of Work 2023 - 2025

ANNEX 1 - BUDGET 2023 -2025

Table 1- BUDGET OC - 2023 - 2025 based on a non-decrease amount for conservation actions (in €/euros)

		Approved budget - OC 2020-2022	Proposed budget – OC	Secured from Remaining	Additional required funds	LB1101	LB1102	LB1103	LB1104	LB1201	LB1202	LB 1203	LB 1300	LB 1400	LB1501	LB1502	LB1600	LB2100	LB2200	LB2300	LB2400	LB2500	LB52	LB53	LB54		
General Management and Administrative support																											
General Management ⁴⁶ (Administrative staff, Administrative Assistance, Bank fees, Hospitality)		379 200	432 900			36 000	150 000	150 000	75 000	3 000	6 000	9 000	1 500	2 400													
MA1a	Strengthen involvement of all key stakeholders in ACCOBAMS's operations	227 600	214 000	5 000	41 000										3 600	39 400		61 000	49 000	25 000						36 000	
MA2a	New funding possibilities	0	0		75 000																						
MA3a	Improve the level of implementation of and compliance with ACCOBAMS Resolutions	5 000	20 000		56 000											0					15 000	5 000					
MA4a	Ensure implementation of the ACCOBAMS's cetacean conservation standards in the adjacent areas	0	0																								
triennium budget General Management and Administrative support		611 800	666 900	5 000	172 000	36 000	150 000	150 000	75 000	3 000	6 000	9 000	1 500	2 400	3 600	39 400	0	61 000	49 000	25 000	15 000	5 000	0	0	36 000		
				843 900																							
Conservation actions																											
CA1a	Cetacean population estimates and distribution	20 000	36 400	148 600	3 127 00																					36 400	
CA1b	Population Structure	0	0	0	96 000																						
CA1c	Monitoring cetaceans status	42 000	0	42 000	47 000										0										0		
CA1d	Functional stranding networks and responses to emergency situation	17 000	26 000	11 000	121 000										6 000										20 000		
CA2a	Interactions with fisheries / aquaculture	11 000	18 000	2 000	750 000																					18 000	
CA2b	Anthropogenic underwater noise	24 500	26 000	17 000	132 000																					26 000	
CA2c	Ship strikes	10 000	8 000	6 000	32 000																					8 000	
CA2d	Cetacean watching	7 000	0	12 000	203 000																						
CA2e	Marine debris	11 500	17 000	16 000	82 000																					17 000	
CA2f	Chemical & biological pollution	0	0	10 000	40 000																						
CA2g	Climate change	0	0	0	2 000																						
CA2i	Captivity related issues	0	0	15 000	0																						
CA3a	Area-based measures for cetacean conservation	61 000	0	44 000	18 000																				0		
CA4a	Information /Communication / Awareness about cetaceans	48 000	65 500	22 500	181 500																					65 500	
triennium budget Conservation Actions		252 000	196 900	346 100	4 830 500										6 000	0	0	0	0	0	0	0	0	0	69 000	56 400	65 500
				5 373 500																							
TOTAL triennium budget		863 800	863 800	351 100	5 002 500	36 000	150 000	150 000	75 000	3 000	6 000	9 000	1 500	2 400	9 600	39 400	0	61 000	49 000	25 000	15 000	5 000	69 000	56 400	101 500		
				6 217 400																							
Triennium budget by year & Budgetary Line (LB)						LB1101	LB1102	LB1103	LB1104	LB1201	LB1202	LB 1203	LB 1300	LB 1400	LB1501	LB1502	LB1600	LB2100	LB2200	LB2300	LB2400	LB2500	LB52	LB53	LB54		
						2023	12 000	50 000	50 000	25 000	1 000	2 000	3 000	500	800	3 200	15 000	-	-	20 000	7 000	-	-	29 000	20 000	40 000	
						2024	12 000	50 000	50 000	25 000	1 000	2 000	3 000	500	800	3 200	14 000	-	3 000	29 000	7 000	15 000	5 000	20 000	20 000	35 000	
						2025	12 000	50 000	50 000	25 000	1 000	2 000	3 000	500	800	3 200	10 400	-	58 000	-	11 000	-	-	20 000	16 400	26 500	

⁴⁶ See table 1. below on the description of budget lines

Table 2. Budget Lines

General Management and Administrative support		2020-2022	2023 -2025 Scenario 0% (from OC)	2023 -2025 Scenario with non-decrease for conservation actions thanks to remaining amounts
General Management				
1100	Administrative staff			
1 101	Executive Secretary Housing Allowance	34 000	36 000	36 000
1 102	Programme & Project Officer 1	133 500	150 000	150 000*
1 103	Programme & Project Officer 2	133 500	150 000	150 000*
1 104	Accounting and Programme Assistant (50%)	60 000	75 000	75 000*
1200	Administrative Assistance			
1 201	Translators	3 000	3 000	3 000
1 202	Fund management controller	2 000	6 000	6 000
1 203	External Assistance	5 300	9 000	9 000
1300	Bank fees	2 400	1 500	1 500
1400	Hospitality	1 500	2 400	2 400
Administrative support				
1 501	Coordination Units	21 600	9 600	9 600
1 502	Secretariat staff travels	50 000	39 400	39 400
ACCOBAMS Strategy				
1 600	Evaluation and ACCOBAMS Strategy	0	0	0
Institutional Meetings				
2100	Meeting of the Parties	61 000	61 000	61 000
2200	Scientific Committee	49 000	49 000	49 000
2300	Bureau	32 000	25 000	25 000
2400	Meeting of National Representatives	21 000	15 000	15 000
2500	Follow-up Committee Meeting	5 000	5 000	5 000
Support to Conservation actions				
52	Human-cetacean interactions / Emergency situations	51 000	69 000	77 000 (including 8 000€ from remaining)
	Interactions with fisheries / aquaculture			
	Anthropogenic underwater noise			
	Ship strikes			
	Cetacean watching			
	Marine litter			
	Chemical & biological pollution			
	Climate change			
	Captivity related issues			
53	Habitats / Research and monitoring	133 000	56 400	97 000 (including 40 600€ from remaining)
	Cetacean population estimates and distribution			
	Population Structure			
	Monitoring cetaceans' status, including Species conservation plans			
	Functional stranding networks & responses to emergency situation			
	Area-based measures for cetacean conservation			
54	Information/ Communication/Public awareness	61 000	101 500	106 000 (including 4 500€ from remaining)
	NETCCOBAMS			
	Communication Strategy			
	Citizen Science			
	ACCOBAMS teaching Module			
	Promotion and dissemination			

* Increased amount due to the correction of miscalculated wages for the 2020-2022 period, and to the update foreseen on social charges for 2023-2025.

ANNEX 2
OVERVIEW OF EXPECTED INCOME AND EXPENDITURE 2023-2025

Expected Income 2023-2025	
Expected total Remaining amounts as of 31/12/2022	380 000
<i>including the secured fund</i>	<i>18 800</i>
Available remaining amounts for 2023-2025 triennium	361 200
Ordinary contributions (OC) for 2023-2025 triennium	863 800
Voluntary contributions (VC) and external funds (EF)	0
Financial revenue	100
Host Country Contribution	636 000
TOTAL	1 861 100

Expected Expenditure 2023-2025	
General Management and Administrative support from OC budget	666 900
General management from remaining amounts	5 000
General management from external funds	-
Increase of the secured fund through remaining amounts	10 000
General Management from Host Country Contribution	636 000
Conservation actions from OC 2023-2025 triennium	196 000
Conservation actions from remaining amounts	346 100
Conservation actions from additional VC or EF	0
TOTAL	1 860 000

**ANNUAL CONTRIBUTIONS OF PARTIES TO THE ACCOBAMS TRUST FUND
2023-2025**

Parties	UN scale 2023-2025	ACCOBAMS Key 2023-2025	Ordinary Contributions (in euros) 2023-2025
Albania	0,008	0,80	2 304
Algeria	0,109	1,50	4 328
Bulgaria	0,056	0,80	2 304
Croatia	0,091	0,92	2 661
Cyprus	0,036	0,80	2 304
Egypt	0,139	1,42	4 086
France	4,318	23,16	66 712
Georgia	0,008	0,80	2 304
Greece	0,325	4,40	12 662
Italy	3,189	22,49	64 769
Lebanon	0,036	0,80	2 304
Libya	0,018	1,17	3 360
Malta	0,019	0,80	2 304
Monaco	0,011	0,80	2 304
Montenegro	0,004	0,80	2 304
Morocco	0,055	0,80	2 304
Portugal	0,353	3,66	10 538
Romania	0,312	1,72	4 947
Slovenia	0,079	0,80	2 304
Spain	2,134	19,70	56 732
Syrian Arab Republic	0,009	0,80	2 304
Tunisia	0,019	0,80	2 304
Türkiye	0,845	9,50	27 370
Ukraine	0,056	0,96	2 769
TOTAL		100	288 582

ANNEX 3
TERMS OF REFERENCE FOR ADMINISTRATION OF THE BUDGET

1. The terms of reference for administration of the budget of ACCOBAMS shall refer to the financial years beginning 1st January 2023 and ending 31st December 2025.
2. The budget shall be administered by the Executive Secretary according to these Terms of reference.
3. The financial resources of the budget shall originate from:
 - (a) Contributions from the Parties according to Annex 2, as well as contributions from new Parties, and
 - (b) Voluntary contributions from Parties, contributions from States not Party to the Agreement, other governmental, intergovernmental and nongovernmental organisations and other sources.
4. All contributions to the budget shall be paid in Euros.
5. With regard to contributions from States that become Parties after the beginning of the financial period, the initial contribution (from the first day of the third month after the deposit of the instrument of ratification, acceptance or accession, until the end of the financial period) shall be determined *pro rata* on the basis of the contributions of other Parties according to the adopted scale of assessments and depending on the remaining annual financial exercise.
6. Contributions by all Parties throughout the triennium 2023-2025 are calculated on the basis of the United Nations scale of assessments applicable for 2022, with the modifications needed to adapt it to the ACCOBAMS Parties.
7. The contributions are due on 1st January 2023, 1st January 2024 and 1st January 2025, and shall be paid into the following account:

<i>Account holder</i>	<i>Swift code</i>	<i>IBAN code</i>
ACCOBAMS	CFMOMCMX	MC 02 1273 9000 7001 0702 3000 M76

8. For convenience of the Parties to the Agreement, the Executive Secretary shall notify them as soon as possible regarding their calculated contributions for each year of the financial period.
9. Voluntary contributions received into the budget and not immediately required for financing activities shall be invested at the discretion of the Executive Secretary, in consultation with the Bureau, and any generated income shall be used to implement the Agreement.
10. The budget shall be audited by a fund management controller.
11. The budget estimates of income and expenditures for each calendar year of the financial period shall be prepared in Euros and submitted to the Meeting of the Parties to the Agreement.
12. The estimates for each calendar year covered by the financial period shall be divided into sections and objectives of expenditure, be specified according to budget lines, be consistent with the programmes of work to which they relate, and be accompanied by information as may be required by or on behalf of the contributors.

13. The proposed budget, including all necessary information, shall be dispatched by the ACCOBAMS Secretariat to all Parties at least 90 days before the date established for the opening of the Meeting of the Parties.
14. The budget shall be adopted by consensus at the Meeting of the Parties.
15. The ACCOBAMS Secretariat can, if needed, transfer funds up to 20% from one budget line of the approved budget, to another budget line within the same budget section. If the needed transfer of funds within the same budget section is higher than 20% of the budget line from which the transfer is made, the Secretariat shall request the authorization of the Bureau.
16. Should the ACCOBAMS Secretariat anticipate a shortfall in resources over the financial period, the ACCOBAMS Secretariat shall consult the Bureau about priorities for expenditure.
17. Commitments against the resources of the budget may only be made if they are covered by sufficient income.
18. No transfer of funds shall be authorized from the ordinary contributions of the Trust Fund to the Supplementary Conservation Fund.
19. A secured fund is created, equivalent to 30% of the administrative budget.
20. At the end of each calendar year of the financial period, the ACCOBAMS Secretariat shall submit the annual accounts to the Bureau. These shall include details of actual expenditures and comparisons with the original provisions for each budget line.
21. The ACCOBAMS Secretariat shall provide the Bureau an estimate of proposed expenditures for the coming year, and simultaneously, or as soon as possible, the communication of the accounts and reports referred to in the preceding paragraphs.
22. The ACCOBAMS Secretariat shall present the audited accounts for the financial exercises to the Meeting of the Parties.
23. The present terms of reference shall be implemented by the Executive Secretary.

ANNEX 4

GUIDELINES FOR ACCEPTING VOLUNTARY FINANCIAL CONTRIBUTIONS

1. General rules

No voluntary contribution, gift or donation for a specific purpose may be accepted if considered incompatible with the policies and aims of the Agreement, or the UNEP/CMS.

2. Approval of donors

- 2.1 Donors who are not governmental institutions of Parties or economic integration organizations or riparian States not Party to the Agreement, must be approved as such by the Bureau before their contributions are accepted by the ACCOBAMS Secretariat.
- 2.2 Sources known to have been involved in interests or activities which conflict with the aims of the Agreement or the Convention on the Conservation of Migratory Species of Wild Animals and any organisation or individual who has deliberately brought, or might bring, the Agreement into public disrepute, shall be excluded. The same shall apply where there is a risk that a source might try to influence the decisions of any organ of the Agreement where, in the opinion of the Scientific Committee, this source has, or has had in the past, an environmentally unfriendly attitude.

3. Acceptance of Voluntary contributions

- 3.1 Voluntary contributions shall only be accepted when the purpose is consistent with the policies and aims of the Agreement.
- 3.2 No voluntary contributions shall have an immediate or ultimate financial liability for the Agreement Trust Fund without the prior consent of the Parties or the Bureau.
- 3.3 If indirect costs occur, in relation to administrative support of the activity implemented through a voluntary contribution, including financial and information resources management, and not included in the project budget targeted by the voluntary contribution, then the Secretariat can retain a percentage up to 4% of the dedicated voluntary contribution, up to 50.000 €, and of 7% for the dedicated voluntary contribution of more than 50.000 €. The Secretariat is asked to report on the application of this provision to the Bureau and to the Meeting of Parties.
- 3.4 All monetary contributions shall be paid in freely convertible currency; exceptions may, however, be made for special projects if the currency in question can effectively be used.
- 3.5 Voluntary contributions in kind may be accepted, provided that they are used to cover activities approved by the Meeting of the Parties. These may include, *inter alia*, direct or indirect involvement in a joint project, free office accommodation, equipment, or the secondment of staff.

ANNEX 5
ELIGIBILITY FOR FUNDING TO ATTEND MEETINGS OF THE ACCOBAMS PARTIES

Based on the scale of middle and low incomes of the World Bank in 2022, the ACCOBAMS Secretariat is authorised to cover, upon budget availability, travel and accommodation fees of the representatives of the following Parties for the Meetings of the Parties of ACCOBAMS (one delegate/Party):

- Albania
- Algeria
- Bulgaria
- Egypt
- Georgia
- Lebanon
- Libya (pending on settlement of unpaid pledges)
- Montenegro
- Morocco
- Romania
- Syrian Arab Republic (pending on settlement of unpaid pledges)
- Tunisia
- Türkiye
- Ukraine

ANNEX 6 - DRAFT PROGRAMME OF WORK FOR 2023-2025

MANAGEMENT OF THE AGREEMENT (MA)

MA1	INVOLVEMENT OF KEY STAKEHOLDERS
MA1a	Strengthen involvement of all key stakeholders in ACCOBAMS's operations

Expected outcomes

Proposed Action(s)	Priority	Action led by and in cooperation with	Means of implementation	Total Budget (€)	OC 2023-2025	Funds secured (€)			Required additional VC/EF (€)
						OC 2020-2022	VC	EF	
Ensure ACCOBAMS institutional functioning / governance / process Strengthen involvement of all riparian Countries to encourage accession to the Agreement	Main	Secretariat, Parties, Non-Party Range States, Scientific Committee Partners, SRCUs	<ul style="list-style-type: none"> Organizing ACCOBAMS Institutional Meetings: <ul style="list-style-type: none"> - Meeting of the Parties - Scientific Committee Meetings - Bureau Meetings Inviting Observers, including riparian Countries Non-Parties, and relevant experts to ACCOBAMS Meetings Liaising with the Depositary to encourage accession to the Agreement of riparian states 	138 600 €	61 000 € LB 2100 49 000 € LB 2200 25 000 € LB 2300 3 600 € LB 1501				
Establish/strengthen partnerships and collaborations with all relevant IGOs, NGOs, and international/national entities Establish synergies with the European Union policies (MSFD, HD), Barcelona Convention, Bucharest Convention and other relevant Agreements and Organizations strategies	Main	Secretariat, Parties, Non-Party Range States, Scientific Committee Partners, SRCUs	<ul style="list-style-type: none"> Establishing MoU with relevant IGOs, government bodies, scientific organizations, Universities, NGOs and relevant organizations. Participating in relevant Meetings, fora and WG Contributing to the development of relevant regional policies documents / reports Ensuring dialogue between regional Conventions to facilitate the reporting by Countries in the framework of other Conventions 	39 400 €	39 400 € LB1502				
Enforce communication within the ACCOBAMS community and strengthen exchanges of information on national and regional projects / activities / initiatives		Parties	<ul style="list-style-type: none"> Using NETCCOBAMS platform as sharing/consultation tool - Exchange of information on national reports and regional projects / activities / initiatives 	72 000 €	36 000 € LB54				36 000 €
Reinforce synergies with and between Partners		Partners	<ul style="list-style-type: none"> Considering new applications for ACCOBAMS Partnership Organizing meetings of ACCOBAMS Partners in order to share expertise/ knowledge / information Reviewing the ACCOBAMS Partners status 	10 000 €		5 000 € remaining LB54			5 000 €
TOTAL MA1a - Strengthen involvement of all key stakeholders in ACCOBAMS's operations				260 000 €	214 000 €	5 000 €	-	-	41 000 €

MA2	ENSURE ADEQUATE FUNDING, IN PARTICULARLY FOR CONSERVATION ACTIVITIES
MA2a	Mobilizing and diversifying funding sources

Expected outcomes	
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Proposed Action(s)	Priority	Action led by and in cooperation with	Means of implementation	Total Budget (€)	OC 2023-2025	Funds secured (€)			Required additional VC/EF (€)
						OC 2020-2022	VC	EF	
Fund projects under the Supplementary Conservation Fund (SCF) related to cetacean conservation	Main	Secretariat, Parties, Non-Party Range States, Scientific Committee Partners, SRCUs	<ul style="list-style-type: none"> Launching a new ACCOBAMS call for proposals for projects related to cetacean conservation 	45 000 € New call under SCF					45 000 €
Diversify funding sources to develop projects /actions in line with ACCOBAMS priorities			<ul style="list-style-type: none"> Launching call for voluntary contributions Exploring and examining international funding opportunities for cetacean conservation projects in the framework of partnership with donors Developing proposal for a sponsorship program Organizing encounters with relevant potential donors Leveraging existing partnerships and collaborations with all IGOs, NGOs, and international/ national entities Securing national funds to be used as cofundings to support project proposals developed by national organizations 	<i>Budget from other actions</i>					
Strengthen national capacities in cetacean conservation project development and fundraising			<ul style="list-style-type: none"> Sharing information on funding opportunities Organizing training workshop for FPs and relevant national stakeholders on project development and fundraising 	30 000 €					30 000 €
TOTAL MA2a - Mobilizing and diversifying funding sources				75 000 €	-	-	-	-	75 000 €

MA3	IMPLEMENTATION OF AND COMPLIANCE WITH ACCOBAMS
MA3a	Improve the level of implementation of and compliance with ACCOBAMS Resolutions as well as the monitoring of its progress

Expected outcomes

Proposed Action(s)	Priority	Action led by and in cooperation with	Means of implementation	Total Budget (€)	OC 2023-2025	Funds secured (€)			Required additional VC/EF (€)
						OC 2020-2022	VC	EF	
Revise the ACCOBAMS Strategy (2018-2025) and propose a new one after evaluating overall Agreement's effectiveness	Main	Secretariat, Parties, Scientific Committee Partners, SRCUs, Non-Party Range States	<ul style="list-style-type: none"> Evaluating the overall Agreement's effectiveness Preparing an ACCOBAMS Strategy (2026-2037) in collaboration with all ACCOBAMS bodies 	50 000 €	0 €				50 000 €
Reinforce the involvement of National Focal Points	Main	Secretariat, Parties, Non-Party Range States Scientific SRCUs, Committee Partners,	<ul style="list-style-type: none"> Disseminating the guide on the role of the ACCOBAMS National Focal Point Providing regular update on the implementation of Resolutions by Parties Organising the Meeting of National Representatives with sub-regional meetings to develop the 2026-2028 Programme of Work by identifying actions related to cetacean conservation, according to national priorities 	21 000 €	15 000 € LB2400				6 000 €
Propose remedy actions in cases of non-follow-up with ACCOBAMS Resolutions and infringements	Main	Follow up Committee Secretariat, Parties, Scientific Committee Partners, SRCUs, Non-Party Range States	<ul style="list-style-type: none"> Convening a Follow up Committee meeting Applying Follow up Procedures 	5 000 €	5 000 € LB 2500				
TOTAL MA3a- Improve the level of implementation of and compliance with ACCOBAMS Resolutions as well as the monitoring of its progress				76 000 €	20 000 €	-	-	-	56 000 €

MA4	ACCOBAMS EXTENSION AREA
MA4a	Ensure implementation of the ACCOBAMS's cetacean conservation standards in the adjacent areas

Expected outcomes	
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Proposed Action(s)	Priority	Action led by and in cooperation with	Means of implementation	Total Budget (€)	OC 2023-2025	Funds secured (€)			Required additional VC/EF (€)
						OC 2020-2022	VC	EF	
Promote the ratification of Amendment for geographical extension of the Agreement area to the Atlantic	Main	Secretariat Depositary	<ul style="list-style-type: none"> Liaising with the Depositary to encourage relevant national authorities to ratify the Amendment for geographical extension of the Agreement area to the Atlantic Providing all Focal Points with explanatory note on the Amendment Providing support to National Focal Points to solve problems regarding the ratification of the Amendment through the organisation of trilateral meetings between the National Focal Point, the Secretariat and an ACCOBAMS legal advisor 	-	-	-	-	-	-
TOTAL MA4a - Ensure implementation of the ACCOBAMS's cetacean conservation standards in the adjacent areas				-	-	-	-	-	-

TOTAL MANAGEMENT OF THE AGREEMENT (MA)	Total Budget (€)	OC 2023-2025	Funds secured (€)			Required additional VC/EF (€)
			OC 2020-2022	VC	EF	
	411 000 €	234 000 €	5 000 €	-	-	172 000 €
TOTAL MANAGEMENT OF THE AGREEMENT (MA) including General Management & Administrative Support (432 900 €)	843 900 €	666 900 €	5 000 €	-	-	172 000 €

CONSERVATION ACTIONS (CA)

CA 1 a	Cetacean population estimates and distribution
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Expected outcomes	<p>Improved knowledge of cetacean populations in the ACCOBAMS Area</p> <p>Global distribution and abundance of cetaceans in the Mediterranean Sea and Black Seas established, based on results of surveys</p>
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Proposed Action(s)	Priority	Action led by and in cooperation with	Means of implementation	Total Budget (€)	OC 2023-2025	Funds secured (€)			Required additional VC/EF (€)
						OC 2020-2022	VC	EF	
Promote the implementation of the Long-Term Monitoring Programme, taking into consideration monitoring and reporting obligations of countries (MSFD, Barcelona Convention, Bucharest Convention)	Main	Scientific Committee Secretariat Parties, Non-Party Range States Partners, SRCUs	<ul style="list-style-type: none"> Secure funds for implementing ASI2, including by investigating the existence of possible funding at national / regional levels Development and implementation of a simulation framework to examine the performance of different future survey strategies (synoptic, regional/national) Undertaking synoptic basin-wide surveys in the ACCOBAMS Area with a focus on abundance and trends in 2024/2025 (ASI2) with the support of an ASI Contact Group to define the implementation conditions/protocol related to logistics (research platform, human means, equipment, training...) and administration (survey restrictions, permits...), and of the SC to review and update as necessary the field and analytical protocols Promoting synchronization and standardization of existing monitoring efforts to contribute to LTMP purpose (coordination meetings at the sub-regional level, Working Group on cetaceans monitoring...) Collaborating with relevant organizations, such as the Barcelona Convention (EcAp-Med III), the Bucharest Convention and the European Commission (MSFD), 	<p style="text-align: center;">80 000 €</p> <p style="text-align: center;">15 000 €</p> <p style="text-align: center;">3 000 000 €⁴⁷</p> <p style="text-align: center;">30 000 €</p> <p style="text-align: center;">5 000 €</p>	18 000 € LB53	+ 2 000 €	80 000 € (savings from ASI)	30 000 € (ABIOMMED project)	3 000 000 €
Promote the use of ASI data by increasing the visibility of ASI (and future) datasets and related results and encourage further analyses	High	Scientific Committee Secretariat SRCUs Parties, Non-Party Range States Partners	<ul style="list-style-type: none"> Developing NETCCOBAMS functionalities to create a repository system for ASI data Promoting ASI data and results in relevant fora, also through the Special Issue in Frontiers of Marine Science Sharing ASI data following received requests in accordance with ASI Terms of use and archiving/monitoring of the requests Collecting outputs of work and analysis conducted following ASI full dataset requests to be used by the SC to give best scientific advice 	<p style="text-align: center;">12 000 €</p> <p style="text-align: center;">20 000 €</p>	3 400 € LB53	+ 1 600 €	15 000 € VC Italy (LB 6602)		12 000 €

⁴⁷ As estimated in ACCOBAMS/MOP8/2022/Doc27

Promote data collection at sub-regional and national levels (in coherence with ACCOBAMS survey methodologies)	Main	Scientific Committee, Secretariat, Parties, Non-Party Range States, Partners, SRCUs	<ul style="list-style-type: none"> Facilitating exchanges and coordination between Parties on sub-regional surveys Organizing training activities on monitoring methods/protocols and data analysis for smaller-scale surveys (at local, national and sub-regional levels) Develop handbooks on standardized monitoring methods (aerial surveys, boat-based surveys, acoustic surveys...) Collaborating with relevant organizations, such as Barcelona Convention (EcAp-Med III), the Bucharest Convention and the European Commission (MSFD) 	50 000 € 15 000 € 5 000 €	5 000 € LB53				65 000 €
Promote data collection from multidisciplinary surveys (such as fisheries / acoustic surveys), innovative technologies (UAV, satellite) and of platforms of opportunity (ferries, whale watching vessels, navy vessels, etc..)	High	Scientific Committee Secretariat Parties, Non-Party Range States Partners, SRCUs	<ul style="list-style-type: none"> Undertaking activities in pilot areas to collect data using multidisciplinary surveys (such as fisheries / acoustic surveys), innovative technologies (UAV, satellite) and platforms of opportunity (ferries, whale watching vessels, navy vessels, etc..) based on recommendations of previous studies Initiating collaboration with existing regional fisheries surveys (MEDITS, MEDIAS) and relevant organizations such as GFCM and ICCAT Collaborate with relevant existing networks (FLT) and initiatives/projects (ex. CONCEPTU MARIS Life project) Organizing meetings/workshops to discuss possible synergies and shared methodology and data analysis Developing protocols on standardized monitoring methods for multidisciplinary surveys/ Ferries Update the "Guidelines for the Monitoring of the Range of Cetaceans, Abundance and Demographic Characteristics of Populations" Regularly review « Best Available Technologies » and assess potential contribution to LTMP 	55 000 € 5 000 € 15 000 € 5 000 €	10 000 € LB53	20 000 € Remaining LB53			50 000 €
TOTAL CA1a - Cetacean population estimates and distribution				3 312 000 €	36 400 €	23 600 €	95 000 €	30 000 €	3 127 000 €

CA 1 b		Population Structure							
Expected outcomes		<p>Improved knowledge on population structure in the ACCOBAMS Area and species conservation management plans completed</p> <p>Exchange of samples is facilitated for joint analysis</p> <p>Data exchange is facilitated for basin wide analysis</p>							
Proposed Action(s)	Priority	Action led by and in cooperation with	Means of implementation	Total Budget (€)	OC 2023-2025	Funds secured (€)			Required additional VC/EF (€)
						OC 2020-2022	VC	EF	
<p>Improve photo ID data collection and dissemination:</p> <ul style="list-style-type: none"> - Update and harmonize protocols on data collection for photo ID - Share photo ID data 	High	Scientific Committee Secretariat Parties, Non-Party Range States Partners, SRCUs	<ul style="list-style-type: none"> • Organizing experts meeting for best practices guide on how to collect data for comparison • Organizing regional experts trainings on analysis on photo ID including AI (Artificial Intelligence)– draft ToR to facilitate exchanges or an harmonized relevant databases • Facilitating data sharing and the creation of large scale photo-id catalogues for in-depth analysis 	<p>10 000 €</p> <p>35 000 €</p>					45 000 €
<p>Improve data collection on cetacean populations genetic in the ACCOBAMS Area</p> <p>Development of genetical identification of population structure (particularly for Mediterranean), including e.g eDNA</p>	High	Scientific Committee Secretariat Parties, Non-Party Range States Partners, SRCUs	<ul style="list-style-type: none"> • Establishing and promoting a common protocol on data collection on cetacean populations genetic • Facilitating the creation of a general data-base/archive/inventory on existing samples/tissues in ACCOBAMS Area • Disseminating databases and guidelines to stakeholders • Facilitating analysis of existing tissue samples (including those from biopsies) to address questions on stock structure and genetic diversity • Organizing workshop about genetic population structure (including e-DNA) for marine mammals in the framework of international scientific events or meetings • Collaborating with relevant organizations (CITES, ABS Nagoya Protocol...) 	<p>6 000 €</p> <p>30 000 €</p> <p>15 000 €</p>					51 000 €
TOTAL CA1b - Population Structure				96 000 €	-	-	-	-	96 000 €

RESOLUTION 8.3 - Scientific Committee

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article VII of the Agreement on the composition and functions of the Scientific Committee,

Considering that it is appropriate to amend the Annex to Resolution 7.7 (Rules of the Scientific Committee), in particular to align the Scientific Committee Rules of Procedures to international standards,

Commending the participation in the Scientific Committee of the Regional representatives and experts from CIESM, IUCN, the European Cetacean Society (ECS), the Scientific Committee of the International Whaling Commission (IWC) and the Scientific Council of the Convention on the Conservation of Migratory Species of Wild Animals (CMS),

Taking into account the ACCOBAMS Strategy (period 2014-2025), as adopted by Resolutions 5.1 and 7.4, and the Work Programme 2023-2025, as adopted by Resolution 8.2,

Stressing the need for establishing a closer link between the Scientific Committee of ACCOBAMS and the rest of the scientific community working on cetaceans in the Agreement Area,

Stressing the need for strengthening the representation of the Parties' scientific community in the Scientific Committee of ACCOBAMS, by increasing the number of Regional Representatives,

Stressing the need to ensure the diversity of experiences and competences and the equitable geographical distribution and gender balance of membership within the Scientific Committee,

1. *Appoints* the experts nominated by CIESM and IUCN for the period 2023-2025, as follows:

- **CIESM:**

- Loriane MENDEZ,
- Ayaka Amaha OZTÜRK,
- Simone PANIGADA.

- **IUCN:**

- Rimmel BEN MESSAOUD,
- Léa DAVID,
- Cristina FOSSI,
- Simone PANIGADA.

2. *Asks* the Scientific Committee to appoint, at its first Meeting of the triennium, a Chair and a Vice-Chair, as well as "Task Managers";

3. *Recommends* that the new Chair and Vice-Chair of the Scientific Committee are not experts nominated by the same Organization and that gender and geographical balance are also considered;

4. *Invites* the outgoing Chair and Vice-Chair to assist the Secretariat in the preparation of the 15th Meeting of the Scientific Committee;
5. *Appoints* regional representatives, up to three members per sub region, as follows:
 - Souad LAMOUTI, Giancarlo LAURIANO and Mohamed Naoufal TAMSOURI, representing the Western Mediterranean and contiguous Atlantic area,
 - Drasko HOLCER, Caterina FORTUNA and Tilen GENOV, representing the Central Mediterranean,
 - Celine MAHFOUZ, representing the Eastern Mediterranean,
 - Dimitar POPOV and Mehmet Arda TONAY, representing the Black Sea;
6. *Requests* the Bureau to examine any additional candidate for the Scientific Committee Regional Representatives, in order to fill the vacant positions in the relevant sub-regions, before the next Scientific Committee meeting;
7. *Appreciates* the offer by Italy to provide for the triennium 2023-2025, and on an experimental basis, a voluntary contribution to cover the expenses of participation to the Scientific Committee meetings of up to 8 regional representatives from eligible Countries,
8. *Appoints* the representatives nominated by CMS, and IWC for the period 2023-2025, as follows:
 - Mark SIMMONDS, representing the Scientific Council of the CMS,
 - Greg DONOVAN, representing the Scientific Committee of the IWC;
9. *Thanks* CIESM, CMS, IUCN and IWC for bearing the financial responsibility for their experts' participation;
10. *Decides* to amend the Rules of procedure of the Scientific Committee, as [annexed](#) to this Resolution,
11. *Agrees* that the present Resolution replaces Resolution 7.7.

ANNEX - Rules of the Scientific Committee

GENERAL FUNCTIONS

Article 1

1. The Scientific Committee, established in accordance with Article VII of the Agreement, provides scientific advice and information to the Meeting of the Parties or to the Parties through the Secretariat.
2. The functions of the Scientific Committee are defined in Article VII, paragraph 3, of the Agreement.

COMPOSITION

Article 2

1. The Scientific Committee shall consist in principle of the following members, namely:
 - Three experts proposed by CIESM;
 - Three experts proposed by IUCN;
 - Up to three representatives for each Region defined in the Appendix, appointed by the Meeting of the Parties;
 - One representative from the Scientific Committee of the International Whaling Commission (IWC) and one representative the Scientific Council of the Convention on the Conservation of Migratory Species of Wild Animals (CMS).
2. The above organisations may propose to support more than three experts. In this case, such offer will be examined by the Bureau, which will notify it to the Parties 120 days before the Meeting of the Parties, with its recommendation. If no objections to the Bureau recommendation arise in the following 30 days, the offer will be considered accepted, pending the final designation of all experts by the Meeting of the Parties.
3. The Chair and the Vice-Chair of the Scientific Committee are elected by the members of the Scientific Committee, at the first Meeting of the triennium, among all designated experts.
4. The Chair and Vice-Chair of the Scientific Committee shall not be experts nominated by the same Organization. Gender, geographical balance, and alternation in all roles of the Scientific Committee should be considered.
5. Additional members of the Scientific Committee may be designated by the Parties on a voluntary basis. The cost of their participation to the meetings of the Scientific Committee shall not be covered by the Agreement's funds.

SELECTION OF THE MEMBERS AND TERMS OF OFFICE

Article 3

1. The selection of the Scientific Committee members must take into consideration the following criteria, finalized by the Extended Bureau in accordance with the Work Programme proposed to the Parties:
 - a) To be experts in one or more fields relevant to cetacean conservation science;
 - b) To possess an appropriate level of quality, relevance, productivity and originality in activities related to cetacean conservation and research, as demonstrated through scientific publications and technical reports, communications to conferences, participation in working groups or committees at national or

international levels;

- c) To be available to participate in the work of the Scientific Committee, attend its meetings and contribute to the working groups, with the required continuity;
 - d) To be proficient in one of the Agreement's two working languages (English and French) and have a sufficient knowledge of the other.
2. All criteria above will be ascertained through the evaluation of their *curricula vitae*. An evaluation by the Scientific Committee Chair and Vice-Chair will also be submitted to the Meeting of the Parties.
 3. The qualified experts proposed by the CIESM and IUCN are nominated in close consultation with the Bureau, who reports on the outcome of these consultations to the Meeting of the Parties.
 4. The priorities set up in the Work Programme for each triennium, as well as the need to ensure a balanced geographical representation, shall be taken into account in selecting the members of the Scientific Committee by the Meeting of the Parties.
 5. At its first Meeting, four "Task Managers" are designated by the Scientific Committee among its members. As far as necessary, these appointments can be modified during the triennium upon decision of the Chair of the Scientific Committee in consultation with the Vice-Chair and the Bureau.

Article 4

1. The terms of office of the members shall expire at the closure of the ordinary Meeting of the Parties following the one at which they were appointed.
2. Starting from 2025, all leading roles (i.e.: Chair, Vice-Chair and Task Managers) will have a maximum of two consecutive terms.

MEETINGS

Article 5

1. The Chair shall preside over the meetings of the Scientific Committee, prepare the provisional agenda in consultation with the Secretariat, and liaise with members between meetings of the Committee. The Chair may represent the Committee as required and carry out other functions as may be delegated to him/her by the Committee, within the limits of the Committee functions.
2. The Vice-Chair shall assist the Chair. He/she shall preside at meetings of the Scientific Committee in the absence of, or in the event of the Chair being unable to act. He/she shall on those occasions exercise the powers and duties prescribed for the Chair.
3. At its first meeting after the Meeting of Parties, the Scientific Committee shall assign specific topics for each Task Manager taking into account the priorities set up in the Work Programme for the triennium. Each Task Manager, in addition to his/her role as member of the Scientific Committee, shall coordinate the works of the Scientific Committee concerning the topics that he/she has been assigned by the Scientific Committee. Each Task Manager shall provide a report to the meetings of the Scientific Committee on the topics he/she is in charge of.

4. Regional representatives of each region shall work together to provide a report to the meetings of the Scientific Committee on the conservation status of cetaceans and relevant activities in the region he/she has the responsibility of.

Article 6

1. The Scientific Committee may establish *ad hoc* working groups as needed to deal with specific tasks. It shall define the terms of reference and composition of each working group.
2. The meetings of the working groups shall be held, where possible, in conjunction with other events or intersessionally via remote tools.
3. The Scientific Committee may consider reports from other relevant meetings and working groups established under the Agreement, when necessary.
4. These Rules shall apply, *mutatis mutandis*, to the meetings of working groups.

Article 7

1. The Chair may decide to invite other experts, including experts in legal and socio-economic matters, to attend meetings (in person or remotely) as observers, with no additional cost for the Trust Fund, as deemed necessary. If their participation requires funding from ACCOBAMS, the Bureau will decide on their attendance, in consultation with the Secretariat.
2. ACCOBAMS Partners may participate as observers to the Meeting of the Scientific Committee.

Article 8

1. Notices of meetings, including date and venue, shall be sent to all Parties, to the members of the Scientific Committee and to ACCOBAMS Partners, by the Secretariat at least 45 days in advance and, in the case of extraordinary meetings, at least 14 days in advance.
2. The Secretariat of the Agreement, with the support of the Sub-Regional Coordination Units, shall undertake secretarial tasks during the meetings of the Scientific Committee and of its working groups and shall provide administrative and logistical support.
3. A report of each Meeting shall be prepared by the Secretariat as soon as possible and shall be communicated to all members and observers of the Scientific Committee, to all Parties and ACCOBAMS Partners.
4. The report shall be posted on the ACCOBAMS website.

Article 9

1. Recommendations by the Scientific Committee shall be adopted by consensus.
2. If consensus cannot be reached regarding an issue, all positions expressed about it during the meeting shall be included in the meeting report.

Article 10

1. The Meeting of the Scientific Committee shall be convened once a year during the first two years of the triennium by the Secretariat of the Agreement in consultation with the Chair.
2. Extraordinary meetings may be convened if the Bureau so agrees.

COMMUNICATION PROCEDURE

Article 11

1. In application of Article II, paragraph 2, of the Agreement, when a Party asks for advice on exceptions to the prohibition on deliberate taking of cetaceans, the Secretariat shall immediately communicate the request to the Chair and to the members of the Scientific Committee for advice.
2. Within 30 days, the Chair takes a decision on the request also on the basis of the advice received from the other members of the Scientific Committee and communicates it to the Secretariat for immediate communication to the requesting Party.

Article 12

1. Between sessions, any member of the Scientific Committee or the Sub-Regional Coordination Units, through the Secretariat, or the Secretariat directly, may submit a written proposal to the Chair for a decision within the limits of the functions of the Scientific Committee.
2. The Chair shall forward the proposal to the Scientific Committee members. Comments shall be submitted within 30 days from the date of that communication to all members of the Scientific Committee and to the Secretariat.
3. If no comments nor objections on a proposal are received from a member of the Scientific Committee, the proposal shall be considered as adopted. Its adoption shall be notified to those who have made the proposal. If any member of the Scientific Committee objects to a proposal within the deadline, the proposal shall be referred to the next meeting of the Scientific Committee.

Article 13

When, in the opinion of the Scientific Committee, an emergency arises, requiring the adoption of immediate measures to avoid deterioration of the conservation status of one or more cetacean species, the Chair may ask the Secretariat to contact the relevant Parties urgently.

WORKING LANGUAGES

Article 14

1. The working languages of the Scientific Committee shall be English and French.
2. Simultaneous translation in English and French may be provided for the plenary sessions of the meetings of the Scientific Committee if funding is available.
3. Working documents shall be made available in English or in French and may be translated if funding is available.

REPORT

Article 15

The Chair of the Scientific Committee shall submit to each ordinary Meeting of the Parties and to each meeting of the

Bureau a written report on the Scientific Committee's work since the previous ordinary Meeting of the Parties.

FINAL PROVISIONS

Article 16

These Rules shall apply immediately upon their adoption by the Parties.

Article 17

These Rules may be amended as required by a decision of the Meeting of the Parties.

Appendix

Article 1

In order to ensure a balanced geographical representation in the Scientific Committee, the geographical scope of the Agreement is divided into four regions.

Article 2

For the purpose of facilitating Scientific Committee members' nomination, the regional distribution of Parties is as follows:

Region	Parties
Western Mediterranean and contiguous Atlantic area	Algeria, France, Italy, Monaco, Morocco, Portugal, Spain, Tunisia
Central Mediterranean	Albania, Croatia, Greece, Italy, Libya, Malta, Montenegro, Slovenia, Tunisia
Eastern Mediterranean	Cyprus, Egypt, Greece, Lebanon, Syria, Türkiye
Black Sea	Bulgaria, Georgia, Romania, Türkiye, Ukraine

RESOLUTION 8.9 - Drift Nets

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling that compliance with the obligations arising from ACCOBAMS requires the adoption and enforcement of relevant national legislation, as provided for in Annex 2, paragraph 1, to ACCOBAMS,

Aware that the conservation status of cetaceans can be adversely affected by incidental catches,

Deeply concerned that bycatches are by far the primary anthropogenic cause of mortality for most cetacean populations in the ACCOBAMS Area,

Acknowledging the competences on fisheries matters that pertain in the ACCOBAMS Area to the General Fisheries Commission for the Mediterranean, the International Commission for the Conservation of Atlantic Tunas, the European Union and national fisheries authorities,

Recalling their conviction that the vulnerability of cetaceans to such threats warrants the implementation of specific conservation measures, where they do not yet exist, by States that exercise sovereignty or jurisdiction over any part of their range, and by States flag vessels of which are engaged outside national jurisdictional limits in activities that may affect the conservation of cetaceans,

Recalling that the Agreement requires that Parties collect and analyze data on direct and indirect interactions between humans and cetaceans in relation to fishing and take appropriate remedial measures, applying, when necessary, the precautionary principle,

Aware that drift nets, in particular, are known to represent a major source of incidental mortality for cetaceans and can seriously affect cetacean populations,

Bearing in mind that a moratorium on all large-scale pelagic drift net fishing has been recommended by the United Nations General Assembly since Resolution 46/215 of 1991 and has been reaffirmed several times, and that such fishing gear has been restricted and prohibited by a number of instruments applicable to the ACCOBAMS Area, including General Fisheries Commission for the Mediterranean Recommendation 22/1997/1 and European Union Regulation 2019/1241,

Recalling that Annex 2 (Conservation Plan), as amended in 2007 by Resolution A/3.1, which forms an integral part to the Agreement, requires the “Parties to work out and implement measures to minimize the fishing negative effects on the conservation of cetaceans and, in particular, provides that that no vessels will be authorized to keep on board or to use any drift nets”,

Taking note of the study entitled “Use of Driftnets in the ACCOBAMS Area: A Review of Relevant Treaties and National Legislation”, prepared on the basis of information provided by Parties by legal consultants appointed by the Secretariat,

Conscious that international, regional and national instruments are based on different definitions of the technical characteristics of drift nets to be prohibited,

Aware that different types of drift nets consistent with conservation measures adopted by other international and regional regulatory instruments are still legally used in the Agreement's area,

Worried by the fact that drifts nets most impacting on cetaceans, especially those targeting large pelagic fish, even if prohibited by other international instruments are still being used illegally, even in marine protected areas especially established for the protection of cetaceans,

Aware that effective measures against illegal, unregulated and unreported fishing still occurring in the ACCOBAMS Area, is a prerequisite for successfully addressing the link between fisheries and cetacean conservation,

Recalling that Parties shall adopt the necessary legislative, regulatory or administrative measures to give full protection to cetaceans in waters under their sovereignty or jurisdiction and, outside these waters, in respect of any vessel under their flag or registered within their territory, engaged in activities which may affect the conservation of cetaceans,

Recalling that, on the basis of the model legislation on cetacean conservation annexed to Resolution 4.19, it would be appropriate that Parties ensure, in their national legislation, criminal provisions sanctioning the possession on board and the use of drift nets, as well as the act of discarding or leaving fishing gear adrift at sea,

Taking in consideration the Recommendations of the Scientific Committee, including Recommendation 14.5 on "Bycatch",

Firmly convinced that concerns caused by the use of drift nets can only be addressed through a close collaboration between relevant regional fisheries and conservation bodies,

Recalling:

- Resolution 2.12 on Guidelines for technical measures to minimize cetacean-fishery conflicts in the Mediterranean and Black Seas,
- Resolution 2.13 on Pelagic Gillnets,
- Resolution 2.21 on Assessment and Mitigation of the Adverse Impacts of Interactions between Cetaceans and Fishing Activities in the ACCOBAMS Area,
- Resolution A/3.1 on Amendment of the Annex 2 to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area Related to the Use of Driftnets,
- Resolution 3.8 on Strengthening collaboration with the General Fisheries Commission for the Mediterranean;
- Resolution 4.9 on Fisheries Interactions with Cetaceans,
- Resolution 4.19 on Model Measures on Conservation of Cetaceans,
- Resolution 7.11 on Interactions between Fisheries and Cetaceans,

1. *Strongly reiterates* that bycatch in fishing gear is a widespread and significant threat to cetaceans across the entire Agreement area;
2. *Urges* the Parties to develop an improved understanding of bycatch levels as soon as possible, in order to allow ACCOBAMS conservation objectives to be met and related implementing measures to be enhanced;
3. *Reiterates its concern* that the use of drift nets that are not in compliance with relevant legal provisions continue to cause mortality of several species of cetaceans in the ACCOBAMS Area, and *urges* that national legislation regulating such fishing gear be timely implemented and enforced by Parties;
4. *Urges* Parties to ensure that their national legislation is in full accordance with the relevant treaties and regulations and that transgressors are sanctioned by penalties of sufficient gravity to deter violations, including accessory measures, such as confiscation of illegal nets, in accordance with national legislations;
5. *Notes* that programmes of compensation for dismissal of driftnets and reconversion of fishing vessels may be useful in promoting compliance with the rules on driftnets, as well as the use of modern technologies aimed at tracing the use of driftnets;
6. *Notes with appreciation* the information provided by several National Focal Points on the legal tools and measures applied under the Parties' jurisdiction to enforce the ACCOBAMS provisions on the drift nets ban;
7. *Encourages* those Parties that have not yet provided the above information to do so as soon as possible;
8. *Mandates* the ACCOBAMS Secretariat, in collaboration with the ACCOBAMS Scientific Committee, to continue liaising with relevant regional fisheries management organizations in order to provide a common definition of the technical characteristics of drift nets that pose a major threat to cetaceans, and to report on that matter at the Ninth Meeting of Parties.

RESOLUTION 8.22 - Date and venue of the Ninth Session of the Meeting of the Parties

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article III, paragraph 2, of the Agreement, which states that the Agreement Secretariat shall convene, in consultation with the Convention Secretariat, ordinary sessions of the Meeting of the Parties at intervals of not more than three years, unless the Meeting of the Parties decides otherwise,

Noting that the Eighth session of the Meeting of the Parties was hosted by the Government of Malta, from 29 November to 2 December 2022,

Aware of the benefits of hosting the sessions of the Meeting of the Parties in different regions of the Agreement area, for the Agreement and Parties, particularly for developing countries and those with economies in transition,

1. *Decides* that the Ninth session of the Meeting of the Parties shall take place at the end of 2025.

RESOLUTION 8.23 - Tribute to Organisers

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling the offer of the Government of the Republic of Malta to host the Eighth session of the Meeting of Parties,

Commending the efforts undertaken by the Government of the Republic of Malta in the organisation of this session of the Meeting of the Parties and its financial support to facilitate its preparation,

Aware of the significant efforts required in preparing and organizing the present session of the Meeting of the Parties,

1. *Expresses* its deep gratitude for the invaluable support from the Government of the Republic of Malta in providing an excellent venue and facilities for the Eighth session of the Meeting of the Parties; and for the relentless help and prompt assistance received from the Maltese National Focal Point and the Environment and Resources Authority team during the organisation process of the present Meeting;
2. *Congratulates* the ACCOBAMS Secretariat for the excellent preparation of the present session of the Meeting of the Parties to the Agreement;
3. *Expresses* its appreciation for the huge support provided by the members of the Extended Bureau, the Sub Regional Coordination Units and the Scientific Committee, who contributed decisively to the preparation of the present session of the Meeting of the Parties.

TA1- CONCERNING THE AGREEMENT AND ITS MANAGEMENT

1.2 - Assist the other instruments or organisations that tackle more specific issues (such as fisheries, navigation, tourism) or more general ones (such as pollution, climate change) with an impact on the conservation of cetaceans or of their habitats

Resolution 2.2	Strengthening Links with UNEP and CMS
Resolution 2.22	Relation with IUCN
Resolution 2.30	Recognizing the Important Role of Non-Governmental Organizations (NGOs) in Cetacean Conservation
Resolution 3.8	Strengthening Collaboration with the General Fisheries Commission for the Mediterranean
Resolution 4.8	Contribution from ACCOBAMS to the implementation of the Marine Strategy Framework Directive
Resolution 5.8	Rio + 20: perspectives for the ACCOBAMS
Resolution 6.11	A Strategical Alliance concerning Management and Conservation Measures for the Mediterranean Environment between the Secretariats of ACCOBAMS, GFCM, UNEP/MAP through SPA/RAC, and IUCN-Med, in Collaboration with MedPAN
Resolution 6.12	Implementation of the EU Marine Strategy Framework Directive (MSFD) and Relevant Ecosystem Approach Processes (EcAP)
Resolution 7.9	ACCOBAMS Partners
Resolution 7.17	Global post 2020 biodiversity framework: ACCOBAMS mobilization

RESOLUTION 2.2 - Strengthening links with UNEP and CMS

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

Recalling that:

- The ACCOBAMS, adopted in Monaco in November 1996, was negotiated, in application of Article IV of UNEP/ Convention on the Conservation of Migratory Species of Wild Animals (CMS) under UNEP rules and procedures;
- Article III of the Agreement, stating that Meeting of the Contracting Parties are convened by the Executive Secretary in consultation with the UNEP/CMS Secretary,
- Article IV of the Agreement stating that, subject to the approval of the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS), an Agreement Secretariat shall be established within the Secretariat of the Convention,
- The Resolution 1.2 of the Contracting Parties, establishing the Secretariat, accepting the offer from the Principality of Monaco and providing the Agreement with a trust fund and rules to manage it as stated in Resolution 1.6 and its annexes,
- The special role conferred by the Agreement and the Meeting of the Parties to UNEP managed Secretariats in particular CMS and the Mediterranean Action Plan,

Considering that:

- The Secretariat of ACCOBAMS already collaborates extensively with the CMS Secretariat,
 - Although managed under national rules of the Host Country, the ACCOBAMS Secretariat serves the goals and purposes of an UNEP negotiated Agreement,
 - ACCOBAMS Meetings Rules of Procedures are generally consistent with UNEP Rules of Procedures and practices,
 - The tasks and the legal and financial obligations of the Secretariat are specified in Resolutions adopted by the Contracting Parties in accordance with the Government of Monaco,
1. *Recognizes* that a strengthening of the relations of the Secretariat with UNEP and CMS will facilitate the implementation of the Agreement, and the promotion of wider goals in the region including synergies with UNEP Conventions and in particular CMS and the Barcelona Convention;
 2. *Takes note with satisfaction* of the progress report of the Executive Secretary on its relations with UNEP and CMS;
 3. *Welcomes* the statement made by the Executive Secretary of CMS to strengthen links with the ACCOBAMS Secretariat, with particular emphasis on (i) links between ACCOBAMS and other regional and global initiatives affecting cetaceans; (ii) co-operation on information management systems; (iii) joint conservation and publicity projects; (iv) joint fundraising; and (v) joint capacity building programmes;
 4. *Urges* the Secretariat, in close link with the Government of the Principality of Monaco and pertinent UNEP structures, to find the ways and the means to strengthen the link with UNEP and, as far as relevant, to establish a memorandum of understanding (or equivalent mechanism) to this end;
 5. *Charges* the Bureau to follow this process, decide upon the issue of this process and report at the next Meeting of the Parties.

RESOLUTION 2.22 - Relation with IUCN

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

On recommendation of the ACCOBAMS Scientific Committee,

Aware of the common interest between the work of the IUCN SSC's Cetacean Specialist Group and that of the Scientific Committee of ACCOBAMS, in their respective effort of assessing the levels of threat of cetacean populations found in the Agreement Area,

Noting particularly that the current process of evaluating threats to cetaceans by the Scientific Committee is linked to the IUCN Red List assessment of cetacean populations,

Convinced that a harmonization of such effort within a proper joint institutional arrangement would greatly enhance reciprocal efficiency,

Recognizing all the benefit of the participation of IUCN through Resolution 1.3. as full member of the Scientific Committee,

Recognizes that a further strengthening of the relations of ACCOBAMS and IUCN will facilitate the implementation of the Agreement, the promotion of IUCN goals in the region and synergies with its specialized Commissions,

1. *Urges* the Secretariat to liaise with IUCN, in order to find the ways and the means to strengthen their link and, as far as relevant, to establish a memorandum of understanding to this end.

RESOLUTION 2.30 - Recognising the important role of Non-Governmental Organisations (NGOs) in cetacean conservation

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic:

Recalling Resolution 1.13 on granting the ACCOBAMS Partner title, and *acknowledging* the success of this initiative,

Aware that the expertise and the activities of competent NGOs represent a substantial contribution to the successful implementation of the Agreement,

Recognising that the governments highly benefit from the voluntary monitoring and data collection work of such NGOs,

Appreciating the enormous and most successful efforts of NGOs in public awareness raising for the need of cetacean conservation,

Aware that both governments and NGOs highly benefit if they co-operate closely and solve potential conflicts in a constructive manner through recognising each other's roles and responsibilities,

Further aware that NGO activities could have increased impacts if they are not only locally or nationally orientated but also seek for international co-operation and exchange of information as well as trans-boundary projects,

1. *Expresses* its good will to further support the most valuable activities of competent NGOs;
2. *Encourages* activities of NGOs to collaborate and share experience in ways that have the potential to substantially improve trans-boundary co-operation and exchange of information as well as mutual assistance.

RESOLUTION 3.8 - Strengthening collaboration with the General Fisheries Commission for the Mediterranean

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Deeply concerned that by-catches are by far the primary anthropogenic cause of mortality for most cetacean populations in the Mediterranean Sea,

Aware that effective combat against illegal unregulated and unreported fishing, still occurring in the ACCOBAMS area, is a prerequisite for addressing relations between fisheries and cetacean conservation successfully,

Recognizing that ecosystem-based fishery management can offer a real framework for the conservation of cetaceans,

Firmly convinced that such concerns can be addressed only by close collaboration between relevant regional fisheries and conservation bodies,

Recalling:

- Resolution 2.21 on the assessment and mitigation of the adverse impacts of interactions between cetaceans and fishing activities in the ACCOBAMS area,
- Resolution 2.25 on prey depletion,
- Resolution 3.11 on the Conservation Plan for Black Sea cetaceans,
- Resolution 3.12 on by-catch, competitive interactions and acoustic devices, and
- Amendment Resolution 3.2 on the use of driftnets,

1. *Expresses* its satisfaction with the collaboration established with the General Fisheries Commission for the Mediterranean Sea (GFCM) in developing the ByCBAMS project for assessing and mitigating the adverse impacts of interactions between cetaceans and fishing activities in the ACCOBAMS area, and in particular the work done by the Scientific Advisory Committee's Sub-committee on Marine Environment and Ecosystems;
2. *Recognizes* that further strengthening of the relations between ACCOBAMS and GFCM is essential for implementation of the fishery-related measures of ACCOBAMS;
3. *Urges* the Secretariat to liaise with the GFCM Secretariat to find ways and means to strengthen their collaboration and, if relevant, to establish a memorandum of understanding to that end.

RESOLUTION 4.8 - Contribution from ACCOBAMS to the implementation of the Marine Strategy Framework Directive

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS):

Considering the European Union Marine Strategy Framework Directive (2008/56/EC) a crucial policy regarding the protection of the marine environment, particularly for Contracting Parties that are EU Member States,

Recognising the important role that the implementation of the Marine Strategy Framework Directive will play in all aspects related to the protection of European Seas, including their cetacean species,

Considering the descriptors of good environmental status of the Marine Strategy Framework Directive 1 (biodiversity), 4 (food webs), 7 (hydrographical conditions), 8 (contaminants), 10 (marine litter) and 11 (energy) as particularly relevant to cetacean conservation,

Taking note of the recently published *Commission Decision on criteria and methodological standards on good environmental status of marine waters*, which among others includes some indicators applicable to cetacean conservation,

Taking note of the ongoing work within the Common Implementation Strategy of the Marine Strategy Framework Directive, which includes a working group on Good Environmental Status and technical subgroups on marine litter and noise, which are relevant to cetacean conservation,

Recalling that Contracting Parties that are EU Member States are under the obligation to prepare marine strategies, including an initial assessment, the determination of good environmental status, the identification of environmental targets, the establishment of monitoring programmes and the implementation of programmes of measures, and in doing so must provide for regional coordination,

Recognising that assessment, monitoring and management of cetacean species will be part of these marine strategies,

Considering that ACCOBAMS, in coordination with the relevant Regional Seas Conventions, should play an important role in the regional coordination of all aspects of marine strategies related to cetacean conservation,

Considering the request from the Bureau of ACCOBAMS to the Scientific Committee in order to explore what could be the potential contribution of ACCOBAMS to the implementation of the Marine Strategy Framework Directive, as far as the conservation of cetaceans is concerned,

1. *Takes note* of the study on the “Potential contribution by ACCOBAMS to the identification of qualitative descriptors for determining good environmental *status sensu* the E.U. Marine Strategy Framework Directive” prepared by the Chair of the Scientific Committee;
2. *Requests* that the Secretariat with the support of the Scientific Committee of ACCOBAMS, contributes, providing regional information, to the implementation of the Marine Strategy Framework Directive, particularly by

participating in working groups and technical subgroups of the Marine Strategy Framework Directive Common Implementation Strategy relevant to cetacean conservation;

3. *Requests* to the Contracting Parties that are EU Member States to support ACCOBAMS in the regional coordination of aspects of their marine strategies relevant to cetacean conservation;
4. *Invites* the Scientific Committee to analyse the *Commission Decision on criteria and methodological standards on good environmental status of marine waters* and identify those indicators related to cetacean conservation, and to provide guidance to Contracting Parties that are EU Member States on how to implement these indicators regarding the assessment of cetacean populations, and how to quantify Good Environmental Status in relation to cetacean conservation and to inform Member States of the results of this analysis;
5. *Proposes* that the Scientific Committee of ACCOBAMS starts a process for identifying environmental targets and measures for cetacean conservation that should be incorporated in the marine strategies in the ACCOBAMS area, including the identification of thresholds for pressures and impacts of certain human activities, as well as providing information for abundances and dynamic populations;
6. *Invites* Parties to ACCOBAMS to share their experiences in the assessments, monitoring and measures that, within the framework of the European Union Marine Strategy Framework Directive, take into account the need for the conservation of cetaceans.

ANNEX

Potential contribution by ACCOBAMS to the identification of qualitative descriptors for determining good environmental status *sensu* the E.U. Marine Strategy Framework Directive

Introduction

A process is ongoing concerning the implementation of the E.U. Marine Strategy Framework Directive (MSFD). This includes the identification of qualitative descriptors for determining good environmental status in the marine environment.

There was a request from the Bureau of ACCOBAMS during its last meeting to explore what could be the potential contribution of ACCOBAMS to the identification of such descriptors, as far as the conservation of cetaceans is concerned.

This brief report begins to address such request by the Bureau, first by providing some relevant background on the MSFD, and second by suggesting ways in which the work of ACCOBAMS could support the identification of qualitative descriptors, within the frame of the Agreement's expertise and concerns. It should be circulated within the Scientific Committee to solicit comments and suggestions from Committee members, to produce a final report in time for the 4th Meeting of the ACCOBAMS Parties.

Good Environmental Status (GES)

This is the status that the MSFD intends to enable Europe to reach, as far as its marine environment is concerned. It is defined in the Directive as follows (Art. 3(5)):

- “ ‘good environmental status’ means the environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are clean, healthy and productive within their intrinsic conditions, and the use of the marine environment is at a level that is sustainable, thus safeguarding the potential for uses and activities by current and future generations, i.e.:
 - “(a) the structure, functions and processes of the constituent marine ecosystems, together with the associated physiographic, geographic, geological and climatic factors, allow those ecosystems to function fully and to maintain their resilience to human-induced environmental change. Marine species and habitats are protected, human-induced decline of biodiversity is prevented and diverse biological components function in balance;
 - “(b) hydro-morphological, physical and chemical properties of the ecosystems, including those properties which result from human activities in the area concerned, support the ecosystems as described above. Anthropogenic inputs of substances and energy, including noise, into the marine environment do not cause pollution effects;
- “Good environmental status shall be determined at the level of the marine region or subregion as referred to in Article 4, on the basis of the qualitative descriptors in Annex I. Adaptive management on the basis of the ecosystem approach shall be applied with the aim of attaining good environmental status.”

The geographic attributes of the MSFD referred to in Article 4, relevant to ACCOBAMS, include (from West to East):

- in the North-east Atlantic Ocean, part of the subregion denominated “the Bay of Biscay and the Iberian Coast”;
- the Mediterranean Sea region;
- the Black Sea region.

Qualitative descriptors for determining good environmental status

Annex I to the MSFD lists the following 11 qualitative descriptors to support the determination of good environmental status at sea (which are also referred to in Articles 3(5), 9(1), 9(3) and 24):

- (1) Biological diversity is maintained. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions.
- (2) Non-indigenous species introduced by human activities are at levels that do not adversely alter the ecosystems.
- (3) Populations of all commercially exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock.
- (4) All elements of the marine food webs, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity.
- (5) Human-induced eutrophication is minimised, especially adverse effects thereof, such as losses in biodiversity, ecosystem degradation, harmful algae blooms and oxygen deficiency in bottom waters.
- (6) Sea-floor integrity is at a level that ensures that the structure and functions of the ecosystems are safeguarded and benthic ecosystems, in particular, are not adversely affected.
- (7) Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems.
- (8) Concentrations of contaminants are at levels not giving rise to pollution effects.
- (9) Contaminants in fish and other seafood for human consumption do not exceed levels established by Community legislation or other relevant standards.
- (10) Properties and quantities of marine litter do not cause harm to the coastal and marine environment.
- (11) Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment.

Descriptors having relevance to the ACCOBAMS goals

In its Annex I, the MSFD states that “To determine the characteristics of good environmental status in a marine region or subregion as provided for in Article 9(1), Member States shall consider each of the qualitative descriptors listed in this Annex in order to identify those descriptors which are to be used to determine good environmental status for that marine region or subregion.”

Considering the specialised expertise on cetacean conservation which is contained within ACCOBAMS, coupled with the Agreement’s mandate to conserve cetacean populations in its area (which is vastly overlapping with the MSFD area), there is ample scope for ACCOBAMS to contribute to the MSFD effort through ensuring that the cetacean component is adequately considered when determining and defining descriptors. This is not only because cetaceans are concerned by the statement that “marine species and habitats are protected, human-induced decline of biodiversity is prevented and diverse biological components function in balance” (Art. 3(5a)), but also because their conservation presents special - and sometimes unique – concerns due to their special ecological and physiological characteristics of marine mammals.

The descriptors which are particularly relevant to cetacean conservation are n. 1, 4, 7, 8, 10 and 11.

Potential contribution by ACCOBAMS to the definition of descriptors, with reference to the 2010-2013 Work programme:

Descriptor n°	Item	Relevant Items of the Work Programme		
		Code	Title	Priority
1	<i>Biological diversity is maintained.</i>	RMTM 1	The Survey Initiative	Very High
		RMTM 2	Population Structure	High
		RMTM 3	Species conservation plans: Mediterranean common dolphin	High
		RMTM 4	Species conservation plans: Black Sea cetaceans	High
		RMTM 5	Species Conservation plans: Mediterranean bottlenose dolphin	Medium
		RMTM 6	Species Conservation Plans: Fin whales	Medium
		RMTM 7	Species Conservation Plans: Cuvier's beaked whales	High
		RMTM 8	Species Conservation Plans: Sperm whales	Medium
		RMTM 9	Species Conservation Plans: Other species and populations	Low
		RMTM 15	Marine Protected Areas	High

Cetaceans are a component of marine biodiversity in their own right, as clearly defined in Annex III (table 1) to the MSFD, which lists amongst the characteristics to be taken into account “a description of the population dynamics, natural and actual range and status of species of marine mammals and reptiles occurring in the marine region or subregion”. Updated knowledge of cetacean populations existing in the considered area, including considerations about their role in the ecosystem, their status and known trends could be contributed by ACCOBAMS. The presence within Task Group 1 of a member of the ACCOBAMS Scientific Committee will significantly facilitate the flow of information between ACCOBAMS and the MSFD effort.

Descriptor n°	Item	Relevant Items of the Work Programme		
		Code	Title	Priority
4	<i>All elements of the marine food webs, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity.</i>	RMTM 10	Bycatch and interactions with fisheries	Very High

This descriptor is relevant to cetacean conservation in many ways: a) cases are known in which prey depletion by fisheries have negatively affected cetacean populations in the ACCOBAMS area (e.g., Bearzi et al. 2008⁴⁸), demanding management intervention to maintain marine food web integrity, at the same time maintaining populations of commercially exploited fishes within safe biological limits (a clear connection with descriptor n. 3); b) marine food

⁴⁸ Bearzi G., Agazzi S., Gonzalvo J., Costa M., Bonizzoni S., Politi E., Piroddi C., Reeves R.R. 2008. Overfishing and the disappearance of short-beaked common dolphins from western Greece. *Endangered Species Research* 5:1-12. doi: 10.3354/esr00103.

webs (particularly in the pelagic domain) may be disrupted by climate change (e.g., Gambaiani et al. 2009⁴⁹), and cetacean populations concerned are likely to be dramatically affected if that happens; this not only has conservation relevance, but also makes cetaceans an easy feature of the ecosystem to monitor; and c) as top predators, cetaceans contribute to the stability of ecological communities they are part of, and thus their presence has a role in the maintenance of biodiversity (Bascompte et al. 2005⁵⁰).

Descriptor n°	Item	Relevant Items of the Work Programme		
		Code	Title	Priority
7	<i>Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems.</i>	RMTM 17	Climate change	High

This descriptor is closely linked to point b) above.

Descriptor n°	Item	Relevant Items of the Work Programme		
		Code	Title	Priority
8	<i>Concentrations of contaminants are at levels not giving rise to pollution effects.</i>	RMTM 14	Responses to emergency situations	High
		RMTM 16	Chemical Pollution	Medium

As long-lived apex predators, cetaceans are strongly affected by bioaccumulation and biomagnification phenomena involving a number of xenobiotic compounds that are known to be highly toxic, and to impair reproductive and immune function in mammals.

Descriptor n°	Item	Relevant Items of the Work Programme		
		Code	Title	Priority
10	<i>Properties and quantities of marine litter do not cause harm to the coastal and marine environment.</i>	CB 2	Monitoring of cetacean stranding	High

Cetaceans are known to be affected by marine litter through ingestion and entanglement; the phenomenon is well-known in the ACCOBAMS area, and substantive information exists from the monitoring of strandings in the Mediterranean and the Black Seas. The presence within Task Group 10 of a member of the ACCOBAMS Scientific Committee (Alexei Birkun) will significantly facilitate the flow of information between ACCOBAMS and the MSFD effort.

Descriptor n°	Item	Relevant Items of the Work Programme		
		Code	Title	Priority
11	<i>Introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment.</i>	RMTM 11	Anthropogenic Noise	High

⁴⁹ Gambaiani D.D., Mayol P., Isaac S.J., Simmonds M.P. 2009. Potential impacts of climate change and greenhouse gas emissions on Mediterranean marine ecosystems and cetaceans. *Journal of the Marine Biological Association of the United Kingdom* 89(1):179-201.

⁵⁰ Bascompte J., Melian C.J., Sala E. 2005. Interaction strength combinations and the overfishing of a marine food web. *PNAS* 102(15):5443-5447.

Noise is known to be a significant hazard for cetaceans in the ACCOBAMS area, and a correspondence working group was established by the last Meeting of Parties to address the important conservation implications of this pressure factor.

Mode of contribution

The Scientific Committee should be requested to contribute to the effort of defining and determining relevant descriptors of good environmental status on the basis of modalities and procedures indicated by the Parties.

RESOLUTION 5.8 - RIO +20 Perspectives for ACCOBAMS

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Fully aware of “The Future We Want”, the outcome document of the United Nations Conference on Sustainable Development, held in Rio de Janeiro in 2012 (Rio + 20),

Convinced that the document “The Future We Want” is to be considered as a very valuable source of inspiration also for future actions within the ACCOBAMS framework,

Noting that several among the principles enshrined in the 1992 Rio Declaration of Environment and Development and reaffirmed in “The Future We Want”, such as the principle of sustainable development, the principle of the benefit of present and future generations, the precautionary principle and the principle of integration of actions to preserve the environment with activities related to the socio-economic development, are recalled also in the ACCOBAMS,

Emphasizing that the vulnerability of cetaceans to threats from several sources warrants the implementation of specific conservation measures,

Recalling, as provided for in the ACCOBAMS on the basis of Articles 65 and 120 of the United Nations Convention on the Law of the Sea, that must be permitted only economic uses of cetaceans, such as cetacean watching , which do not consist in any deliberate taking, hunting, fishing, capturing, harassing or killing,

1. *Commits* itself to base its present and future actions for the implementation of the ACCOBAMS on the spirit and objectives of the document “The Future We Want”, emphasizing the following aspects of the document as particularly relevant in the ACCOBAMS framework:
 - a) The necessity to promote harmony with nature, in order to achieve a just balance among the economic, social and environmental needs of present and future generations, recognizing the rights of nature in the context of promotion of sustainable development⁵¹;
 - b) The call for holistic and integrated approaches to sustainable development that will guide humanity to live in harmony with nature and lead to efforts to restore the health and integrity of the Earth’s ecosystem⁵²;
 - c) The importance of involving all relevant decision makers in the planning and implementation of sustainable development policies⁵³;
 - d) The important role that local authorities and communities can play in implementing sustainable development, including by engaging citizens and stakeholders and providing them with relevant information⁵⁴;

⁵¹ See para. 39 of “The Future We Want”.

⁵² See para. 40 of “The Future We Want”.

⁵³ See para. 42 of “The Future We Want”.

⁵⁴ See para. 42 of “The Future We Want”.

- e) The essential character of broad public participation and access to information and judicial and administrative proceedings for the promotion of sustainable development⁵⁵;
- f) The need for meaningful involvement in sustainable development of all major groups, such as women, children, youth, non-governmental organizations, local authorities, workers and trade unions, business and industry, the scientific and technological community⁵⁶;
- g) The support to public-private partnerships and to the involvement of business and industry in sustainable development initiatives, taking into account the importance of corporate social responsibility⁵⁷;
- h) The recognition of the important contribution of the scientific and technological community to sustainable development and the commitment to close the technological gap between developing and developed countries and to strengthen the science-policy interface, as well as to foster international research collaboration on sustainable development⁵⁸;
- i) The valuable contribution that non-governmental organizations make in promoting sustainable development through their well established and diverse experience and capacity, especially in the area of analysis, the sharing of information and knowledge, promotion of dialogue and support of implementation of sustainable development⁵⁹;
- j) The call to promote, facilitate and finance, as appropriate, access to and the development, transfer and diffusion of environmentally sound technologies and corresponding know-how, in particular to developing countries, on favourable terms, including on concessional and preferential terms, as mutually agreed⁶⁰;
- k) The acknowledgement of the importance of the regional dimension of sustainable development, which can complement and facilitate effective translation of sustainable development policies into concrete action at the national level⁶¹;
- l) The need to ensure effective linkage among global, regional, subregional and national processes to advance sustainable development⁶²;
- m) The necessity to promote, enhance and support more sustainable fisheries and aquaculture that is economically viable, while conserving water, plant and animal genetic resources, biodiversity and ecosystems and enhancing resilience to climate change and natural disasters⁶³;
- n) The need to support sustainable tourism activities and relevant capacity-building that promote environmental awareness, conserve and protect the environment, respect wildlife, flora, biodiversity, ecosystems and cultural diversity, and improve the welfare and livelihoods of local communities by supporting their local economies and the human and natural environment as a whole⁶⁴;

⁵⁵ See para. 43 of "The Future We Want".

⁵⁶ See para. 43 of "The Future We Want".

⁵⁷ See para. 46 of "The Future We Want".

⁵⁸ See para. 48 of "The Future We Want".

⁵⁹ See para. 53 of "The Future We Want".

⁶⁰ See para. 73 of "The Future We Want".

⁶¹ See para. 97 of "The Future We Want".

⁶² See para. 100 of "The Future We Want".

⁶³ See para. 111 of "The Future We Want".

⁶⁴ See para. 130 of "The Future We Want".

- o) The commitment to protect and restore the health, productivity and resilience of oceans and marine ecosystems, to maintain the biodiversity, enabling their conservation and sustainable use for present and future generations, and to effectively apply the ecosystem approach and the precautionary approach in the management, in accordance with international law, of activities having an impact on the marine environment⁶⁵;
- p) The concern that the health of oceans and marine biodiversity are negatively affected by marine pollution, including marine debris, especially plastic, persistent organic pollutants, heavy-metal and nitrogen-based compounds, from a number of marine and land-based sources, including shipping and land run-off, and the commitment to take action to reduce the incidence and impacts of such pollution on marine ecosystems⁶⁶;
- q) The commitment to enhance action to manage adverse ecosystem impacts from fisheries, including by eliminating destructive fishing practices⁶⁷;
- r) The commitment to enhance actions to protect vulnerable marine ecosystems from significant adverse impacts, including through the effective use of impact assessments⁶⁸;
- s) The importance of area-based conservation measures, including marine protected areas, consistent with international law and based on best available scientific information, as a tool for conservation of biological diversity and sustainable use of its components⁶⁹;
- t) The reaffirmation of the intrinsic value of biological diversity, as well as the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its critical role in maintaining ecosystems that provide essential services, which are critical foundations for sustainable development and human well-being⁷⁰;
- u) The call upon all countries to prioritize sustainable development in the allocation of resources in accordance with national priorities and needs and the recognition of the crucial importance of enhancing financial support from all sources for sustainable development for all countries, in particular developing countries⁷¹;
- v) The call to promote, facilitate and finance, as appropriate, access to and the development, transfer and diffusion of environmentally sound technologies and corresponding know-how, in particular to developing countries, on favourable terms, including on concessional and preferential terms, as mutually agreed⁷²;
- w) The need for enhanced capacity-building for sustainable development and, in this regard, the strengthening of technical and scientific cooperation, reiterating the importance of human resource development, including training, the exchange of experience and expertise, knowledge transfer and technical assistance Scientific Committee members.⁷³

⁶⁵ See para. 158 of "The Future We Want".

⁶⁶ See para. 163 of "The Future We Want".

⁶⁷ See para. 168 of "The Future We Want".

⁶⁸ See para. 168 of "The Future We Want".

⁶⁹ See para. 177 of "The Future We Want".

⁷⁰ See para. 197 of "The Future We Want".

⁷¹ See para. 253 of "The Future We Want".

⁷² See para. 269 of "The Future We Want".

⁷³ See para. 277 of "The Future We Want".

RESOLUTION 6.11 - A Strategical Alliance concerning management and conservation measures for the Mediterranean environment between the Secretariats of ACCOBAMS, GFCM, UNEP/MAP through SPA/RAC and IUCN-MED in collaboration with MEDPAN

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article IV paragraph 2 of the Agreement which in particular charges the Secretariat:

- to liaise with and facilitate co-operation between Parties and non-Party Range States, and international and national bodies the activities of which are directly or indirectly relevant to the conservation of cetaceans in the Agreement Area,
- to assist the Parties in the implementation of this Agreement, ensuring coherence between the sub regions and with measures adopted pursuant to other international instruments in force,

Recalling also Article V, which creates co-ordination sub-regional Units and Resolution 1.4 establishing the sub-regional co-ordination Units for the Mediterranean and Atlantic adjacent Area in the Regional Activity Centre for Specially Protected Areas (RAC/SPA) of the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean,

Recalling the Conservation Plan, annexed to the Agreement, which refers, in its point 3, to the sharing of responsibilities between ACCOBAMS and the Barcelona Convention in regard to the habitat's protection,

Recalling Resolution 4.15 concerning protected areas, which, inter alia, charges the Permanent Secretariat to liaise with any other similar organisations in the ACCOBAMS region in order to facilitate networking and synergies between them in particular at the scientific level,

Recalling Resolution 3.22, which establishes the criteria for the selection and the format for the proposal of specially protected areas for cetaceans,

Recalling Resolution 4.20 reinforcing the status of ACCOBAMS Partners,

Recalling Resolutions pertinent to cooperation with several Mediterranean entities and in particular:

- Resolution 2.22 establishing the link with the IUCN and Resolution 5.3 enhancing the active participation of IUCN in the Scientific Committee,
- Resolution 3.8 establishing links with the GFCM,
- Resolution 3.22 underlining the importance of MedPAN (the network of marines protected areas in the Mediterranean) in the formation of protected areas managers,

Recalling related decisions, in particular Resolution 11.2 of the the Convention on the Conservation of Migratory Species of Wild Animals (CMS) on the Strategic Plan for Migratory Species 2015-2023,

Recalling also the pertinent activities adopted in the ACCOBAMS strategy (period 2014-2025) in Resolution 5.1 and the various programmes of work,

Underlining that ACCOBAMS Permanent Secretariat has already signed memorandum of cooperation with each of the above-cited organisations,

1. *Welcomes* the Joint Cooperation Strategy on Spatial-based Protection and Management Measures for Marine Biodiversity among the Secretariats of ACCOBAMS, GFCM, IUCN-Med, UNEP/MAP through SPA/RAC and in collaboration with MedPAN, (ACCOBAMS-MOP6/2016/Inf17);
2. *Congratulates* the RAC/SPA, in the framework of the Ecosystem approach of the Barcelona Convention (EcAP process), to have initiated this strategic approach within the consultation held in the Joint RAC/SPA, GFCM and ACCOBAMS Meeting on protection of marine areas in the Mediterranean and Black Sea (Gammarth, Tunisia, 9-12 June 2015);
3. *Requests* the Permanent Secretariat to participate actively to this strategic alliance in cooperation with the Scientific Committee and to inform the Bureau of any difficulty encountered.

RESOLUTION 6.12 - Implementation of the EU Marine Strategy Framework Directive (MSFD) and Relevant Ecosystem Approach Processes (EcAP)

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Acting upon Recommendation 10.11 of the ACCOBAMS Scientific Committee,

Recalling Resolutions 4.8 on the contribution from ACCOBAMS to the implementation of the Marine Strategy Framework Directive (MSFD), 4.17 on the guidelines to address the impact of anthropogenic noise on cetaceans in the ACCOBAMS area, 5.15 and 6.17 on addressing the impact of anthropogenic noise, and 6.13 on the ACCOBAMS Survey Initiative,

Recalling also the UNEP/MAP Ecosystem Approach Process (EcAP) aiming at managing human activities with a view to conserve natural marine heritage and protecting vital ecosystem services,

Taking into consideration document ACCOBAMS-SC10/2015/Doc24, Overview of the implementation of MSFD (regarding cetaceans) in the ACCOBAMS area and recommendations,

1. *Invites* Parties to respond to the questionnaire about cetaceans and the implementation of MSFD sent by the Permanent Secretariat on 26 September 2014;
2. *Asks* the Permanent Secretariat, in collaboration with RAC/SPA, to convene a workshop with scientists and monitoring officers of MSFD/ EcAP processes, to ensure (i) awareness on the importance of cetaceans as component of a good environmental status and (ii) coordination in national monitoring programmes within MSFD and EcAP processes;
3. *Asks* the Permanent Secretariat and the Scientific Committee to assist ACCOBAMS Parties, both European Union Member States and non-European Union Member States, in including cetaceans in relevant descriptors to the achievement of a good environmental status, such as biodiversity, food web, pollution, marine litters and underwater noise;
4. *Asks* the Permanent Secretariat and the Scientific Committee to assist ACCOBAMS Parties, both European Union Member States and non-European Union Member States, in integrating conservation action reflecting objectives, decisions, recommendations and information by ACCOBAMS within their national programme of measures, with a view to achieving a good environmental status under the MSFD and relevant EcAP Processes.

RESOLUTION 7.9 - ACCOBAMS Partners

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recognizing the significant role played by many Entities in the conservation of cetaceans in the Agreement area,

Recalling Resolution 1.14, 4.21 and 4.20 on strengthening the status of ACCOBAMS Partners,

Desirous of further strengthening the involvement of qualified Entities in the implementation of ACCOBAMS and of encouraging them to undertake further action to achieve the Agreement's objectives,

Aiming at clarifying the role of the different ACCOBAMS Partners,

Aware that partnership can be developed with international, regional and national Entities concerned with the conservation of cetaceans and of their habitat, human-cetacean interactions or other activities relevant with the spirit of the Agreement,

Taking note of the information provided by the Permanent Secretariat on the activities of the ACCOBAMS Partners,

1. *Decides* that international, regional and national Entities interested in being granted the status of Partners to the ACCOBAMS shall:
 - in the case of Entities based in ACCOBAMS Parties, present an application to the ACCOBAMS Permanent Secretariat, which will be transmitted to the National Focal Point for advice and submitted to the subsequent meeting of the Bureau for approval. In case of objection by the National Focal Point, the final decision shall be taken by the Meeting of the Parties;
 - in the case of Entities based in States Non-Parties to the ACCOBAMS, present an application to the ACCOBAMS Permanent Secretariat for approval by the subsequent meeting of the Bureau;
2. *Adopts* the Criteria for applying for the status of ACCOBAMS Partner (Annex 1), the Rules and Commitments of ACCOBAMS Partners (Annex 2) and the Application form (Annex 3);
3. *Decides* that:
 - ACCOBAMS Partners shall be taken into consideration as regards to their involvement in the implementation of ACCOBAMS Programme of Work;
 - ACCOBAMS Partners shall provide information to the ACCOBAMS Permanent Secretariat on all relevant activities whenever needed for communication and awareness purposes;
 - ACCOBAMS Partners shall report each triennium on the implementation of their activities and on the use of the ACCOBAMS Partner logo;
 - ACCOBAMS Partners shall provide their report, through NETCCOBAMS, at the latest two months before the Bureau meeting held to prepare the Meeting of the Parties;
 - the status of ACCOBAMS Partner may be reviewed and, if appropriate, withdrawn by the ACCOBAMS Bureau based on the information provided by the Permanent Secretariat and/or the relevant National Focal Point, if any, in accordance with the Rules and Commitments of ACCOBAMS Partners;
4. *Decides* that the present Resolution replaces Resolution 4.20.

ANNEX 1
CRITERIA FOR APPLYING TO THE STATUS OF ACCOBAMS PARTNER

1. ACCOBAMS Partners can be an Entity based either within ACCOBAMS Parties, or in States Non-Parties to the ACCOBAMS, whose cetacean conservation actions are developed within the Agreement area;
2. These Entities shall belong to one of the following types:
 - Public National Entities;
 - Non-Governmental Organizations;
 - Public and private Research Institutes;
 - Private Companies;
3. The following documents shall be sent to the ACCOBAMS Permanent Secretariat by the applicant:
 - a) a copy of the Entity's statute, in original language and translated into English or French, indicating the objectives of the Entity;
 - b) a signed Declaration of Commitment (included in the Application form here attached as Annex 3), declaring that the Entity actions include conservation of cetaceans and of their habitat, human-cetacean interactions or other activities relevant with the spirit of the Agreement;
 - c) a note concerning the applicant's capacities with particular attention to:
 - (i) experience in providing support to cetacean conservation by implementing practical research, collection and analysis of information or other educational and training activities;
 - (ii) demonstrated experience in implementing partnership ventures, such as for training and education, technical and scientific expertise, policy development or evaluation and assessment, particularly when such ventures would bring new and additional benefits to the functioning of the ACCOBAMS partnership;
 - (iii) demonstrated willingness and ability to cooperate with national and international governmental and non-governmental bodies;
 - (iv) readiness to contribute actively on a regular basis to the further development of policies and tools of the Agreement and their application, particularly by assisting Parties to meet their obligations under the Agreement;
 - (v) if any, previous experience in communicating with the Secretariat and cooperating with ACCOBAMS in the achievement of its objectives;
 - (vi) the benefits expected for the Entity and for ACCOBAMS;
 - d) the *Curriculum Vitae* of the person responsible of the entity applying for the ACCOBAMS Partner status;
 - e) a signed copy of the Rules and Commitments (here attached as Annex 2), together with a commitment to comply with them;
 - f) a copy of the Application form duly filled and signed (here attached as Annex 3).

ANNEX 2
RULES AND COMMITMENTS OF ACCOBAMS PARTNERS

1. ACCOBAMS Partners shall be expected to contribute on a regular basis and to the best of their ability to the further development of policies, technical and scientific tools of the Agreement and to their application.
2. ACCOBAMS Partners shall present, at the latest two months after each Meeting of the Parties, a programme of collaboration with the Permanent Secretariat during the triennium. The programme shall include all activities carried out in the frame of the partnership and related to the conservation plan and the support to the Permanent Secretariat.
3. ACCOBAMS Partners shall make proper use of the ACCOBAMS Partners logo in compliance with ACCOBAMS Resolution 4.21.
4. ACCOBAMS Partners shall communicate with the Permanent Secretariat on activities related to ACCOBAMS objectives. ACCOBAMS Partners shall share information, including their publications, with their National Focal Point. ACCOBAMS Partners that own original data on cetaceans in the Agreement area are strongly encouraged to share such data, as appropriate, through NETCCOBAMS, the MEDACES stranding database and through the OBIS SEAMAP database and any other relevant tools.
5. Before each Meeting of the Parties, ACCOBAMS Partners shall report on the implementation of their activities and on the use of the ACCOBAMS Partner logo. To this end, their reports shall reach the Permanent Secretariat and the relevant National Focal Point at the latest two months before the Bureau meeting held to prepare the Meeting of the Parties.
6. Partners shall be invited to participate, in an observer capacity and as advisors, in all activities of the Agreement, except when otherwise decided by the Meeting of the Parties.
7. ACCOBAMS Partners could be invited to contribute to the development of project proposals, project implementation and to the evaluation of project results.
8. The ACCOBAMS Bureau may decide to withdraw the status of ACCOBAMS Partner if no activities are reported, if they are considered not to be relevant and if they are contrary to the achievement of ACCOBAMS objectives or to the present Rules and Commitments. Withdrawal of the Partner status does not prejudice any legal action for improper use of the ACCOBAMS Partner logo.

Date and place

Name of the person responsible of the entity applying for the ACCOBAMS Partner status and Signature

Stamp and/or logo if applicable.

**ANNEX 3
APPLICATION FORM**

Applicants shall send all relevant documents by email at: secretariat@accobams.net or by mail at the following address:

ACCOBAMS Permanent Secretariat
Les Terrasses de Fontvieille
Jardin de l'UNESCO
MC-98000 Monaco

The _____ (name of the Entity applying) represented by (Name of the person responsible of the entity applying for the ACCOBAMS Partner status) _____ in quality of _____ with the aim to apply for the ACCOBAMS Partner status declares that the application contains the following elements:

	YES	NO
1. A copy of the statute of the Entity (in original language and a translation into English or French);		
2. The signed Declaration of Commitment (included in the Application form) declaring that the Entity actions include conservation of cetaceans and of their habitat, human-cetacean interactions or other activities relevant with the spirit of the Agreement;		
3. A note concerning its capacities with a particular attention to:		
(i) experience in providing support to cetacean conservation by implementing practical research, collection and analysis of information or other educational and training activities;		
(ii) demonstrated experience in implementing partnership ventures, such as for training and education, technical and scientific expertise, policy development or evaluation and assessment, particularly when such ventures would bring new and additional benefits to the functioning of the ACCOBAMS partnership;		
(iii) demonstrated willingness and ability to cooperate with national and international governmental and non-governmental bodies;		
(iv) readiness to contribute actively on a regular basis to further development of policies and tools of the Agreement and their application, particularly by assisting Parties to meet their obligations under the Agreement;		
(v) if any, previous experience in communicating with the Secretariat and cooperating with ACCOBAMS in the achievement of its objectives;		
(vi) the benefits expected for the Entity and for ACCOBAMS		
4. <i>Curriculum Vitae</i> of the person responsible of the entity applying for the ACCOBAMS Partner status		
5. A signed copy of the Rules and Commitments (Annex 2 of the Resolution)		

DECLARATION OF COMMITMENT

On behalf of the Entity, I commit to comply with the rules and commitments specified in the Resolution. Actions of the entity include conservation of cetaceans and of their habitat, human-cetacean interactions or other activities relevant with the spirit of the Agreement.

Name of the Entity	
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Address, Telephone/fax email website Social media link(s)	
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Date and place

Name of the person responsible of the entity applying for the ACCOBAMS Partner status and Signature

Stamp and/or logo if applicable.

RESOLUTION 7.17 - Global Post 2020 Biodiversity Framework: ACCOBAMS Mobilization

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling the 2050 Vision of the Convention on Biological Biodiversity Strategic Plan 2011-2020 “living in harmony with nature”.

Fully aware of the commitment expressed by the Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) at the Fourth session of the United Nations Environment Assembly, on behalf of the Secretariats of biodiversity-related Conventions: “2020 is just around the corner marking a crucial year for biodiversity with the expected adoption of a new Global Framework for biodiversity conservation for the following decade. UNEA4 call for innovative solution to environmental challenges and biodiversity loss is timely and we are committed to facilitating its reflection in our own processes, whenever the opportunity arises”,

Recalling the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), confirming that biodiversity is declining globally at rates unprecedented in human history, and *taking note* of its recommendations,

Recalling the Agreement objective to reach and maintain a favourable conservation status for all species of cetaceans and a protection of their habitats,

Recalling the commitment of each Party, under Resolution 5.8 on Rio+20 perspectives for ACCOBAMS, “to base its present and future actions for the implementation of the ACCOBAMS on the spirit and objectives of the document “The Future We Want”,

Recalling Resolution 6.11 on a Strategical Alliance concerning management and conservation measures for the Mediterranean environment, which “*Welcomes* the Joint Cooperation Strategy on Spatial-based protection and Management Measures for Marine Biodiversity, among the Secretariats of ACCOBAMS, GFCM, IUCN-Med, UNEP/MAP through SPA/RAC and in collaboration with MedPAN”,

Recalling Resolution 12.26 of CMS on Improving Ways of addressing Ecological Connectivity in the Conservation of Migratory Species,

Recalling the Sustainable Development Goals (SDG) of the United Nations, in particular SDG 14 relating to sustainable conservation and exploitation of oceans, seas and marine resources for the purpose of sustainable development,

Emphasizing that the vulnerability of cetaceans to growing threats from anthropogenic sources in the ACCOBAMS area, combined to the impacts of climate change, warrants the implementation of specific conservation measures,

Aware that the “ACCOBAMS Survey Initiative”, an unprecedented evaluation, at the Mediterranean and Black Sea scales, of the abundance and distribution of megafauna, has produced a significant overall vision based on robust data,

Stressing, as underlined by Resolution [7.10], that these data represent an unparalleled conservation resource, and should be used in the most efficient way for conservation purposes,

Stressing also the need to fight against marine biodiversity erosion, in particular by achieving a good environmental status of the Mediterranean Sea and the Black Sea in relation with the work undertaken under the Barcelona and the Bucharest Conventions,

Relying in this regard on the full support and co-operation by all ACCOBAMS partners,

1. *Stresses* that ACCOBAMS Parties will:

- a. Cooperate towards intensifying the implementation of Aichi biodiversity targets, especially Targets 6 on fisheries and their adverse impacts on threatened species and vulnerable ecosystems, Target 8 on pollution, Target 11 on conservation of coastal and marine areas through effective area-based conservation measures, and Target 12 on improved and sustained conservation status for threatened species;
- b. Actively participate in the process of developing the post-2020 Global Biodiversity Framework and promote the adoption of ambitious goals, particularly with respect to marine biodiversity issues such as fishing activities and pollution, as well as area-based measures of conservation and ecological connectivity at the national level that will need to be both qualitative and quantitative;
- c. Improve the implementation effectiveness of the Resolutions adopted under ACCOBAMS, in order to mitigate the impact of human activities on cetaceans, in collaboration with relevant regional and national Organizations and entities regulating those activities, and therefore contribute in tackling biodiversity erosion;
- d. Act in support of marine biodiversity conservation by using ACCOBAMS outputs and results, in particular by valorising the first ever overall assessment of the abundance and distribution of the megafauna and floating marine litter in the ACCOBAMS area provided by the “ACCOBAMS Survey Initiative”;
- e. Foster the conducting of periodic regional surveys of the Agreement area using the “ACCOBAMS Survey Initiative” methodology, at least every 6 years, to comply with their duties to monitor the marine environment under the EU Marine Strategy Framework Directive and/or the Ecosystem Approach implemented by the Barcelona and Bucharest Conventions;
- f. Implement effective cetacean conservation measures and to better integrate cetaceans into relevant sectoral policies in order to achieve and maintain a favorable conservation status for cetaceans and protect their habitats, in particular by developing, revising and effectively implementing Conservation Management Plans and/or National Action Plan, including in particular the:
 - monitoring of accidental catch of cetaceans during fisheries activities, through a regionally harmonized approach, and the implementation of appropriate mitigation measures,
 - monitoring of underwater noise, the use of the ACCOBAMS Regional Register for Impulsive Noise and the implementation of the ACCOBAMS Highly Qualified MMO/PAM certification for Marine Mammals Observers and passive acoustic operators, applying Best Available Techniques et Best Environment Practice to reduce, mitigate and avoid marine noise pollution, integrating the issue of anthropogenic noise into the management plans of MPAs, and ensuring that Environmental Assessment takes full account of the effects of anthropogenic noise from activities on cetaceans,
 - monitoring and prevention of risks of ship and cetaceans’ collisions,
 - implementation of a national stranding network using the joint ACCOBAMS/ASCOBANS/IWC/ECS necropsies protocol,

- implementation of good practices for whale-watching activities, in particular the ACCABAMS High Quality Whale Watching® certificate,
 - particular attention given to Cetacean Critical Habitats (CCH), Important Marine Mammal Areas (IMMA), taking into account the information available through the Ecologically or Biologically Significant Areas process (EBSA),
 - declaration of effective area-based management tools for cetaceans such as, Marine Protected Areas (MPAs) and Particularly Sensitive Sea Areas (PSSAs);
2. Ask the Permanent Secretariat to collaborate with other International Organizations, entities and networks dealing with marine biodiversity and related activities, to jointly present commitments at the Conference of the Parties to the Convention on Biological Diversity in December 2020.

TA1- CONCERNING THE AGREEMENT AND ITS MANAGEMENT

1.3 - Monitor the progress in all the sectors of activities of the Agreement and propose the necessary adjustment

Resolution 1.8	Establishment of a triennial national report format for the Agreement on the conservation of cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area
Resolution 3.7	ACCOBAMS online reporting system
Resolution 5.4	ACCOBAMS Follow-up Procedure
Resolution 6.8	Amendments to the Follow-up Procedure
Resolution 6.9	Format for National Implementation Reports
Resolution 8.8	Follow-up Procedure

RESOLUTION 1.8 - Establishment of a Triennial National Report Format for the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area⁷⁴

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

Referring to Article VIII of the Agreement asking Parties to prepare for each ordinary session of the Meeting of the Parties a report on its implementation of the Agreement,

Desiring that ACCOBAMS adopts form of national reporting which are not unnecessarily complex and do not duplicate the data and information gathering already undertaken by other Conventions and related international programs,

Aware of the ongoing efforts under the auspices of UNEP to co-ordinate reporting systems,

Further noting that Article III paragraph 7.f) of the Agreement calls on the Meeting of the Parties at its first session to determine the format of reports,

1. *Adopts* the attached format of national reports;
2. *Stresses* the need to review the implementation of Resolutions of the Meetings of the Parties within their national reports and, for this purpose,
3. *Instructs* the Secretariat, in relation with the Bureau, to amend periodically the national report format;
4. *Recommends* that Parties consult, if appropriate, with relevant non-governmental Organisations and others with technical expertise in the preparation of national reports;
5. *Instructs* the Scientific Committee, the Sub-Regional Co-ordination Units and Agreement Secretariat to liaise actively with related international Conventions, the UNEP/World Conservation Monitoring Centre and other international Organisations concerning all this aspects of the implementation of the Agreement, especially the harmonisation of data and information collection and management, so as to encourage the development of synergies;
6. *Urges* all Parties to prepare national reports and submit them to the Meeting of the Parties at its second session in accordance with the timetable outlined in Article VIII, paragraph b), of the Agreement;
7. *Requests* the Meeting of the Parties, at its second session, to review the national reporting format in the light of experience and, if necessary, recommend changes that may be desirable.

⁷⁴ This Resolution has been amended by Resolution 6.9 (para.8).

ANNEX 1

FORMAT FOR NATIONAL REPORTS OF THE PARTIES TO THE AGREEMENT ON THE CONSERVATION OF CETACEANS OF THE BLACK SEA, MEDITERRANEAN SEA AND THE CONTIGUOUS ATLANTIC AREA

General remarks

In conformity with Article VIII, paragraph b) of the Agreement, the Parties prepare for each of the ordinary sessions of the Meeting of the Parties a report on the implementing of the Agreement. The contents, structure and presentation of the Parties' national reports will be defined at the first session of the Meeting of the Parties. Each Party's first national report is to be provided for the second session of the Meeting of the Parties.

The aim of the present document is to submit to the first session of the Meeting of the Parties (Monaco, from 28 February to 2 March 2002) a suggestion as to content and form for the Parties' national reports¹.

To avoid redundancy and repetition in the successive reports, it is suggested that a content be adopted for the first report submitted by each Party and a more succinct content for following reports.

Moreover, a slightly different content is suggested for reports to be submitted by the Parties that do not border on the area of the Agreement.

This framework does not take into account follow-up of the Resolutions adopted by the Meeting of the Parties. It will be amended in consequence at the end of each Meeting of the Parties by the Office, in cooperation with the Secretariat.

I. Format and deadline for presenting reports

The national report is to be made in English or in French, in triplicate, and accompanied by an electronic version on floppy disk or CD-Rom. It must be submitted to the Secretariat of the Agreement at least one hundred and twenty days before the Meeting of the Parties for which it is destined. States or regional economic integration Organizations which become Parties to the Agreement less than six months before an ordinary session of the Meeting of the Parties will submit their first report at least one hundred and twenty days before the third next ordinary session of the Meeting of the Parties.

II. Method of circulation

National reports will be filed by the Secretariat of the Agreement and will be opened at public consultations at the Secretariat headquarters and at the level of the Sub-regional Coordinating Units. The electronic version of each report received will be immediately available on the Agreement's internet site.

¹ : In the European Commission report only the pertinent headings will be reported on

FORM I
First report of riparian Parties of the Agreement area

1. **Name of Party** ^{2 3};
2. **Date when report finalized;**
3. **Focal Point (full name, organization, function, address, telephone, fax, e-mail);**
4. **Definition of the areas under national jurisdiction included in the Agreement's field of application (over which the Agreement applies);**
5. **Say whether the Party is a member of an organization of economic integration** (as defined in Article I, paragraph h) of the Agreement);
6. **Date when signed, ratified, accepted, approved or joined the ACCOBAMS;**
7. **Date when ratified the amendment** (if amendment there be);
8. **Possible reservations expressed in accordance with Article XV or Article X of the Agreement**⁷⁵;
9. **National authorities, organizations, research centres and rescue centres active in the field of study and conservation of cetaceans;**
10. **Main national legislative and regulatory texts pertinent to cetaceans:**

Title of text	Date when promulgated	Authorities responsible for application

11. **Bilateral or multilateral fishing agreements with regard to the area of the Agreement** (Countries concerned, object, date, entry into force, duration, etc.);
12. **Relevant International Conventions and Agreements to which the country is Party:**

² : In the European Commission report only the pertinent headings will be reported on

³ : Turkey's report will specify, where necessary, actions related to the Mediterranean area and those related to the Black Sea

⁷⁵ : If a reservation was withdrawn, indicate the date of entry into force of the withdrawal of the reservation

	Date of entry into force of the Ratification, Acceptance, Approval or Adhesion
Convention on Biological Diversity (Rio, 1992)	
Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979)	
Convention on the Conservation of European Wildlife and Natural Habitats (Berne, 1979)	
United Nations Convention on the Law of the Sea (Montego Bay, 1982)	
Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Barcelona, 1995)	
Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS)	
Convention on International Trade in Endangered Species of Fauna and Flora (CITES - Washington, 1973)	
International Convention for the Regulation of Whaling (Washington, 1946)	
Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks (1995)	
General Fisheries Commission for the Mediterranean	
La Commission Internationale pour l'Exploration Scientifique de la Méditerranée	

13. Networks set up for monitoring cetacean strandings

(coordinating system, agents, means available, databases, MEDACES data transmission, publishing of results);

14. Emergency plans

(conditions of activating, coordinating system, agents, means available, databases, publishing of results);

15. List of cetaceans reported in the area under the jurisdiction of the country included in the distribution area (as defined in Article I, paragraph 3 f) of the Agreement);

16.

		Common	Rare	Occasional
<i>Balaenoptera acutorostrata</i>	Minke Whale			
<i>Balaenoptera borealis</i>	Rudolph's Whale			
<i>Balaenoptera physalus</i>	Fin Whale			
<i>Delphinus delphis</i>	Common Dolphin			
<i>Eubalaena glacialis</i>	Northern Right Whale			
<i>Globicephala melas</i>	Long-finned Pilot Whale			
<i>Grampus griseus</i>	Risso's Dolphin			
<i>Kogia simus</i>	Dwarf Sperm Whale			
<i>Megaptera novaeangliae</i>	Humpback Whale			
<i>Mesoplodon densirostris</i>	Blainville's Beaked Whale			
<i>Orcinus orca</i>	Killer Whale			
<i>Phocoena phocoena</i>	Harbour Porpoise			
<i>Physeter macrocephalus</i>	Sperm Whale			
<i>Pseudorca crassidens</i>	False Killer Whale			
<i>Stenella caeruleoalba</i>	Striped Dolphin			
<i>Steno bredanensis</i>	Rough-toothed Dolphin			
<i>Tursiops truncatus</i>	Bottlenose Dolphin			
<i>Ziphius cavirostris</i>	Cuvier's Beaked Whale			

16. Information on the national fishing fleet active in the area of the Agreement:

Type of fishing	Number of units
Fishing boats with fixed gillnets	
Fishing boats with spinning seine nets	
Fishing boats with driftnets	
Fishing boats with floating palangre	
Other types of fishery able to interact with cetaceans	

17. Scientific assessment of the state of cetacean conservation in the area under national jurisdiction included in the distribution area (as defined in Article I, paragraph 3 f) of the Agreement);

The assessment must be based on scientific data. Append the list of bibliographical references used.

18. Conservation measures introduced to attain and maintain a state of conservation favourable to cetaceans;

- Measures introduced to eliminate deliberate removal
- Measures introduced to reduce man/cetacean interaction
- Measures introduced to create and maintain a network of specially protected areas to protect cetacean habitats
- Measures related to the reduction of pollution
- Measures introduced to strengthen the national capacities, the institutional framework, the collection and dissemination of information and education
- Other measures

19. Research work done to improve knowledge of the biology and ecology of cetaceans**20. Programmes of continuous monitoring undertaken****21. Measures linked to implementing bilateral or multilateral cooperation programmes****22. Specific information linked to the agenda of the session at which the report is submitted**

FORM II**Reports of riparian Parties of the Agreement area, starting from their second ordinary session of the Meeting of the Parties**

1. **Name of Party**^{76 77}
2. **Period covered by the report**
3. **Date when report finalized**
4. **Focal point (full name, organization, function, address, telephone, fax, e-mail)**
5. **Say whether the Party is a member of an economic integration organization** (as defined in Article I, paragraph h) of the Agreement)
6. **Date when ratified the amendments not notified in the previous report to the Parties** (if amendments there be)
7. **Possible reservations expressed in accordance with Article X or withdrawal**⁷⁸ of reservation; including those of article XV
8. **National authorities, organizations, research centres and rescue centres active in the field of study and conservation of cetaceans**
9. **Main national legislative and regulatory texts pertinent to cetaceans that were promulgated or amended during the period covered by the report:**

Title of text	Date when promulgated	Authorities responsible for application

10. **Bilateral or multilateral fishing agreements with regard to the area of the Agreement**
 - 1) Indicate possible changes happening during the period covered by the report, for the Agreements notified by previous reports;
 - b) New Agreements signed during the period covered by the report (countries concerned, object, date, entry into force, duration, etc.).
11. **Relevant International Conventions and Agreements to which the country is Party:**

⁷⁶ : In the European Commission report only the pertinent headings will be reported on

⁷⁷ : Turkey's report will specify, where necessary, actions related to the Mediterranean area and those related to the Black Sea

⁷⁸ : If a reservation was withdrawn, indicate the date of entry into force of the withdrawal of the reservation

	Date of entry into force of the Ratification, Acceptance, Approval or Adhesion
Convention on Biological Diversity (Rio, 1992)	
Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979)	
Convention on the Conservation of European Wildlife and Natural Habitats (Berne, 1979)	
United Nations Convention on the Law of the Sea (Montego Bay, 1982)	
Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Barcelona, 1995)	
Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS)	
Convention on International Trade in Endangered Species of Fauna and Flora (CITES - Washington, 1973)	
International Convention for the Regulation of Whaling (Washington, 1946)	
Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks (1995)	
General Fisheries Commission for the Mediterranean	
La Commission Internationale pour l'Exploration Scientifique de la Méditerranée	

- 12. Changes happening during the period covered by the report concerning the networks set up for monitoring cetacean strandings**
(coordinating system, agents, means available, databases, MEDACES data transmission, publishing of results)
- 13. Changes happening during the period covered by the report concerning emergency plans**
(conditions of activating, coordinating system, agents, means available, databases, publishing of results)
- 14. Information on the national fishing fleet active in the area of the Agreement:**

Type of fishing	Number of units (date)
Fishing boats with fixed gillnets	
Fishing boats with spinning seine nets	
Fishing boats with driftnets	
Fishing boats with floating palangre	
Other types of fishery able to interact with cetaceans	

- 15. Results, obtained during the period covered by the report, of scientific assessments of the state of cetacean conservation in the area under national jurisdiction included in the distribution area (as defined in Article I, paragraph 3 f) of the Agreement)**

The assessment must be based on scientific data. Append the list of bibliographical references used.

- 16. Measures introduced during the period covered by the report to implement the Conservation Plan:**
- Measures introduced to eliminate deliberate removal
 - Measures introduced to reduce man/cetacean interaction
 - Measures introduced to create and maintain a network of specially protected areas to protect cetacean habitats
 - Measures related to the reduction of pollution
 - Measures introduced to strengthen the national capacities, the institutional framework, the collection and dissemination of information and education
 - Other measures

- 17. Research work done during the period covered by the report to improve knowledge of the biology and ecology of cetaceans**
- 18. Continuous monitoring programmes undertaken during the period covered by the report**
- 19. Measures linked to implementing bilateral or multilateral cooperation programmes**
- 20. Information on possible disagreements arising during the period covered by the report with one or several Parties**
- 21. Possible difficulties encountered for implementing the Agreement;**
- 22. Dispensations allowed in accordance with Article II, paragraph 2 of the Agreement and paragraph 6 of Annex 2**
- 23. Ongoing projects and Funds set aside for conservation and research**
- 24. Main events (meeting, symposium, etc.) organized during the period covered by the report or planned for following years**
- 25. Specific information linked to the agenda of the session at which the report is submitted.**

FORM III
First report of non-riparian Parties of the Agreement area

1. **Name of Party;**
2. **Date when report finalized;**
3. **Focal Point (full name, organization, function, address, telephone, fax, e-mail);**
4. **Sub-region/s concerning the Party;**
5. **Say whether the Party is a member of an economic integration organization (as defined in Article I, paragraph h) of the Agreement);**
6. **Date when signed, ratified, accepted, approved or joined the Agreement;**
7. **Reasons why the Party joined the Agreement;**
8. **Date when ratified the amendments (if amendment there be);**
9. **Possible reservations expressed in accordance with Article XV or Article X of the Agreement⁷⁹;**
10. **National authorities, organizations, research centres and rescue centres active in the field of study and conservation of cetaceans;**
11. **Main national legislative and regulatory texts pertinent for cetaceans:**

Title of text	Date when promulgated	Authorities responsible for application

12. **Bilateral or multilateral fishing agreements with regard to the area of the Agreement (countries concerned, object, date, entry into force, duration etc.);**
13. **Relevant International Conventions and Agreements to which the country is Party:**

	Date of entry into force of the Ratification, Acceptance, Approval or Adhesion
Convention on Biological Diversity (Rio, 1992)	
Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979)	
Convention on the Conservation of European Wildlife and Natural Habitats (Berne, 1979)	
United Nations Convention on the Law of the Sea (Montego Bay, 1982)	

⁷⁹ : If a reservation was withdrawn, indicate the date of entry into force of the withdrawal of the reservation

Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Barcelona, 1995)	
Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS)	
Convention on International Trade in Endangered Species of Fauna and Flora (CITES - Washington, 1973)	
International Convention for the Regulation of Whaling (Washington, 1946)	
Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks (1995)	
General Fisheries Commission for the Mediterranean	
La Commission Internationale pour l'Exploration Scientifique de la Méditerranée	

- 14. Networks set up to monitor cetacean strandings**
(coordinating system, agents, means available, databases, MEDACES data transmission, publishing of results);
- 15. Emergency plans**
(conditions of activating, coordinating system, agents, means available, databases, publishing of results);
- 16. Information on the national fishing fleet active in the area of the Agreement** (indicate the main ports used in the area of the Agreement):

17.

Type of fishing	Number of units (date)
Fishing boats with fixed gillnets	
Fishing boats with spinning seine nets	
Fishing boats with driftnets	
Fishing boats with floating palangre	
Other types of fishery able to interact with cetaceans	

- 17. Conservation measures introduced to attain and maintain a state of conservation favourable to cetaceans:**
- Measures introduced to eliminate deliberate removal
 - Measures introduced to reduce man/cetacean interaction
 - Measures introduced to create and maintain a network of specially protected areas to protect cetacean habitats
 - Measures related to the reduction of pollution
 - Other measures
- 18. Research work done to improve knowledge of the biology and ecology of cetaceans:**
- 19. Measures linked to implementing bilateral or multilateral cooperation programmes concerning the area of the Agreement;**
- 20. Specific information linked to the agenda of the session at which the report is submitted.**

FORM IV**Reports of non-riparian Parties of the Agreement area, starting from their second ordinary session of the Meeting of the Parties**

1. **Name of Party**
2. **Period covered by the report**
3. **Date when report finalized**
4. **Focal Point (full name, organization, function, address, telephone, fax, e-mail)**
5. **Say whether the Party is a member of an economic integration organization (as defined in Article I, paragraph h) of the Agreement)**
6. **Dates of ratification of amendments not notified in the previous report to the Parties (if amendment there be)**
7. **Possible reservations expressed in accordance with Article X or withdrawal⁸⁰ of reservation; including those of article XV**
8. **National authorities, organizations, research centres and rescue centres active in the field of study and conservation of cetaceans**
9. **Main legislative and regulatory texts pertinent to cetaceans promulgated or amended during the period covered by the report:**

Title of text	Date when promulgated	Authorities responsible for application

10. **Bilateral or multilateral fishing agreements with regard to the area of the Agreement:**
 - a) Indicate possible changes happening during the period covered by the report for the Agreements notified by previous reports;
 - 2) New Agreements signed during the period covered by the report (countries concerned, object, date, entry into force, duration, etc.).
11. **Relevant International Conventions and Agreements to which the country is Party:**

⁸⁰ : If a reservation was withdrawn, indicate the date of entry into force of the withdrawal of the reservation

	Date of entry into force of the Ratification, Acceptance, Approval or Adhesion
Convention on Biological Diversity (Rio, 1992)	
Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979)	
Convention on the Conservation of European Wildlife and Natural Habitats (Berne, 1979)	
United Nations Convention on the Law of the Sea (Montego Bay, 1982)	
Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Barcelona, 1995)	
Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS)	
Convention on International Trade in Endangered Species of Fauna and Flora (CITES - Washington, 1973)	
International Convention for the Regulation of Whaling (Washington, 1946)	
Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks (1995)	
General Fisheries Commission for the Mediterranean	
La Commission Internationale pour l'Exploration Scientifique de la Méditerranée	

12. Changes happening during the period covered by the report concerning the networks set up to monitor cetacean strandings

(coordinating system, agents, means available, databases, MEDACES data transmission, publishing of results)

13. Changes happening during the period covered by the report concerning emergency plans

(conditions of activating, coordinating system, agents, means available, databases, publishing of results)

14. Information on the national fishing fleet active in the area of the Agreement (indicate the main ports used in the area of the Agreement):

Type of fishing	Number of units (date)
Fishing boats with fixed gillnets	
Fishing boats with spinning seine nets	
Fishing boats with driftnets	
Fishing boats with floating palangre	
Other types of fishery able to interact with cetaceans	

15. Results, obtained during the period covered by the report, of the scientific assessments of the state of conservation of cetaceans in the area under national jurisdiction included in the distribution area (as defined in Article I, paragraph 3 f) of the Agreement);

The assessment must be based on scientific data. Append the list of bibliographical references used.

16. Measures introduced, during the period covered by the report, to implement the Conservation Plan:

- Measures introduced to eliminate deliberate removal
- Measures introduced to reduce man/cetacean interaction
- Measures introduced to create and maintain specially protected areas to protect cetacean habitats
- Measures related to the reduction of pollution
- Measures introduced to strengthen the national capacities, the institutional framework, the collection and dissemination of information and education
- Other measures

17. Research work done, during the period covered by the report, to improve knowledge of the biology and ecology of cetaceans

18. Continuous monitoring programmes undertaken during the period covered by the report

- 19. Bilateral or multilateral cooperation measures concerning the area of the Agreement**
- 20. Information on possible disagreements arising during the period covered by the report with one or several Parties**
- 21. Possible difficulties encountered for implementing the Agreement**
- 22. Dispensations allowed in accordance with Article 2, paragraph 2 of the Agreement and paragraph 6 of Annex 2**
- 23. Ongoing projects and Funds set aside for conservation and research**
- 24. Main events (meeting, symposium, etc.) organized during the period covered by the report or planned for following years**
- 25. Specific information linked to the agenda of the session at which the report is submitted.**

RESOLUTION 3.7 - ACCOBAMS Online Reporting System⁸¹

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling that Article VIII (paragraph b) of the Agreement invites Parties to prepare for each ordinary session of the Meeting of the Parties a report on implementation of the Agreement,

Recalling also Resolution 1.8 concerning the establishment of a triennial national report format for ACCOBAMS,

Taking note of the ACCOBAMS online reporting system prepared by the Secretariat in accordance with the decision of the Second Meeting of the Parties (points 54 and 55), which invited the Secretariat to develop a system for online national reporting by the Parties and to submit it to the Third Meeting of the Parties,

1. *Instructs* the Secretariat to (i) make the online reporting system available on the ACCOBAMS web site, (ii) ensure its secure functioning and maintenance and (iii) assist ACCOBAMS national Focal Points in using it to submit their national reports;
2. *Invites* all Parties and non-Parties (on a voluntary basis for the latter) to use the online reporting system to submit their national reports;
3. *Invites* the Secretariat to collaborate with the secretariats of the CMS family and of other conventions and agreements under UNEP with the view to harmonizing and streamlining the reporting systems, including by establishing links among online reporting systems, where possible and appropriate;
4. *Invites* the Fourth Meeting of the Parties to evaluate the functioning and user-friendliness of the online reporting system in the light of experience and, if necessary, recommend any necessary changes.

⁸¹ This Resolution has been amended by Resolution 6.9 (para.8).

RESOLUTION 5.4 - ACCOBAMS Follow-Up Procedure⁸²

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article III, paragraph 8 c), of the Agreement,

Determined to facilitate, promote and improve follow-up of the Agreement through non-confrontational means for preventing and settling disputes,

Conscious that to this end, follow up procedures have been established within the framework of a number of treaties on the protection of the environment, having a world or a regional basis,

Recognizing the need for the establishment of a specific Follow up Procedure under the Agreement, where a role is given not only to the Parties, but also to the Secretariat and the organizations and institutions having the status of ACCOBAMS Partner,

Stressing that this Follow up Procedure is to be considered as a means for preventing disputes and for facilitating the implementation of the Agreement,

Noting with the appreciation the work accomplished by the Bureau in this regard,

1. *Decides* to establish a Follow up Procedure with the aim to facilitate, promote and improve the follow up with the Agreement on the basis of the Rules constituted the Annex 1 of this Resolution;
2. *Decides* to proceed to the first election of the members of the Follow up Committee at the same Meeting of the Parties when this Resolution is adopted, as provided for in Article 3, paragraph 9, of the Follow up Procedure;
3. *Approves* the submissions form (Annex 2 of this Resolution);
4. *Encourages* the Parties, the Secretariat and the ACCOBAMS Partners to make use of the Follow up Procedure as a non-confrontational means for preventing and settling disputes.

⁸² This Resolution has been amended by Resolution 6.8 (para.6).

RESOLUTION 6.8 - Amendments to the Follow-Up Procedure

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article III, paragraph 8 c), of the Agreement and Resolution 5.4 on the establishment of the ACCOBAMS Follow-up Procedure,

Stressing that this Follow-up Procedure is to be considered as a means for preventing disputes and for facilitating the implementation of the Agreement,

Noting with appreciation the work accomplished by the Follow-up Committee during the triennium 2014-2016,

Desirous to improve and facilitate the functioning of the ACCOBAMS Follow-up Procedure,

1. *Decides* to amend in the following way Annex 1 (Rules on the ACCOBAMS Follow-up Procedure) to Resolution 5.4:

a) Article 3, paragraph 2, shall read as follows:

“The Committee shall consist of five members and two alternate members elected during the Meetings of the Parties. Three of the members and one alternate member shall be elected by secret ballots by Parties from a list of candidates nominated, one by each Party. Two of the Members and one alternate member shall be elected by secret ballots by the organizations and institutions having the status of ACCOBAMS Partner (hereinafter referred to as “ACCOBAMS Partners”) from a list of candidates nominated one by each of them. The alternate members are the candidates who immediately follow for the number of votes received the members elected by the Parties and the members elected by the ACCOBAMS Partners.”;

b) Article 3, paragraph 3, shall read as follows:

“The alternate member elected by the Parties shall serve in the absence of a Committee member elected by the Parties. The alternate member elected by the ACCOBAMS Partners shall serve in the absence of a Committee member elected by the ACCOBAMS Partners.”;

c) The first sentence of Article 4, paragraph 2, shall read as follows:

“The Committee shall meet at least once every three years.

Depending on the workload, the Committee may decide to hold additional meetings, in particular in conjunction with other bodies established by the Agreement”;

d) Article 4, paragraph 4, shall read as follows:

“The Committee meetings shall be open, as observers, to ACCOBAMS Parties, to one member of the Scientific Committee, as nominated by it, and, unless the Party whose follow up is in question requests otherwise, to ACCOBAMS Partners.”;

e) Article 6, paragraph 1,c shall read as follows:

“ensure the follow-up of its recommendations and of the relevant decisions of the Meeting of the Parties and report the results to the latter, based on the synthesis of the Parties implementation reports and other relevant information”;

2. *Approves* the amended text of the Rules on the ACCOBAMS Follow-up Procedure, as annexed to this Resolution (amendments in bold);
3. *Approves* the submissions form as annexed to this Resolution;
4. *Encourages* the Parties, the Permanent Secretariat and the ACCOBAMS Partners to make use of the Follow-up Procedure as a non-confrontational means for preventing and settling disputes;
5. *Encourages* the Committee to make use of provisions of Article 4, paragraph 7 on the Rules on the ACCOBAMS Follow up Procedure;
6. *Decides* that the present Resolution amends the Resolution 5.4.

ANNEX 1 - RULES ON THE ACCOBAMS FOLLOW-UP PROCEDURE

Article 1 - Legal Basis

The following Follow-up Procedure (hereinafter referred to as “the Procedure”) is based on Article III, paragraph 8 c), of the Agreement.

Article 2 - Objectives and Nature of the Procedure

1. The objective of the Procedure is to monitor, facilitate and promote follow-up with the provisions of the Agreement, taking into account the specific situation of each Party and with a view to preventing disputes. The Procedure shall complement the work performed by other bodies of the Agreement.
2. The Procedure shall be carried out in a simple, flexible, expeditious, fair, transparent, cost-effective and non-confrontational way.

Article 3 - Structure and Election of the Follow-up Committee

1. A Follow-up Committee (hereinafter referred to as “the Committee”) is hereby established.
2. The Committee shall consist of five members and **two alternate members** elected during the Meetings of the Parties. Three of the members **and one alternate member** shall be elected by secret ballots by Parties from a list of candidates nominated, one by each Party. Two of the Members **and one alternate member** shall be elected by secret ballots by the organizations and institutions having the status of ACCOBAMS Partner (hereinafter referred to as “ACCOBAMS Partners”) from a list of candidates nominated one by each of them. **The alternate members are the candidates who immediately follow for the number of votes received the members elected by the Parties and the members elected by the ACCOBAMS Partners.**
3. **The alternate member elected by the Parties shall serve in the absence of a Committee member elected by the Parties. The alternate member elected by the ACCOBAMS Partners shall serve in the absence of a Committee member elected by the ACCOBAMS Partners.**
4. The full term of office of the Committee members commences at the end of an ordinary Meeting of the Parties and runs until the end of the second ordinary Meeting of the Parties thereafter.
5. At the time of the first election, the term of office of two Committee members elected by the Parties and of one Committee member elected by the ACCOBAMS Partners shall be limited to the period between the end of this ordinary Meeting of the Parties and the end of the subsequent one. The Committee members in question shall be drawn by lots.
6. The Committee members elected by the Parties shall not include more than one national of the same Party.
7. Nominated candidates shall be persons of high moral character and shall have recognized competence in the fields dealt with by the Agreement, including legal matters. In the election of the Committee members, consideration shall be given to the diversity of experiences and competences and to the equitable geographical and gender distribution of membership. Members of the Bureau cannot be members of the Committee at the same time.
8. The procedure for the nomination of candidates for the Committee shall be the following:
 - a) nominations shall be sent to the Secretariat of the Agreement not later than twelve weeks before the opening of the Meeting of the Parties during which the election is to take place;

- b) each nomination shall be accompanied by a *curriculum vitae* of the candidate in at least one of the official working languages of the Agreement;
- c) the Secretariat shall distribute the nominations and the *curricula vitae*.

9. In derogation to paragraph 8 above, the first election of the members of the Committee can take place at the Meeting of the Parties when the Resolution on the ACCOBAMS Follow-up Procedure is adopted, on the basis of nominations and *curricula vitae* previously submitted by the Parties and the ACCOBAMS Partners on request by the Bureau.

10. The Committee members shall not serve for more than two consecutive terms.

11. The Committee members and their alternates shall serve in their personal capacity and shall act objectively in the best interest of the Agreement. Every Committee member shall, before taking up his or her duties, make a solemn declaration that he or she will perform his or her functions impartially and conscientiously.

12. The Committee shall elect its own President and Vice-President. The Vice-President shall, in addition, serve as the *rapporteur* of the Committee.

Article 4 - Meetings of the Committee

1. The quorum of the Committee shall consist of three members, including at least two members elected by the Parties.

2. The Committee shall meet at least once every three years.

Depending on the workload, the Committee may decide to hold additional meetings, in particular in conjunction with other bodies established by the Agreement;

3. The Secretariat shall arrange for and service the meetings of the Committee.

4. The Committee meetings shall be open, as observers, to ACCOBAMS Parties, **to one member of the Scientific Committee, as nominated by it**, and, unless the Party whose follow-up is in question requests otherwise, to ACCOBAMS Partners.

5. The Party whose follow-up is in question shall participate in the consideration of the submission by the Committee and shall have the opportunity to present its views and any relevant information, expert advice and document.

6. The Party whose follow-up is in question, other Parties and ACCOBAMS Partners shall not take part in the elaboration and adoption of the related Committee recommendation, nor shall they be involved in the adoption of the report of the Committee.

7. Without prejudice to the previous paragraphs, the Committee may, in appropriate circumstances, undertake some of its activities through electronic communications.

Article 5 - Adoption of Recommendations and Reports

1. The Committee shall make every effort to adopt its recommendations and reports by consensus. If all efforts to reach a *consensus* have been exhausted and no recommendation or report has been adopted, they shall be taken by a majority of the members present and voting.

2. Any Committee member or alternate member shall, with respect to any matter that is under consideration by the Committee, avoid direct or indirect conflict of interest. When a member finds himself or herself faced with a direct or indirect conflict of interest, that member shall bring the issue to the attention of the Committee before consideration

of the matter. If the majority of the other Committee members find that the conflict occurs, the concerned member shall not participate in the elaboration and adoption of a recommendation or report of the Committee in relation to that matter.

3. Any Committee member can attach his or her dissenting or separate opinion to the relevant recommendation or report.

Article 6 - Functions of the Committee

1. The Committee shall

- a) consider any submission made in accordance with Articles 7 to 9 below, with a view to determining the facts and causes of the matter of follow-up and assisting the Party concerned in its resolution;
- b) adopt recommendations that it considers appropriate to resolve such a follow-up issue;
- c) ensure the follow-up of its recommendations and of the relevant decisions of the Meeting of the Parties and report the results to the latter, based on the synthesis of the Parties implementation reports and other relevant information;
- d) at the request of the Meeting of the Parties, review general issues of implementation and follow-up under the Agreement and prepare a report, including relevant recommendations on them, to be presented at the Meeting of the Parties;
- e) report on its activities at each ordinary Meeting of the Parties and make recommendations as it considers appropriate.

2. The Committee's recommendations shall include motivations and, wherever appropriate to assist the Party concerned to implement the Agreement, legal and technical advice on the required measures, strategies and time schedules.

3.

3. Recommendations and reports shall be finalized by the Committee not later than twelve weeks in advance of the Meeting of the Parties at which they are to be considered.

4. The Committee, through the Secretariat, shall notify the Party concerned in writing of its recommendations. The Party concerned shall be given the opportunity to comment in writing on the recommendations.

Article 7 - Submissions by Parties

1. A submission may be brought before the Committee by one or more Parties that have reservations about another Party's follow-up with its obligations under the Agreement.

2. A submission made under paragraph 1 above shall be addressed in writing to the Secretariat and shall be supported by corroborating information. The Secretariat shall, within one week of receiving a submission, send a copy of it to the Party whose follow-up is in question. Any reply and supporting information shall be submitted to the Secretariat and to the Parties involved within three months or such longer period as the circumstances of a particular case may require, but in no case later than six months. The Secretariat shall transmit the submission and the reply, as well as all corroborating information, to the Committee, which shall consider the matter as soon as practicable.

3. A submission may be brought before the Committee by a Party that concludes that, despite its best efforts, it is or will be unable to comply fully with its obligations under the Agreement.

4. A submission made under paragraph 3 above shall be addressed in writing to the Secretariat and shall explain the specific circumstances that the Party considers to be the cause of its non-follow-up. The Secretariat shall transmit the submission and the supporting information to the Committee, which shall consider the matter as soon as practicable.

5. The Committee may decide not to proceed with a submission which it considers is:

- a) an abuse of the right to make such submission; or
- b) manifestly ill-founded or unreasonable; or
- c) incompatible with the provisions of the Agreement or this Procedure.

Article 8 - Submissions by the Secretariat

1. Where the Secretariat, also on request by the Scientific Committee, becomes aware of possible non-follow-up by a Party with its obligations under the Agreement, it may request the Party concerned to furnish necessary information about the matter.

2. If there is no response or the matter is not resolved within three months, or such longer period as the circumstances of the matter may require, but in no case later than six months, the Secretariat shall bring the matter to the attention of the Committee, which shall consider it as soon as practicable. The Secretariat shall immediately inform the Party concerned of its submission.

Article 9 - Submissions by ACCOBAMS Partners

1. A submission may be brought before the Committee by one or more ACCOBAMS Partners that have reservations about a Party's follow-up with its obligations under the Agreement.

2. A submission made under paragraph 1 above shall be addressed in writing to the Secretariat and shall be supported by corroborating information. The Secretariat shall, within one week of receiving a submission, send a copy of it to the Party whose follow-up is in question. Any reply and supporting information shall be submitted to the Secretariat and to the Parties involved within three months or such longer period as the circumstances of a particular case may require, but in no case later than six months. The Secretariat shall transmit the submission and the reply, as well as all corroborating information, to the Committee, which shall consider the matter as soon as practicable.

3. The Committee may decide not to proceed with a submission which it considers is:

- a) an abuse of the right to make such submission; or
- b) manifestly ill-founded or unreasonable; or
- c) incompatible with the provisions of the Agreement or this Procedure.

Article 10 - Procedure before the Committee

In carrying out its functions, the Committee may:

- a) consider any relevant information submitted to it by the Party whose follow-up is in question, by other ACCOBAMS Parties, by the Secretariat or by ACCOBAMS Partners;
- b) request further information from any sources and draw upon outside expertise, as it considers necessary and appropriate;
- c) undertake, with the agreement of the Party concerned, information gathering in the territory of one Party;
- d) consult with other Agreement bodies and in particular with the Scientific Committee;
- e) request information from any Parties, through the Secretariat, on the general issues of implementation and follow-up under its consideration.

Article 11 - Confidentiality

The procedure before the Committee and the documents examined by the Committee are confidential, unless the Party concerned agrees to their publicity.

Article 12 - Consideration by the Meeting of the Parties

1. The Meeting of the Parties may decide, upon consideration of recommendations of the Committee and taking in account the capacity of the Party concerned and factors such as the cause, type, degree and frequency of non-follow-up, to:
 - a) endorse the measures recommended by the Committee;
 - b) take any other non-confrontational action it deems appropriate.
2. The Meeting of the Parties' decisions under paragraph 1 above also include motivations.
3. The Meeting of the Parties, through the Secretariat, shall notify the Party concerned in writing of its decisions.

Article 13 - Relationship between settlement of disputes and the Follow-up Procedure

The present Follow-up Procedure shall be without prejudice to Article XII of the Agreement on the settlement of disputes.

Article 14 - Enhancement of Cooperation

In order to enhance cooperation between this and other Follow-up Procedures adopted under other treaties, the Meeting of the Parties may request the Committee to communicate, as appropriate, with the relevant bodies of those treaties and report back to it with any relevant recommendation.

ANNEX 2 - SUBMISSIONS FORM**1. Name of the submitting Party or Organization / institution having the status of ACCOBAMS Partner:**

(If the submission is presented by the Secretariat, indicate "Secretariat")

2. Contact person:

(Person who has the capacity to represent the submitting Party or organization / institution having the status of ACCOBAMS Partner. If the submission is presented by the Secretariat, this information is not necessary)

- Name and position:
- Address for correspondence:
- Tel.:
- E-mail:

3. Name of the Party concerned by the submission:**4. Relevant provision(s) of the Agreement concerned by the alleged non-follow-up situation:**

(List as precisely as possible the provisions of the Agreement that the Party concerned is alleged not to follow-up)

5. Statement identifying the question of non-follow-up:

(Include all matters of relevance to the assessment and consideration of the submission. When a submission is made by a Party regarding its own non-follow-up, it has to provide the specific circumstances that it considers to be the cause of its situation)

6. Information supporting the submission:

(Relevant national legislation, national decisions, results of other procedures, etc. Indicate if any other domestic or international procedures have been undertaken to address the issue of non-follow-up which is the subject of the communication)

7. Any other information (existence of an environmental impact assessment (EIA), size of projects, maps of the area, etc.)**8. List of the documents annexed to the submission:**

(Only copies are accepted)

Date:**Signature:**

(of the person specified under No. 2 or, in case of a submission by the Secretariat, of the ACCOBAMS Executive Secretary)

This form has to be sent to the ACCOBAMS Follow-up Committee through the Secretariat at the following address:

ACCOBAMS Executive Secretary
 Jardin de l'UNESCO
 Les Terrasses de Fontvieille
 98000 Monaco (Principality of Monaco)
 Fax : +377 98 98 42 08
 E-mail : follow@accobams.net

RESOLUTION 6.9 - Format for National Implementation Reports

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

Referring to Article VIII of the Agreement establishing the need to report regularly on the national implementation of the Agreement,

Considering that these reports should primarily focus on the obligations as defined in the Agreement itself,

Recognizing that a follow up of the implementation of Resolutions and Recommendations is part of the execution of the Agreement and has to be included in the national reports,

Considering that national reports should also deal with the constraints and difficulties encountered in the implementation of the Agreement,

Also recognizing that information provided in the national reports will be necessary to determine whether ACCOBAMS is meeting its objectives,

Taking into account the functioning and user-friendliness of the online reporting system,

Recalling Resolution 3.7, inviting the Permanent Secretariat to liaise regularly with other relevant intergovernmental bodies in order to harmonize data and information collection and management,

Conscious that the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS) and the Parties to the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS) are also revising their national reporting formats, and *recalling* related decisions, in particular CMS Resolution 11.2 on the Strategic Plan for Migratory Species 2015-2023, and ASCOBANS Resolution 8.1 on National Reporting,

Recalling also Resolution 4.6 on the format for national implementation reports and the annexed Proposed Format for the On-line Reporting to ACCOBAMS,

Recalling that the Monitoring of the long-term Strategy (Resolution 5.1) implementation progress will include regular monitoring of operational work programmes and resolutions implementation,

Recalling the recommendation by the First Meeting of the ACCOBAMS Follow up Committee to include in the National Report all the “general issues of implementation and follow-up” on which the Meeting of the Parties could request a report to be prepared by the Follow up Committee,

Desirous to further improve the functioning of the online reporting system by establishing a more flexible mechanism for gathering information,

1. *Requests* the Permanent Secretariat, in collaboration with the Scientific Committee, to complement the current On-line Reporting format with relevant elements, based on the priorities of the ACCOBAMS Work Programme for 2017-2019 and to present this amended format to the next Meeting of the ACCOBAMS Bureau, for approval;
2. *Decides* that, whenever appropriate, modifications to the Format for the On-line Reporting to ACCOBAMS shall be made by the Permanent Secretariat, in consultation with the Scientific Committee and after approval by the Bureau;
3. *Urges* Parties to regularly update on-line the information provided as soon as it is appropriate to do so and preferably every year;
4. *Invites* Parties to regularly report to each Meeting of the Parties on the results and possible improvements of the on-line reporting system;
5. *Recommends* that the Parties improve, on this matter, coordination between their ACCOBAMS National Focal Points and the Focal Points responsible for reporting to the Organizations listed in the Agreement preamble¹;
6. *Asks* the Permanent Secretariat to invite non-Parties within the Agreement area to report on a voluntary basis using the on-line format for implementation reports;
7. *Encourages* the Permanent Secretariat to exchange views with these relevant Organizations on the manner to ease reporting burdens by Parties;
8. *Decides* that the present Resolution amends Resolutions 1.8 and 3.7 and replaces Resolution 4.6.

¹ The International Convention for the Regulation of Whaling, 1946; the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, 1976, its related protocols and the Action Plan for the Conservation of Cetaceans in the Mediterranean Sea adopted under its auspices in 1991; the Convention on the Conservation of European Wildlife and Natural Habitats, 1979; the United Nations Convention on the Law of the Sea, 1982; the Convention on Biological Diversity, 1992; the Convention for the Protection of the Black Sea against Pollution, 1992; and the Global Plan of Action for the Conservation, Management and Utilization of Marine Mammals of the United Nations Environment Programme, adopted in 1984; as well as initiatives of *inter alia* the General Fisheries Commission for Mediterranean, the International Commission for Scientific Exploration of the Mediterranean, and the International Commission for the Conservation of Atlantic Tunas.

RESOLUTION 8.8 - Follow-up Procedure

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Having examined the report of the third meeting of the ACCOBAMS Follow-up Committee,

1. *Endorses* the conclusions issued by the Meeting of the Follow-up Committee (online, 29-30 March 2022) on the follow up of existing obligations and commitments related to (i) seismic activities in the ACCOBAMS Area (ii) military activities producing underwater noise in the ACCOBAMS Area, and (iii) interactions between humans and dolphins addressed by Resolution 3.13 (dolphin interaction programme);
2. *Adopts* the following Resolutions:

RESOLUTION 8.8.A**DECISIONS ON THE RECOMMENDATIONS BY THE FOLLOW-UP COMMITTEE ON SUBMISSIONS**

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Acting upon recommendation FC3.1 of the Follow-up Committee,

Considering that, according to Art. 12, para. 1, of the Rules on the ACCOBAMS Follow-up Procedure, “the Meeting of the Parties may decide, upon consideration of recommendations of the Committee and taking in account the capacity of the Party concerned and factors such as the cause, type, degree and frequency of non-follow-up, to: a) endorse the measures recommended by the Committee; b) take any other non-confrontational action it deems appropriate”,

Convinced that it is appropriate to ensure visibility to the recommendations of the Follow-up Committee on submissions to the follow-up procedure and to the relevant decisions by the Meeting of the Parties,

1. *Decides* that the Meeting of the Parties shall take its decisions on the recommendations by the Follow-up Committee relating to submissions to the follow-up procedure in the form of *ad hoc* Resolutions.

RESOLUTION 8.8.B
FOLLOW-UP SUBMISSION BY OCEAN CARE ON THE ASSESSMENT AND CONTROL
BY GREECE OF MILITARY ACTIVITIES AROUND SOUTH-EAST CRETE

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Acting upon recommendation FC3.2 of the Follow-up Committee,

Having examined the considerations and recommendations of the Follow-up Committee, as recorded in the reports of its second and third meetings,

Basing itself on the motivations stated in the above-mentioned reports,

Considering that the 7th Meeting of the Parties “endorsed the measures recommended by the Follow-up Committee” (para. 64 of the report of the 7th Meeting of the Parties),

Considering that the Party concerned did not provide the requested information to the ACCOBAMS Secretariat and recalling that the follow-up procedure is a non-confrontational procedure that requires the co-operation of the ACCOBAMS Parties,

1. *Finds* that:

- the second part of the submission is not admissible and not founded;
- the first part of the submission is admissible;
- it is likely that the atypical mass stranding of beaked whales brought to its attention through this submission was the result of the military exercises taking place from 31 March to 10 April 2014, in which the Party concerned was also involved;

2. *Invites*:

- the Party concerned to pursue all efforts to be in line with the ACCOBAMS resolutions addressing the impact of anthropogenic noise on cetaceans, such as Resolution 4.17, commending the Party concerned for what is being done in this direction;
- the Party concerned to provide information to the ACCOBAMS Secretariat about how, since 2014, the Guidelines annexed to Resolution 4.17 and the Guidelines annexed to Resolution 7.13, which in 2019 replaced the previous ones, have been implemented;
- the Secretariat to share the information received from the Party concerned with the Scientific Committee;

3. *Requests*:

- the Follow-up Committee to remain seized of the submission;
- the Secretariat to transmit this Resolution to the Party and the Partner concerned.

RESOLUTION 8.8.C**FOLLOW-UP SUBMISSION BY OCEAN CARE ON THE ASSESSMENT AND CONTROL BY SPAIN OF PETROLEUM EXPLORATION ACTIVITIES AROUND THE BALEARIC ISLANDS**

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Acting upon recommendation FC3.3 of the Follow-up Committee,

Having examined the considerations and recommendations of the Follow-up Committee, as recorded in the reports of its second and third meetings,

Basing itself on the motivations stated in the above-mentioned reports,

Considering that the 7th Meeting of the Parties “endorsed the measures recommended by the Follow-up Committee” (para. 64 of the report of the 7th Meeting of the Parties),

Bearing in mind that the 7th Meeting of the parties adopted Resolution 7.13 on noise, which “strongly encourages Parties to contribute to the ACCOBAMS register for impulsive noise sources, especially by sharing their data” and “calls the Parties for the development of a co-operation mechanism to identify the source of long-distance underwater noise in order to address its long-distance effects”,

1. *Finds* that there is no evidence that the authorities of the State concerned either authorized noise producing activities from July 2012 to July 2013, or were negligent in controlling what was taking place in the waters or seabed subject to the Spanish jurisdiction;
2. *Declares* the follow-up procedure closed as regards the implication of Spain;
3. *Requests* the Follow-up Committee to ensure the follow-up of Resolution 7.13, in so far as it “strongly encourages Parties to contribute to the ACCOBAMS register for impulsive noise sources, especially by sharing their data” and “calls the Parties for the development of a co-operation mechanism to identify the source of long-distance underwater noise in order to address its long-distance effects”;
4. *Stresses* the importance of monitoring impulsive noise sources and the need for awareness and workshops in this regard at the national and regional level, in light of Scientific Committee recommendation 14.6 on noise;
5. *Requests* the Secretariat to transmit this Resolution to the Party and the Partner concerned.

RESOLUTION 8.8.D**FOLLOW-UP SUBMISSION BY OCEAN CARE ON THE ASSESSMENT AND CONTROL BY PORTUGAL OF PETROLEUM EXPLORATION ACTIVITIES IN THE ALGARVE AND ALENTEJO BASINS**

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Acting upon recommendation FC3.4 of the Follow-up Committee,

Having examined the considerations and recommendations of the Follow-up Committee, as recorded in the reports of its second and third meetings,

Basing itself on the motivations stated in the above-mentioned reports,

Considering that the 7th Meeting of the Parties “endorsed the measures recommended by the Follow-up Committee” (para. 64 of the report of the 7th Meeting of the Parties),

Taking note that a written reply was provided by Portugal through a letter sent on 31 October 2019,

Taking also note that a statement by Ocean Care was forwarded to the Follow-up Committee,

1. *Recalls* that ACCOBAMS Parties are bound, *inter alia*, to apply the precautionary principle (Art. II, para. 4. ACCOBAMS) and to require impact assessments for allowing or prohibiting activities that may affect cetaceans or their habitat, such as offshore exploration and exploitation (see ACCOBAMS Annex 2, para. 1, c), and that, to address the concern of underwater noise, the ACCOBAMS Parties adopted Resolution 4.17, which includes a set of “Guidelines to address the impact of anthropogenic noise on cetaceans in the ACCOBAMS Area”, replaced by Resolution 7.13, which sets “Guidelines to address the impact of anthropogenic noise on cetaceans in the ACCOBAMS Area”;
2. *Takes note* that, after the presentation of the submission, the Portuguese legislation on petroleum exploration and exploitation activities has been strengthened and improved under the environment point of view, so to ensure an approach guided by the precautionary principle and that today all activities of petroleum exploration and exploitation fall under the environmental impact assessment regime, according to the characteristics of the project and its location;
3. *Takes also note* that, under the new legislation published in Portugal in 2021 (Law No. 98/2021), the granting of new concessions for the prospection or exploration of hydrocarbons within the national territory is prohibited;
4. *Believes* that useful guidance in addressing problems in petroleum exploration and exploitation activities can also be found in the Follow-up Committee’s recommendation related to seismic activities in the ACCOBAMS Area, approved at the Third Meeting of the Follow-up Committee;

5. *Appreciates* the statement by the Party concerned that it is deeply committed to the protection and safeguarding of sea life, specifically cetaceans, in full respect of ACCOBAMS;
6. *Declares* the follow-up procedure closed;
7. *Requests* the Secretariat to transmit this Resolution to the Party and the Partner concerned.

RESOLUTION 8.8.E**FOLLOW-UP SUBMISSION BY OCEAN CARE ON THE FAILURE BY ALBANIA, ALGERIA, CROATIA, CYPRUS, EGYPT, FRANCE, GREECE, ITALY, LEBANON, LIBYA, MALTA, MONACO, MONTENEGRO, MOROCCO, SLOVENIA, SPAIN, SYRIA AND TUNISIA TO IMPLEMENT THE ACCOBAMS CONSERVATION PLAN FOR MEDITERRANEAN COMMON DOLPHINS**

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Acting upon recommendation FC3.5 of the Follow-up Committee,

Having examined the considerations and recommendations of the Follow-up Committee, as recorded in the reports of its second and third meetings,

Basing itself on the motivations stated in the above-mentioned reports,

Considering that the 7th Meeting of the Parties “endorsed the measures recommended by the Follow-up Committee” (para. 64 of the report of the 7th Meeting of the Parties),

Considering that written replies were provided by Morocco, Spain and Malta,

Taking note that during the 7th Meeting of the Parties Albania, Algeria, Egypt, France, Lebanon, Malta and Morocco made remarks regarding the modalities and the difficulties in ensuring the implementation of the Conservation Plan for short-beaked common dolphins in the Mediterranean Sea,

Aware that fifteen Parties concerned have not provided to the Follow-up Committee information on the issue raised in the submission and recalling that the follow-up procedure is a non-confrontational procedure that requires the co-operation by the ACCOBAMS Parties,

1. *Recalls* that ACCOBAMS Parties are bound, inter alia, to apply Resolution 4.13, which stresses that the implementation of the Conservation Plan for short-beaked common dolphins in the Mediterranean Sea is a high priority in the region;
2. *Regrets* that it now appears that the Conservation Plan for short-beaked common dolphins in the Mediterranean Sea, as welcomed by Resolution 2.20 and recalled by Resolution 4.13, has not yet been fully implemented;
3. *Is confident* that the forthcoming Conservation Management Plan for *Delphinus delphis* which is now under elaboration by the Scientific Committee, will address the encountered difficulties in a satisfactory way;
4. *Considers* that there is an urgent need to have a Conservation Management Plan in place for the Mediterranean area and to have it implemented at national and transboundary level, as evidenced by the recent (December 2021)

IUCN Red List assessment of the Inner Mediterranean subpopulation of common dolphins as Endangered, and of the Gulf of Corinth subpopulation as Critically Endangered;

5. *Stresses* that the proper implementation of Conservation Management Plans is critical to ensure the credibility of the ACCOBAMS mandate as an effective intergovernmental agreement of regional cooperation;
6. *Invites*:
 - the fifteen Parties concerned, namely Albania, Algeria, Croatia, Cyprus, Egypt, France, Greece, Italy, Lebanon, Libya, Monaco, Montenegro, Slovenia, Syria and Tunisia, to provide information to the Follow-up Committee, through ACCOBAMS Secretariat, on specific measures taken for the implementation of the Conservation Plan for short-beaked common dolphins in the Mediterranean Sea, or any other measures considered relevant for their protection;
 - the Secretariat to share the information received from Parties with the Scientific Committee;
7. *Reserves* to take further decisions on the replies submitted, at a later stage, when more national replies will be collected;
8. *Requests*:
 - the Follow-up Committee to remain seized of the submission;
 - the Secretariat to transmit this Resolution to the Party and the Partner concerned.

TA2- CONCERNING THE FUNDING

2.1 - Develop, implement and review as needed a funding strategy, for the management of the agreement, for enhancement the communication and awareness, for the improvement of knowledge, for the development of conservation activities and for the upgrade of local, national and regional capacities

- Resolution 1.7 Establishment of a Supplementary Conservation Grants Fund
- Resolution 7.5 ACCOBAMS Funding Strategy
- Resolution 8.4 Procedure for projects submitted for institutional support
- Resolution 8.5 Procedure for the ACCOBAMS call for proposals for projects to be funded under the Supplementary Conservation Grants Fund

RESOLUTION 1.7 - Establishment of a Supplementary Conservation Grants Fund

The Meeting of the Parties to the Agreement on the Conservation on Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area:

Aware that, in some countries, the basic implementation of the Agreement will be severely constrained by the lack of adequate financial resources,

Taking into account that Article IX, paragraph 3, of the Agreement authorises the Meeting of the Parties "to establish a supplementary conservation Fund from voluntary contributions of Parties or from any other source in order to increase the funds available for monitoring, research, training and projects relating to the conservation of Cetaceans",

Recalling that Article IX, paragraph 4, of the Agreement encourages Parties to provide *inter alia* financial support to other Parties on a multilateral and bilateral basis to assist them in implementing the Agreement,

1. *Decides* to establish a Supplementary Conservation Grants Fund (the Fund) to facilitate the implementation of the Agreement and the international priorities adopted by the Parties, to become operational from the time of the second session of the Meeting of the Parties;
2. *Instructs* the Agreement Secretariat, to submit to the second session of the Meeting of the Parties proposals for the operation of the Fund, including administration, eligibility criteria, submission and evaluation of proposals, allocation of funds and fund-raising;
3. *Further instructs* the Agreement Secretariat to establish an interim mechanism to enable Parties and other donors to make voluntary contributions for the purpose of providing grants to facilitate the implementation of the Agreement between the first and second session of the Meeting of the Parties;
4. *Urges* Parties and donors to make voluntary contributions to this Fund;
5. *Decides* that the contribution should be accepted following the guidelines adopted with the financial matters;
6. *Instructs* the Secretariat, with the assistance of the Scientific Committee and the Sub-Regional Co-ordination Units to consult with Parties and potential sponsors concerning sponsorship.

RESOLUTION 7.5 - ACCOBAMS Funding Strategy

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Resolution 5.1 adopted at the Fifth Meeting of the Parties to ACCOBAMS (Tangier, Morocco, 5-8 November 2013) on the 2014-2025 ACCOBAMS Strategy, in particular its specific objective to “Ensure adequate funding, in particular for conservation activities”,

Concerned that the lack of sufficient financial resources is one of the main obstacles to achieving the goals and objectives of ACCOBAMS, in particular in developing countries and countries with economies in transition,

Recognizing the successful efforts of the Permanent Secretariat to secure funding and mobilize additional resources for the adequate fulfilment of the ACCOBAMS Strategy and related Programmes of Work and *acknowledging* with appreciation the financial supports provided by Parties, Partners and other donors,

Stressing that the implementation of the ACCOBAMS Funding Strategy requires effective involvement and coordination of all ACCOBAMS bodies,

Recognizing that resource mobilization also requires well-structured and continuous work on communication issues, in order to raise interest in the work and role of ACCOBAMS and to ensure awareness on the impacts of the activities implemented by ACCOBAMS,

1. *Adopts* the ACCOBAMS Funding Strategy, contained in the Annex to the present Resolution;
2. *Requests* the Parties and the Permanent Secretariat to implement the ACCOBAMS Funding Strategy, in connection with Resolution 7.4 on the ACCOBAMS Strategy, in order to contribute to ensure adequate funding of the activities;
3. *Requests* the Permanent Secretariat to report on progress on this Funding Strategy to the Meeting of the Parties;
4. *Calls upon* Parties, Partners and supporting Organizations to support the implementation of the Funding Strategy, including through innovative ways, in order to ensure adequate financial resources for the implementation of conservation actions as per the ACCOBAMS Strategy and related 3-year Programme of Work;
5. *Invites* Parties to inform the Meeting of the Parties about the potential allocation of voluntary contributions for the next triennium period, in order to facilitate the planning and prioritization of conservation actions;
6. *Strongly encourages* Parties to continue providing supports through voluntary contributions, in particular to the ACCOBAMS Supplementary Conservation Grants Fund, considering its significant role in supporting cetacean’s conservation initiatives in developing countries and countries with economies in transition;
7. *Encourages* Parties to provide in-kind contributions through, for example, the secondment of staff, to support activities of the ACCOBAMS Programme of Work.

ANNEX - ACCOBAMS FUNSTRATEGY

Rationale

The lack of sufficient financial resources has been identified as one of the main obstacles to achieving global objectives related to environment protection and biodiversity conservation. To overcome this issue, several intergovernmental organizations addressing environmental issues, such as the United Nations Environment Programme (UN Environment), the Convention on Biological Diversity (CBD) or the Mediterranean Action Plan (UNEP/MAP), have elaborated resource mobilization strategies for strengthening their implementation and their action.

In 2013, the Parties to ACCOBAMS adopted the “ACCOBAMS Strategy (period 2014-2025)”⁸³ as an instrument for strengthening the effectiveness of ACCOBAMS and the Resolutions adopted within this framework. It provided a 10-years strategic framework and a roadmap to support the implementation of the Agreement.

This Strategy provides an Action Plan in order to reach the ACCOBAMS vision which is that *“cetacean populations in the ACCOBAMS area will be in a favourable conservation status, expressed as healthy populations and habitats with minimized adverse human impacts, with ACCOBAMS having a role of key regional player also in promoting active regional cooperation.”*

A specific objective of the ACCOBAMS Strategy is to “Ensure adequate funding, in particular for conservation activities” (Specific Objective A.3). This specific objective includes 4 activities related to new funding possibilities:

- Appoint one projects preparation/implementation assistance and fundraising officer in the Secretariat (A.3.1.1)
- Analyze available funding possibilities in the region (EU funds, private funds, etc....) and develop a funding strategy (A.3.1.2)
- Regularly inform Parties about project call of proposals and other funding possibilities (A.3.1.3)
- Encourage development of multilateral/ transboundary projects (A.3.1.4).

In addition, the activities identified in the 2014-2025 Strategy Action Plan cannot be covered solely by the ACCOBAMS budget. Efforts to mobilize external funding are required. Possible sources of funding are identified within the Strategy for each activity: Agreement Funds, national co-funding/in kind or External Funds.

The ACCOBAMS Funding Strategy has been elaborated to support the implementation of the ACCOBAMS Strategy by setting up a general framework for resources mobilization. Based on an overview of the ACCOBAMS funding (part 1 of this document), the funding strategy is aimed at identifying ways of strengthening and optimizing resource mobilization for supporting ACCOBAMS implementation (part 2).

⁸³ Resolution 5.1

1. ACCOBAMS FUNDING

1.1 The Agreement budget

ACCOBAMS is a Multilateral Environmental Agreement. Its functioning is based on a budget adopted by the Meeting of the Parties at each of its ordinary sessions for the next financial period (Art. III, para. 8 (e), of the Agreement). The Meeting of the Parties decides also upon any matters relating to the financial arrangements for the Agreement (Art. III, para. 8 (e), and Article IX of the Agreement). The Permanent Secretariat is in charge of the administration of the budget of the Agreement (Art. IV, para. 2 of the Agreement).

In accordance with the terms of reference for administration of the Agreement Budget included in the Resolution on Financial matters⁸⁴, *“the financial resources of the budget shall be derived from:*

- (a) Contributions from the Parties (...), as well as contributions from new Parties, and*
- (b) Voluntary contributions from Parties, contributions from States not Party to the Agreement, other governmental, intergovernmental and nongovernmental Organizations and other sources.”*

a) Ordinary contributions to the Agreement Trust Fund

The Trust Fund depends on the contributions of the countries Parties to the Agreement. The annual amount of each Party's contribution is established, for each triennium, by the Resolution on Financial Matters adopted at each Meeting of the Parties.

To facilitate the administration of the budget, the Parties are requested to pay their contributions as promptly as possible, but in case no later than at the end of March of the corresponding year. The Parties, in particular those that pay the minimum contribution, are also requested to consider paying for the entire triennium in one installment at the beginning of the period.

With 23 Parties between 2011 and 2017, the average of ordinary contributions received was around 250,000 Euros per year (including arrears from previous years received).

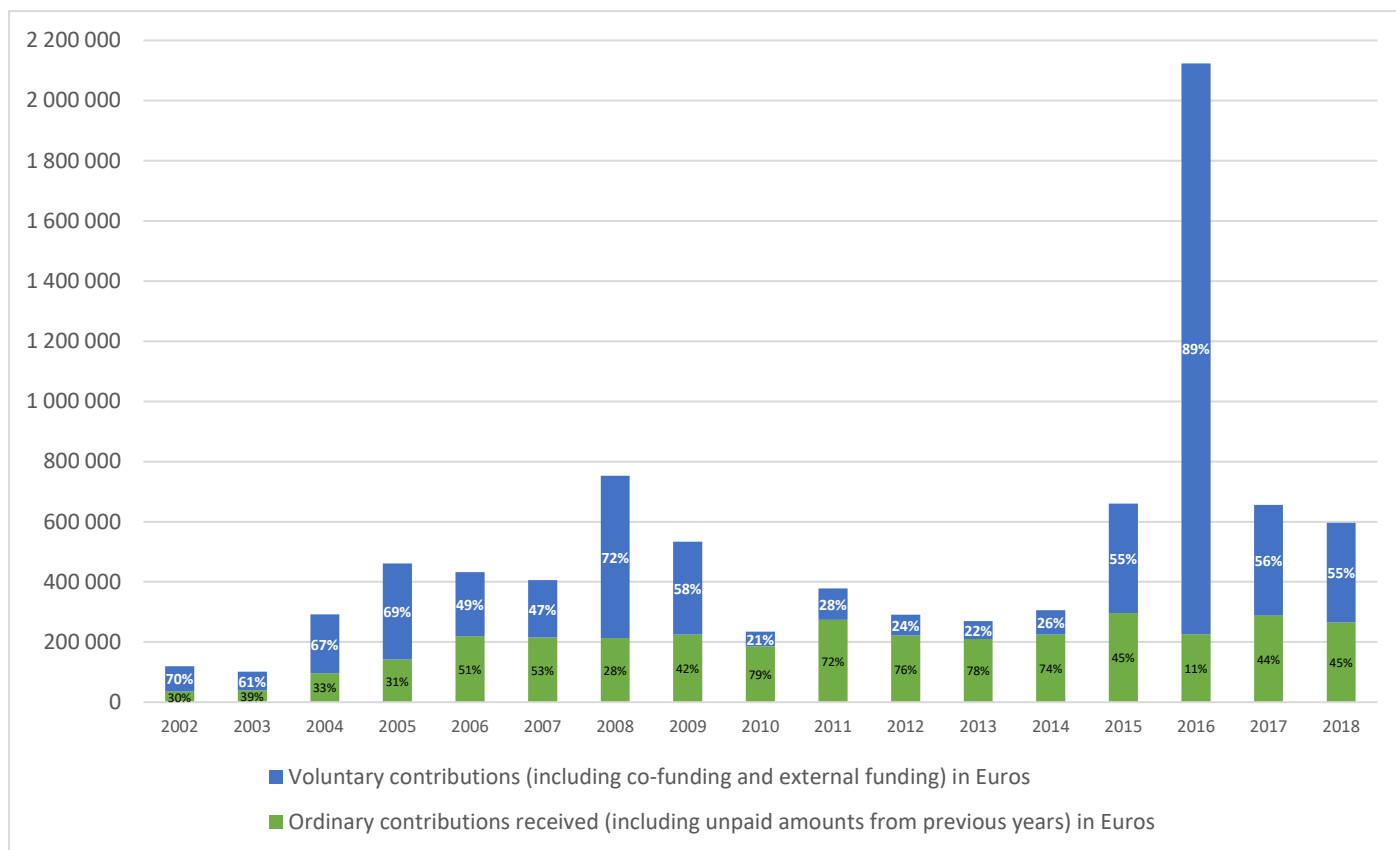
b) Voluntary contributions, including co-funding

Voluntary contributions to ACCOBAMS include the voluntary contributions from Parties and external funding provided by partner organizations for joint activities (co-funding) or by donors for the implementation of *ad-hoc* projects. ACCOBAMS has also received, in the past, voluntary contributions from non-Party Range States or from private companies.

Between 2002 and 2018, the cash budget of the Agreement has averaged 500,000 Euros per year coming from 39% of ordinary contributions and 61% of voluntary contributions.

⁸⁴ Annex 3 of Resolution 6.6 – Financial matters for the triennium 2017-2019

Evolution of ordinary and voluntary contributions of the ACCOBAMS cash budget between 2002 and 2018



It should be emphasized that the administrative functioning of the Agreement is strongly supported by the Principality of Monaco under the Headquarters Agreement with the Host Country. This contribution is estimated at around 180 000 Euros per year since 2014 (this support was not assessed before 2014).

From the 2020-2022 triennium, voluntary contributions and external funding (including co-funding from other organizations) will be presented separately in the budget tables so that voluntary contributions be specific to countries.

a) ACCOBAMS budget structure/organization

The ACCOBAMS ordinary budget (i.e. adopted at each Meeting of the Parties) is organized in three categories: i) administration and general management, ii) institutional meetings and iii) support to conservation actions.

The budget allocated to the first two categories is aimed at supporting the institutional functions of the Agreement, in particular the functioning of the Permanent Secretariat and the meetings of the different ACCOBAMS bodies.

The budget allocated to support conservation actions allows to cover activities that contribute to the implementation of the Agreement or that support the Parties in implementing ACCOBAMS provisions. These activities include the organization of expert workshops or trainings, the elaboration of technical documents (such as guidelines) or the implementation of pilot studies. This is one of the ACCOBAMS specificities and added value compared to other Multilateral Environmental Agreements who do not have budget allocated to support conservation actions.

However, even if this budget from ordinary contributions allows the implementation of some activities, it is not sufficient for expensive or large-scale conservation activities, in particular for field work, or for the development of a comprehensive capacity building program.

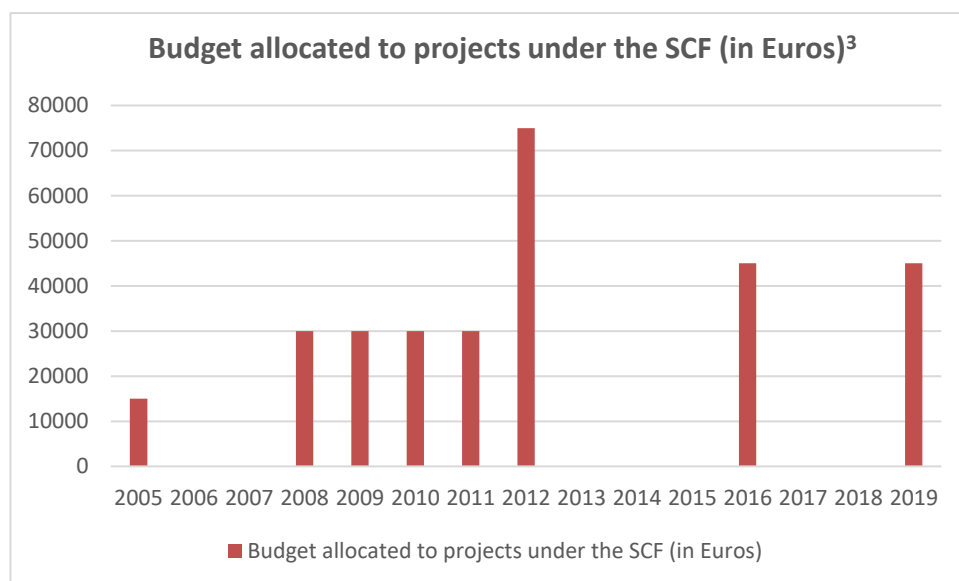
Except for the voluntary contributions made by some Parties to support the organization of institutional meetings, such as the Meetings of the Parties, voluntary contributions from Parties are mainly intended to support conservation actions. *Ad-hoc* projects supported by donors are also intended to support conservation actions.

As the administrative and institutional functioning of the Agreement is ensured through the ordinary contributions and the contribution of the Principality of Monaco under the Headquarters Agreement, ambitious conservation actions rely therefore largely on the mobilization of additional funding (voluntary contributions and external funding).

Between 2015 and 2018, 46% of the total cash budget of the Agreement was provided through external funding, specifically 44% was provided by the MAVA Foundation. The peak in the voluntary contributions in 2016 corresponds to the 1.5 Million Euros provided by the MAVA Foundation to support the ACCOBAMS Survey Initiative. Considering the closure of the MAVA Foundation in 2022, it is necessary to ensure diversification of the external sources of funding.

In addition to the Trust Fund, ACCOBAMS also has the Supplementary Conservation Funds (SCF) established in accordance with Article IX, paragraph 3, of the Agreement *“in order to increase the funds available for monitoring, research, training and projects relating to the conservation of cetaceans”*. Funds for the SCF are provided by voluntary contributions of Parties or from any other sources.

The SCF became operational in 2004 at the Second Meeting of the Parties and since 2005, 20 projects with a budget less than 15.000 euros have been funded under the SCF.



Since 2011, projects to be funded under the SCF are selected through calls for proposals launched by the Secretariat, in consultation with the Bureau of the Parties. The procedure for the ACCOBAMS calls for proposals has been adopted in 2013 through Resolution 5.5.

The SCF has a significant role in supporting ACCOBAMS conservation initiatives in developing countries and countries with economies in transition. It allows to support applied conservation projects, including field work, to support capacity building and exchange of best practices on cetaceans monitoring and conservation. These projects contribute in particular to provide seed money to organizations with limited access to other funding sources.

⁸⁵ The amounts presented in this graph correspond to the total budget committed for the projects the year of the establishment of the Memorandum of Understanding with the project beneficiaries. The figures shown in this graph do not correspond to the amounts reported in the Reports on Income and Expenditures for the Supplementary Conservation Funds prepared by the Permanent Secretariat which correspond to the payments occurring in a year.

1.2 In-kind contributions from Parties, Partners and other stakeholders to ACCOBAMS implementation

ACCOBAMS, as a regional cooperation organization, represents a community of stakeholders working towards a common goal. Its functioning is based on the mobilization of stakeholders - such as countries representatives, scientists, experts, professionals... - and the animation of networks of stakeholders.

In addition to the ACCOBAMS Parties represented by their National Focal Points, other stakeholders, such as experts and scientists, MPA managers, as well as organizations, such as national research institutes, NGOs, Foundations... that could be referred to as "ACCOBAMS community", develop and implement actions / projects aimed at the conservation of cetaceans or that contribute to cetacean conservation.

Some of these stakeholders are involved in ACCOBAMS, within the framework of the Scientific Committee or as Partners of ACCOBAMS, but this is not systematic.

If we consider the ACCOBAMS community in its broadest sense, a vast set of activities and projects is implemented in the whole Agreement area. Although these actions are not carried out within the institutional framework of the Agreement and financed through the Agreement's budget, they contribute to the implementation of ACCOBAMS.

Taking into consideration the diversity of activities and projects covered, it is difficult to assess the total funding mobilized by the ACCOBAMS community. However, after a quick review of the available information (from the reports of the Parties, the Scientific Committee, the Partners and of the Sub-Regional Coordination Units), it appears that these actions and projects are financed through:

- public funds of States,
- own funds of the organizations that implement them or
- external funding mobilized in the framework of specific projects⁸⁶.

All these activities can be considered as in-kind contribution to the Agreement implementation.

In addition, involvement and participation of experts and other stakeholders in ACCOBAMS activities (contribution and time dedicated to ACCOBAMS activities, such as participation in expert workshops, participation in ACCOBAMS bodies meetings...) is done on a voluntary basis and represents contribution in-kind to the implementation of ACCOBAMS. For example, for the ACCOBAMS Survey Initiative project, the involvement of national experts and scientists was considered as national in-kind contributions to the project.

The ACCOBAMS community participates in the mobilization of funding for conservation actions that contribute to the implementation of ACCOBAMS, beyond the ACCOBAMS institutional framework *sensu stricto*. Taking into account contributions in kind, the contribution of the Parties to the implementation of ACCOBAMS goes far beyond ordinary contributions.

⁸⁶ The European funding aimed at supporting the implementation of European policies - environmental policy or neighborhood policy – are part of this last category. For example, the LIFE instrument of the European Union has supported a dozen projects contributing to the conservation of cetaceans in the ACCOBAMS geographical area since it was set up in 1992.

2. FROM ANALYSIS TO ACTION

2.1 Objective of the ACCOBAMS Funding Strategy

The objective of the funding strategy is to support the implementation of the ACCOBAMS Strategy and of the subsequent 3-years Programs of Work adopted by the Meeting of the Parties.

It is intended for all stakeholders who contribute, directly or indirectly, to the implementation of ACCOBAMS.

2.2 Duration

The ACCOBAMS Funding Strategy has been developed taking into consideration the ACCOBAMS Strategy timeframe and shall be revised when updating the ACCOBAMS Strategy.

2.3 Key actions

The actions identified below are not listed in order of priority and some of them are interlinked.

a) Monitor external funding opportunities

The overview of available funding possibilities in the region presented to the Sixth Meeting of the Parties (Monaco, 22-25 November 2016)⁸⁷ lists the donors (both public and private) that may be of interest to the ACCOBAMS community to develop projects and activities that would contribute to the implementation of ACCOBAMS.

The ACCOBAMS Strategy also provides that Secretariat, Scientific Committee, Partners regularly inform Parties about call of proposals and other funding opportunities, through emailing list (Activity A.3.1.3). In addition to email, the NETCCOBAMS platform can be used to disseminate this information.

Monitoring funding opportunities allows to be informed and to disseminate information on the funding opportunities in order to support the development of project proposals.

b) Encourage development of multilateral/transboundary projects

The ACCOBAMS Strategy provides that Secretariat, Parties, Partners, Scientific Committee encourage development of multilateral/transboundary projects so that project proposals be developed with the support of ACCOBAMS bodies (Activity A.3.1.4).

Coordination, collaboration, exchange of information, standardization and synchronization of monitoring programs and scientific protocols are key elements to be sought in the development of multilateral/transboundary projects and donors pay particular attention to these questions when evaluating project proposals.

Advising project leaders in the development of their projects, facilitating liaison between partners, catalyzing efforts are actions that can contribute to successful fundraising.

For cetacean conservation projects developed outside the ACCOBAMS framework, a link could be established with ACCOBAMS to ensure that the results of these projects are duly taken into consideration by ACCOBAMS. This could be done for example by participating in the ACCOBAMS Scientific Committee meetings during which relevant projects and results could be presented (if relevant as regards the ACCOBAMS Scientific Committee priorities) or by inviting ACCOBAMS as a partner of the project or as member of the project advisory body (Steering Committee, Advisory Board...). This would contribute to increase the leverage effect of the projects and contribute to avoid duplication of efforts with ACCOBAMS activities.

⁸⁷ Information document ACCOBAMS-MOP6/2016/Inf10 "Overview of available funding possibilities in the region"

In the case of cetacean conservation projects developed outside the scope of ACCOBAMS, project coordinators are encouraged to establish a link with ACCOBAMS to ensure the results of their project be taken into consideration by ACCOBAMS, in particular recommendations, lessons learned and best practices.

c) *Build capacities in project development/management*

Some stakeholders in the ACCOBAMS community, especially researchers and civil society organizations (NGOs) from developing countries, do not always have the necessary experience to develop solid project proposals in the context of international fundraising.

Organizing training activities (such as workshops) on project formulation, design and management can contribute to increase the capacities of the ACCOBAMS community in fundraisings, in particular for experts and organizations from developing countries.

If budget allows, a training workshop on project development and fundraising could be organized during the 2020-2022 triennium.

It should be underlined that projects funded under the ACCOBAMS Supplementary Conservation Fund can provide a first experience in project development/management to project coordinators and help them to develop their skills in this field.

d) *Strengthen the mobilization of voluntary contributions from ACCOBAMS Parties, including for the Supplementary Conservation Funds*

The lack of visibility on activities that can be funded through voluntary contributions is a challenge for ensuring efficient elaboration and planning of the 3-years Program of Work.

Consulting and liaising with Parties, as it was done for example throughs the Call for Voluntary Contribution issued by the Permanent Secretariat for the 2014-2016 and 2017-2019 trienniums, is necessary for mobilizing voluntary contributions for the realization of certain actions.

The new format for the Program of Work and Budget of the triennium will allow the Parties to identify the actions that could be funded through voluntary contributions during the Meeting of Parties.

Parties are invited to inform the Meeting of the Parties about potential allocation of voluntary contributions in order to facilitate the planning of the activities on the 3-years triennium period.

The ACCOBAMS Supplementary Conservation Fund, which relies on voluntary contributions from ACCOBAMS Parties, is a significant tool for ACCOBAMS to support conservation initiatives. It allows to fund applied conservation projects, to support capacity building and exchange of best practices on cetaceans monitoring and conservation in developing countries and countries with economies in transition.

Parties are strongly encouraged to continue providing supports through voluntary contributions to the ACCOBAMS Supplementary Conservation Funds considering its significant role in supporting cetacean's conservation initiatives in developing countries and countries with economies in transition.

e) Develop or strengthen relationships with donors

Mobilizing external resources involves developing a network of donors interested in supporting actions that contribute to the ACCOBAMS objectives. To ensure efficient consultation of donors, increasing visibility on ACCOBAMS goals and activities is necessary to demonstrate ACCOBAMS reliability and added value in implementing projects and initiatives.

Going to meet donors, organizing meetings or round tables of donors contribute to raise interest and attention on ACCOBAMS and are opportunities to present project ideas.

f) Animate and mobilize the ACCOBAMS community

As mentioned above, the cooperation dimension is essential in cetacean conservation and developing synergies between stakeholders contribute to increase the impact of conservation actions undertaken.

The ACCOBAMS Partners network is a structuring support for the ACCOBAMS community. The animation of this network, including the "recruitment" of new partners, can contribute to the development of new collaboration and of joint projects and initiatives. The ACCOBAMS Partner status is granted according to specific rules and criteria established by Resolution 4.20 adopted by ACCOBAMS Parties.

In each country, a review of the organizations which contribute to ACCOBAMS goals and objectives can be done and information on the ACCOBAMS Partner status can be disseminated to organizations that are not Partners in order to invite them to apply for this status.

Also, the NETCCOBAMS platform should be an excellent media to share information and to animate the community in a perspective of developing new collaborations and efforts for resource mobilization. All interested stakeholders (experts, organizations...) can create an account on NETCCOBAMS to share and receive information.

The use of NETCCOBAMS platform should be strengthened and systematized for ensuring appropriate dissemination of information within the ACCOBAMS community.

g) Strengthen communication and outreach on ACCOBAMS

Successful fundraising relies on effective and relevant communication. Disseminating information on cetacean conservation issues, highlighting the actions carried out by ACCOBAMS and communicating on their impacts contribute to enhance the image of ACCOBAMS, to raise interest on cetacean conservation and to attract new funds and support.

Updating the ACCOBAMS webpage regularly, publishing news on social media and creating outreach material are decisive to increase visibility on ACCOBAMS. Participating in national/regional/international fora, meetings and conferences relevant to ACCOBAMS objectives, organizing side events on specific activities also contribute to present ACCOBAMS activities and to strengthen ACCOBAMS's reputation.

The development of an ACCOBAMS Information/Communication Strategy is a key step for strengthening ACCOBAMS visibility and reputation, being mindful of the virtuous cycle between communication/outreach and fundraising.

h) Collaboration, key success factor in fundraising

In a context of growth in maritime activities (fisheries, maritime transport, industries, tourism, oil and gas exploitation ...), and therefore of pressures on cetaceans, the ACCOBAMS mission can only be fully realized within the framework of collaboration with relevant international/regional organizations, such as the Regional Seas Conventions – the Barcelona Convention and the Bucharest Convention - aim to protect the marine environment, GFCM-FAO when addressing interactions with fisheries, IMO for maritime traffic issues...

In addition, several activities supported by ACCOBAMS contribute directly to the implementation of regional environmental policies, such as the EU Marine Strategy Framework Directive and the Ecosystem Approach promoted by the Regional Sea Conventions.

Defining ACCOBAMS priorities and activities taking into consideration other relevant frameworks, strengthening collaborations and ensuring synergies with relevant organizations are fundamental to avoid duplication of efforts and to contribute to increase visibility on ACCOBAMS activities. This also contributes to reinforce the sustainability of the actions undertaken under ACCOBAMS auspices and to "reassure" potential funders on the non-duplication of funding.

i) Develop partnerships with the private sector

Engagement with the private sector should be seen as a long-term effort that, if properly structured, can attract new support to ACCOBAMS efforts.

When addressing interactions between cetaceans and specific human activities, the sectoral economic actors, such as the oil and gas exploration and production companies, the fisheries sector, the maritime traffic companies, ... can be mobilized for considering contributions and support to ACCOBAMS activities. This action could be led at different levels, local, national and regional.

Engagement with the private sector can be done through its involvement and participation in relevant ACCOBAMS Working Groups, but organizing bilateral meetings or roundtables with relevant actors can also contribute to raise their awareness on cetacean conservation issues and to support ACCOBAMS activities. The development of specific initiatives, such as the Migratory Species Champion Programme developed under the CMS Family, could also contribute to involve the private sector in cetacean conservation efforts.

j) Engage in crowdfunding

Crowdfunding is a financing method that involves funding a project with relatively modest contributions from a large group of individuals, rather than seeking substantial sums from a small number of investors. The funding campaign and transactions are typically conducted online through dedicated crowdfunding sites, often in conjunction with social networking sites. Depending on the project, campaign contributors may be essentially making donations, investing for a potential future return on investment, or prepaying for a product or service⁸⁸.

Crowdfunding can be developed by any organization willing to do so. However, successful crowdfunding requires significant visibility and reputation, in particular on social media, and can be considered for supporting concrete conservation activities only.

k) Explore innovative financing mechanisms

The issue of innovative financing mechanisms emerged in the 2000s with the establishment of the High Level Dialogue on Financing for Development under the UN General Assembly, taking into consideration the limits of traditional development assistance to fulfill the commitment of the United Nations Millennium Declaration to achieve sustainable development and eradicate poverty. A number of innovative financing initiatives have been launched since then, most of them to contribute to fund new global programs on health or climate change mitigation/adaptation. As an example, UNEP/MAP, as part of its Updated Resource Mobilization Strategy adopted in 2017 at COP20⁸⁹, introduced a reflection on the opportunity to establish an environmental tax for cruise ships.

⁸⁸ <http://whatis.techtarget.com/definition/crowdfunding>

⁸⁹ Decision IG.23/5

3. CONCLUSION AND WAY FORWARD

To achieve ACCOBAMS goal and mission as stated in the 2014-2025 ACCOBAMS Strategy, ambitious conservation actions are necessary.

ACCOBAMS administrative and institutional functioning relies on annual ordinary contributions paid by the Parties and on the Principality of Monaco under the Headquarters Agreement. However, additional funds are necessary for supporting conservation actions, from voluntary contributions offered by Parties or from external sources (including co-funding from other organizations).

The actions identified in this Funding Strategy are way forward to strengthen resource mobilization. Some of them can be implemented by ACCOBAMS bodies on a daily basis and do not require specific means, some others require allocating specific budget.

Some of the main recommendations of this Funding Strategy are specifically targeted to ACCOBAMS bodies. Others are intended for all stakeholders who contribute, directly or indirectly, to the implementation of ACCOBAMS.

The recommendations of the ACCOBAMS Funding Strategy as listed below could be considered as a toolbox for supporting ACCOBAMS funding and implementation:

1. Monitoring funding opportunities allows to be informed and to disseminate information on the funding opportunities in order to support the development of project proposals.
2. Advising project leaders in the development of their projects, facilitating liaison between partners, catalyzing efforts are actions that can contribute to successful fundraising.
3. In the case of cetacean conservation projects developed outside the scope of ACCOBAMS, project coordinators are encouraged to establish a link with ACCOBAMS to ensure the results of their project be taken into consideration by ACCOBAMS, in particular recommendations, lessons learned and best practices.
4. Organizing training activities (such as workshops) on project formulation, design and management can contribute to increase the capacities of the ACCOBAMS community in fundraisings, in particular for experts and organizations from developing countries.
5. Parties are invited to inform the Meeting of the Parties about potential allocation of voluntary contributions in order to facilitate the planning of the activities on the 3-years triennium period.
6. Parties are strongly encouraged to continue providing supports through voluntary contributions to the ACCOBAMS Supplementary Conservation Funds considering its significant role in supporting cetaceans conservation initiatives in developing countries and countries with economies in transition.
7. Going to meet donors, organizing meetings or round tables of donors contribute to raise interest and attention on ACCOBAMS and are opportunities to present project ideas.
8. In each country, a review of the organizations which contribute to ACCOBAMS goals and objectives can be done and information on the ACCOBAMS Partner status can be disseminated to the organizations that are not Partners in order to invite them to apply for this status.
9. The use of NETCCOBAMS platform should be strengthened and systematized for ensuring appropriate dissemination of information within the ACCOBAMS community.
10. The development of an ACCOBAMS Information/Communication Strategy is a key step for strengthening ACCOBAMS visibility and reputation, being mindful of the virtuous cycle between communication/outreach and fundraising.

11. Defining ACCOBAMS priorities and activities taking into consideration other relevant frameworks, strengthening collaborations and ensuring synergies with relevant organizations are fundamental to avoid duplication of efforts and to contribute to increase visibility on ACCOBAMS activities. This also contributes to reinforce the sustainability of the actions undertaken under ACCOBAMS auspices and to "reassure" potential funders on the non-duplication of funding.

RESOLUTION 8.4 - Procedure for Projects submitted for institutional support

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Considering that the implementation of the Agreement requires the development and implementation of projects for research and conservation that are in line with the objectives and priorities of ACCOBAMS,

Recalling that, as part of its functions as defined in the Agreement, the Scientific Committee should provide advice on the development and coordination of international research and monitoring programmes,

Desirous of encouraging scientists, intergovernmental organizations and non-governmental organizations to consult with the Scientific Committee and the Secretariat of ACCOBAMS when developing research and conservation projects,

Aware that letters of support are an important part of a project funding application process, as they demonstrate the credibility of the applicants and the reasons why project proposals are suitable for funding,

1. *Adopts* the procedure in Annex to this Resolution for providing institutional support to project proposals;
2. *Instructs* the Secretariat and the Scientific Committee to apply the procedure in Annex for projects submitted for institutional support;
3. *Requests* the Secretariat to publicize the procedure on the ACCOBAMS website;
4. *Requests* the Secretariat, including through National Focal Points, to communicate the procedure to all interested stakeholders;
5. *Decides* that the present Resolution replaces Resolution 3.6.

ANNEX

PROCEDURE FOR PROVIDING INSTITUTIONAL SUPPORT TO PROJECT PROPOSALS

Letters of support are an important part of a project funding application process. They demonstrate the credibility of the applicant, their credentials, and the reasons why the project proposal is best fit for the funding.

Aim

The procedure is aimed at ensuring that project proposals supported by ACCOBAMS through a support letter from the Secretariat are in line with ACCOBAMS' provisions and priorities and are technically and scientifically relevant.

Procedure

Any request for an ACCOBAMS support letter should proceed as follows:

- 1) The applicant provides a summary document (3 pages maximum) to the ACCOBAMS Secretariat on the project proposal, with at least the following information on the project:
 - a. Objectives of the project and activities foreseen, with a brief statement as to how they relate to ACCOBAMS objectives and priorities;
 - b. Methodology and a brief statement that it follows any relevant guidelines and/or best practice adopted within the framework of ACCOBAMS;
 - c. Information on the applicant and other project partners (if any);
 - d. Expected outputs and a statement that they will be provided, within a reasonable timeframe, as information (e.g. as project report) to the Scientific Committee of ACCOBAMS and data logged in relevant databases, if applicable;
 - e. Time frame.

- 2) The Secretariat assesses if the project proposal is in line with the ACCOBAMS provisions and priorities identified both in the ACCOBAMS Strategy and ACCOBAMS Programme of Work.

- 3) If that is the case, the summary document is sent to the Chair and Vice-Chair of the Scientific Committee for their confirmation on the technical and scientific relevance of the project proposal. In case of conflict of interest (if the Chair or Vice-Chair is involved in a project proposal to be submitted under the same call for proposal, for example), another member of the Scientific Committee should be consulted, preferably a Task Manager of relevance to the project main topics.

- 4) If the project proposal is considered to be technically and scientifically relevant, the Secretariat elaborates a letter of support to the project and sends it over to the applicant.

- 5) In case the conditions foreseen in this procedure are not fulfilled, the applicant will be accordingly informed by the Secretariat that no letter of support will be provided.

- 6) Applicants receiving a letter of support should inform the Secretariat on the outcome of the funding application process.

RESOLUTION 8.5 - Procedure for the ACCOBAMS Calls for Proposals for the projects to be funded under the Supplementary Conservation Grants Fund

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article IX, paragraph 3, of the Agreement, which provides that “the Meeting of the Parties may establish a supplementary conservation fund from voluntary contributions of Parties or from any other source in order to increase the funds available for monitoring, research, training and projects relating to the conservation of cetaceans”,

Aware that the implementation of the Agreement requires the development and implementation of conservation projects that are in line with the objectives and priorities of ACCOBAMS,

Recalling that many fundamental obligations of Parties require actions which may significantly benefit from small scale funding, but often do not meet the eligibility criteria of national or international project funds,

Reiterating its conviction that, in some countries, the implementation of the Agreement is severely constrained by the lack of adequate financial resources,

Considering Resolutions 1.7 and 2.4, relating to the Supplementary Conservation Grants Fund (SCF), and Resolutions 3.6 and 7.8, relating to the procedure for submission of projects,

Appreciating the successful operation of the SCF which has attracted both a significant number of project proposals as well as additional voluntary contributions,

Thanking the financial support from the Governments of Italy and Monaco for the replenishment of the SCF during the 2020-2022 triennium,

Taking into account similar procedures established by other International Organisations,

Recognising the need to improve the procedure on the basis of lessons learned from the previous calls for proposals,

Desirous to establish a fully transparent and efficient procedure for the evaluation and the selection of project proposals,

1. *Decides* that the goals and objectives of the SCF are as follows:

- to catalyze the development and implementation of concerted or cooperative actions that should clearly contribute to the implementation of the Agreement and the priorities adopted by the Parties;
- to support applied conservation projects;
- to provide seed money to initiate long-term projects that have a multiplying impact well beyond the funding period;

- to stimulate dialogue and cooperation at the local and regional level in order to improve the conservation status of the cetaceans in the ACCOBAMS Area;
 - to assist in the development of national capacities to conserve cetaceans and their habitats;
 - to raise awareness on the conservation and management needs of cetaceans and their habitats;
 - to make small funds available to communities and other conservation stakeholders with limited access to alternative funding sources;
2. *Decides* that the Fund is financed through voluntary contributions according to Resolution 8.2, Annex 4;
 3. *Urges* Parties and donor Organisations to provide voluntary contributions to the SCF;
 4. *Agrees* to transfer to the SCF, if appropriate, the unspent balance of previous triennium fund concerning voluntary contributions under the Trust Fund and *mandates* the Bureau to set the amount thereof on the basis of recommendations by the Secretariat;
 5. *Notes* that the SCF will be implemented within the Agreement area;
 6. *Encourages* transboundary projects between countries Party to ACCOBAMS;
 7. *Instructs* the Secretariat to:
 - manage and coordinate the SCF;
 - launch calls for proposals of projects to be funded under the SCF, in consultation with the Bureau of the Parties and the Scientific Committee;
 - inform the ACCOBAMS National Focal Points, the members of the Scientific Committee of ACCOBAMS, the ACCOBAMS Partners and other relevant Organisations, about the launch of a call for proposals;
 - inform the applicants about the results of the selection, and the Focal Point(s) of the countries in which the selected projects will be carried out;
 8. *Authorises* the Secretariat to facilitate contacts between potential applicants in order to establish partnerships;
 9. *Authorises* the Bureau to select the project proposals, taking into account the procedure for the ACCOBAMS calls for proposals for projects to be funded under the SCF and the budget available;
 10. *Adopts* the procedure for the ACCOBAMS calls for proposals for projects to be funded under the SCF in [Annex](#) to this Resolution;
 12. *Decides* that the present Resolution amends Resolution 3.6 and replaces Resolution 7.8.

ANNEX
**Procedure for the ACCOBAMS calls for proposals for projects to be funded
 under the Supplementary Conservation Grants Fund**

Content

- 1. Introduction**
- 2. Functioning of the Supplementary Conservation Grants Fund**
- 3. Eligibility criteria and submission conditions**
- 4. Selection procedure**
- 5. Transfer of funds and reporting**
- 6. Terms of Small-Scale Funding Agreement to be concluded with Selected Applicants**
- 7. Reporting to ACCOBAMS and other donors**

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Appendix 1: Project Concept Form
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Appendix 4: Conflict of Interest Declaration Form
Appendix 5: Project Evaluation Form

1. Introduction

The Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) is an intergovernmental legal instrument that aims to achieve and maintain a favourable conservation status for cetaceans through the implementation of coordinated conservation measures. Signed in Monaco in 1996 and entering into force in 2001, ACCOBAMS aims to reduce threats to cetaceans and improve knowledge on them.

The geographical scope of the Agreement is constituted by all the maritime waters of the Black Sea and the Mediterranean and their gulfs and seas, and the internal waters connected to or interconnecting these maritime waters, and of the Atlantic area contiguous to the Mediterranean Sea at the west of the Strait of Gibraltar.

Taking into account Article IX, paragraph 3, of the Agreement, the Parties to ACCOBAMS decided to establish, at their First Meeting (Monaco, 28 February – 2 March 2002), a Supplementary Conservation Grants Fund (SCF) from voluntary contributions of Parties or from any other source in order to increase the funds available for monitoring, research, training and projects relating to the conservation of cetaceans in the Agreement area.

The SCF became operational as of the Second Meeting of the Parties (Palma de Mallorca, Spain, 9-12 November 2004) and has been playing a significant role in supporting ACCOBAMS conservation initiatives in developing countries and countries with economies in transition.

2. Functioning of the Supplementary Conservation Grants Fund

The goals and objectives of the voluntary contributions to the SCF are as follows:

- To catalyze the development and implementation of concerted or cooperative actions that should clearly contribute to the implementation of the Agreement and the priorities adopted by the Parties;
- To support applied conservation projects;
- To provide seed money to initiate long-term projects that have a multiplying impact well beyond the funding period;
- To stimulate dialogue and cooperation at the local and regional level in order to improve the conservation status of the cetaceans in the ACCOBAMS Area;
- To support development of national capacities to conserve cetaceans and their habitats;
- To raise awareness on the conservation and management needs of cetaceans and their habitats;
- To make small funds available to communities and other conservation stakeholders with limited access to alternative funding sources.

Projects to be funded under the SCF are submitted in the framework of calls for proposals launched by the Secretariat, in consultation with the Bureau of the Parties and the Scientific Committee.

The cycle for launching calls for proposals depends on the funding accrued for this purpose. Therefore, the ACCOBAMS Secretariat shall take into consideration the amount available for projects funding when informing the ACCOBAMS National Focal Points, the members of the ACCOBAMS Scientific Committee, the ACCOBAMS Partners and other relevant organisations, about the launch of a call for proposals.

3. Eligibility criteria and submission conditions

a. Eligible applicants

Only projects covering activities to be implemented in the Agreement area of low- and middle-income countries as classified by the World Bank that are Parties to ACCOBAMS, except countries more than three years in arrears with their ordinary contributions to the ACCOBAMS Trust Fund, shall be eligible for funding.

Project proposals must be submitted by Organisations legally based in the country where the activities are implemented.

In case of a transboundary project⁹⁰ that includes a non-eligible country, funding granted from the SCF will be devoted only to activities carried out in the eligible country.

List of ACCOBAMS National Focal Points, list of eligible countries, deadlines for project proposal submission and any restriction depending on the requirements set by the respective funding body will be communicated by the Secretariat through the ACCOBAMS webpage dedicated to the call for proposals and after consultation with the Bureau of the Parties.

Governmental institutions, research institutes and Non-Governmental Organisations (NGOs) may submit proposals. Projects shall be submitted through entities that are legally established and have among their objectives the study, conservation and sustainable use of biodiversity.

Projects can receive a maximum grant of €15.000. No more than 10% of the requested funds can be allocated to project personnel expenses.

Projects that can demonstrate that co-funding is available, either provided by the applicants themselves or from another sources, will be favored.

Partnership and collaboration with Governmental Institutions, research institutes and NGOs from other Parties to ACCOBAMS are encouraged, provided that the amount of budget allocated to the partner(s) does not exceed 30% of the requested grant.

The maximum duration of projects shall be two years.

The data produced by the project will be public and, if relevant, will be communicated through NETCCOBAMS, OBIS-SEAMAP and MEDACES databases upon completion of the project.

Proposals from Organisations having among their employees, including as volunteers, or board one or more members of the ACCOBAMS Secretariat are not eligible.

Applicants shall submit a declaration of non-conflict of interest.

In the event that an Organisation, to which one, or more members, of the Scientific Committee or the Bureau belong as staff, volunteers or board members, submits a proposal as applicant or partner, the concerned members of the Scientific Committee or of the Bureau shall not be involved in any way in the selection procedure.

b. Submission

⁹⁰ Transboundary projects are defined as projects which include activities that are implemented in at least two countries Party to ACCOBAMS. Involvement of a partner from a country different from the applicant's one does not necessarily mean that the project is transboundary.

Project proposals can be submitted in English or in French.

Applicants are encouraged to submit their project proposal in English for facilitating the evaluation by the Scientific Committee. However, submitting proposals in French will not be a disadvantage.

Application must include the following documents:

- Doc 1: the Concept Form completed (Appendix 1);
- Doc 2: the Project Presentation Form completed (Appendix 2);
- Doc 3: a cover letter addressed to the Executive Secretary of ACCOBAMS;
- Doc 4: the CV of the team leader;
- Doc 5: a Declaration signed by the ACCOBAMS national Focal Point⁹¹ from the country where the project is proposed to be implemented (Appendix 3). In the case of a transboundary project, the application should include Declarations from each ACCOBAMS national Focal Point of the countries where the proposed project will be implemented⁹² (Appendix 3);
- Doc 6: a Conflict of Interest Declaration Form (Appendix 4).

An Organisation is allowed to be involved in a maximum of two proposals on a given call as applicant or partner. No more than one project submitted by a given applicant shall be selected for the same call.

4. Selection procedure

The Secretariat will check the project proposals' eligibility upon their submission.

The eligible proposals will be sent to the Scientific Committee to be evaluated using the evaluation sheet (Appendix 5) and the scoring scale described hereafter:

Scores must be in the range 0-5. Half marks may be given.

- **0:** The proposal is not relevant.
- **1:** Poor. The quality of the proposal is poor as essential information is missing.
- **2:** Fair. The relevance of the proposal is very limited and the quality of the proposal is low.
- **3:** Good. The proposal is relevant and of good quality.

- **4:** Very good. The proposal is very relevant and of very good quality.
- **5:** Excellent. The quality of the proposal is very high, addressing properly all issues required.

The Chair of the Scientific Committee will organise the evaluation of project proposals by establishing and coordinating an evaluation group composed of Scientific Committee members.

⁹¹ The List of Focal Points is available on the web site of ACCOBAMS. Declarations by any Focal point acting on or after the date of the publication of the call for project shall be considered.

⁹² Applicants are encouraged to contact respective Focal Points and invite them to provide the signed Declaration. If this document is not provided with the application, the Secretariat shall send, by email, the proposed project document to the relevant Focal Point(s) seeking her/his/their opinion(s) whether the proposed project deserves to be financially supported by the SCF. The opinion expressed by the Focal Point and its justification shall be considered by the Bureau in the selection of projects. However, if no written objection is received from the Focal Point within two weeks following the email from the Secretariat, the proposed project shall be considered for evaluation.

The composition of the evaluation group shall be decided by the Chair of the Scientific Committee in consultation with the other Members of the Scientific Committee. Each project proposal should be assessed by at least three members of the evaluation group. To ensure a fair evaluation process, all proposals should be assessed by the same number of members of the evaluation group.

The final decision about the projects to be financially supported by the ACCOBAMS SCF will be made by the Bureau of the Parties, taking into account the eligibility check performed by the Secretariat, the scientific and technical evaluation of project proposals by the Scientific Committee, as well as the consistency and the sustainability aspects of the proposal.

The final decision shall be communicated to the National Focal Points.

If necessary, and upon Bureau request, the Secretariat requests further information to applicants, based on comments and suggestions by Scientific Committee Members when evaluating the project proposals.

5. Transfer of funds and reporting

Once a project is approved and funding has been granted by the Bureau of the Parties, the ACCOBAMS Secretariat shall prepare the Small-Scale Funding Agreement with the selected applicant.

During the project implementation, each recipient Organisation shall provide:

- a mid-term Progress Report on the implementation of the funded project, including a financial report, not later than 12 months after receipt of the initial payment for projects with duration of up to 24 months, and not later than 6 months for projects with duration up to 12 months.
- a Final Report, not later than three months after completion of the project. The Final Report shall include a statement of expenditure for the funds provided and copies of any materials produced under the project.

The exact deadlines for submission of both reports will be specified in the Small-Scale Funding Agreement.

Progress and Final Reports shall be sent to the relevant ACCOBAMS National Focal Points and to the Secretariat.

6. Terms of Small-Scale Funding Agreement to be concluded with Selected Applicants

In the Small-Scale Funding Agreement to be concluded between the ACCOBAMS Secretariat and the recipient Organisation, the following shall be specified:

- a) the extent and purpose of the funding granted;
- b) the obligations of the recipient towards the implementation of the project;
- c) the obligation of the recipient to display the ACCOBAMS logo on all correspondence or material produced in connection with meetings or activities financed under the project (such as invitations, announcements, agendas, reports, etc.) and to refer to the activity as being sponsored by ACCOBAMS;
- d) the obligation of the recipient to reimburse to ACCOBAMS any portion of any cash advance remaining unspent or uncommitted on completion of the activities of the Small-Scale Funding Agreement, within one month of presentation of the expenditure report.

7. Reporting to ACCOBAMS and other donors

Final Reports of the projects shall be presented to the Meeting of the Parties. They are also to be posted on the ACCOBAMS website.

The ACCOBAMS Secretariat shall provide donors with summary reports of project results, prepared on the basis of the Final Reports provided by the recipients, highlighting the effective results of the projects and of their contribution to the ACCOBAMS objectives and Work Programmes.

Appendix 1: Project Concept Form

Reserved to ACCOBAMS Secretariat

Form reference:

Title of the project:

Project category: Research and monitoring Capacity building Public awareness

Project topic(s):

[Project topics will be defined for each call]

Project amount (Euro):

Project duration:

Geographical area of the project:

[List of eligible countries at the launch of calls for proposals.]

Partnership if relevant:

Date:

Signature and Organisation stamp:

Appendix 2: Project Presentation Form*Reserved to ACCOBAMS Secretariat*

Form reference:

A. THE APPLICANT**1. Identity**

Full legal name	
Acronym	
Legal status	
Official address	
Contact person	
Telephone number	
Fax number	
E-mail address	

2. Description of applicant

2.1. When was your Organisation founded, and when did it start its activities?

--

2.2. What are the main activities of your Organisation?

--

2.3. Will the project be implemented in collaboration with a partner organisation?

Yes No

If Yes, please indicate:

- the identity of the partner:

Full legal name	
Acronym	

Legal status	
Official address	
Contact person	
Telephone number	
Fax number	
E-mail address	

- the role of the partner:

--

B. THE PROJECT

1. Description

1.1. Title

--

1.2. Coordination

Provide here a brief description of how the project coordination will be ensured - e.g., description of the project team, roles and functions of the different partners (if any), communication with external stakeholders, ...

--

1.3. Location

Provide here a brief description of the area in which the project will be carried out (Please attach a map to this document).

--

1.4. Duration

--

1.5. Countries participating in the project

--

1.6. Objectives (maximum 150 words)

--

1.7. Justification

Please indicate how the activities contribute to ACCOBAMS objectives, with special reference to the ACCOBAMS Conservation Plan and reference of the appropriate ACCOBAMS Resolutions (maximum 250 words).

--

1.8. Activities to be carried out and timetable

--

1.9. Expected outputs and methodology (maximum: 400 words)

--

1.10. Impacts and sustainability

Please describe the expected impacts that the project will have and the plan to sustain and build upon them (maximum: 400 words).

--

1.11. Budget estimates

Please provide for each activity a breakdown of

- personnel
- non-consumable equipment

- consumables
- travel
- field work
- other (specify).

Please provide all budget costs in Euros. If the financial arrangements for the project include any other financial support for an extra-funding, please provide detailed information on the amount(s), the donor(s) and the relevant commitments. Please also indicate any “in-kind” contributions to the project and their value.

Activities	Categories	Applicant		Partner	
		Budget requested to ACCOBAMS	Co-funding (in-kind or from other sources)	Budget requested to ACCOBAMS	Co-funding (in-kind or from other sources)
Activity 1	Personnel <i>(Please specify)</i>				
	Non-consumable equipment <i>(Please specify)</i>				
	Consumables <i>(Please specify)</i>				
	Travel <i>(Please specify)</i>				
	Field work <i>(Please specify)</i>				
	Other <i>(Please specify)</i>				
Activity 2	Personnel <i>(Please specify)</i>				
	Non-consumable equipment <i>(Please specify)</i>				
	Consumables <i>(Please specify)</i>				
	Travel <i>(Please specify)</i>				
	Field work <i>(Please specify)</i>				
	Other <i>(Please specify)</i>				
...					
	Total				
	GRAND TOTAL				

1.13. Issues relevant to transfer of technology/capacity building

The project should include the concept of transfer of technology or capacity building, with detailed proposals. Please provide information.

1.14. Links with other initiatives

(*Remark:* the Secretariat might consult with other organisations to check if the Project activities were submitted to them for funding or are complementary to activities having received funding from them).

Please indicate here if the proposed activities:

(i) were presented for funding under other initiatives/organisations:

Yes

No

If Yes please indicate the initiative/organisation.

- (ii) have direct links or are complementary to other activities having received funding from other organisations:

Yes

No

If Yes please indicate such link or complementary.

C. DECLARATION OF THE APPLICANT

“The information submitted in this application is true, to the best of my knowledge, information and belief. Should any significant developments arise after this application is made, I shall notify the ACCOBAMS Secretariat. I consent to the information contained in this application being held on computer and circulated to the National Focal Point, the Bureau, the Scientific Committee and other relevant bodies.”

Date, Signature

Appendix 3: National Focal Point Declaration

This declaration is to be completed and signed by the ACCOBAMS National Focal Point from the country where the project is proposed to be implemented (host country). In case of transboundary projects, application should include declarations from each ACCOBAMS National Focal Point from countries where the project is proposed to be implemented.

The List of Focal Points is available on the web site of ACCOBAMS. Declarations by any Focal point acting on or after the date of the publication of the call for projects shall be considered.

Applicants are encouraged to contact the relevant Focal Points and invite them to provide the signed Declaration. If this document is not provided with the application, the Secretariat shall send, by email, the proposed project document to the relevant Focal Point(s) seeking her/his/their opinion(s) whether the proposed project deserves to be financially supported by the SCF. The opinion expressed by the Focal Point and its justification shall be considered by the Bureau in the selection of projects. However, if no written objection is received from the Focal Point within two weeks following the email from the Secretariat, the proposed project shall be considered for evaluation.

Host country:

Project title:

Organisation submitting the application:

Title and name of the ACCOBAMS National Focal Point:

Contact details:

I have read the procedure for the ACCOBAMS calls for proposals for projects to be funded under the Supplementary Conservation Grants Fund of ACCOBAMS and reviewed the above-mentioned project.

I declare that this project deserves to be financially supported by the ACCOBAMS Supplementary Conservation Grants Fund.

Date:

Signature

Appendix 4: Conflict of Interest Declaration Form

This form is to be completed and signed by the applicant.

Subject: Declaration related to the conflict of interest
 I, _____ the undersigned, representative of
 _____ submitting a project proposal for funding under the SCF in respect of
 the situation of conflict of interest, hereby confirm:

- that the submitted project proposal does not constitute a situation of conflict of interest;
- that the submitted project proposal may constitute a situation of conflict of interest because (*name(s) of the staff, volunteer(s) or board member(s) of the applicant or partners*) is a (are) member(s) of the Scientific Committee / Bureau of ACCOBAMS. I acknowledge that she/he/they shall not be involved in any way in the selection procedure for this call for projects.

Signed:

Date signed: _____

Appendix 5: Project Evaluation Form

Reserved to ACCOBAMS Secretariat
Form reference:

Project Title:

Applicant:

Do you have a collaborative relationship or conflict with the applicant or with its staff or the proposed project team?

Yes

No

If yes, please explain why.

1. Are the project objectives in line with the objectives of ACCOBAMS?

Yes

No

2. Will the proposed project clearly contribute to the implementation of the Agreement and the priorities adopted by the Parties?

Yes

No

If no, please explain why.

3. Do the proposed activities duplicate or overlap with previous or ongoing projects?

Yes

No

If yes please give details

4. General appreciation

The project is acceptable

The project needs improvements

Please specify

The project cannot be accepted

Please explain

5. Other suggestions and/or comments (if any)

To summarise:

Keeping in mind the goals and objectives⁹³ of the Supplementary Conservation Fund, please provide an overall rating of the project proposal:

0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
---	-----	---	-----	---	-----	---	-----	---	-----	---

Please include here a short rationale for the rating

Name of the evaluator:

Date:

⁹³ As defined in Resolution 8.5, the goals and objective of the SCF are as follows:

- to catalyze the development and implementation of concerted or cooperative actions that should clearly contribute to the implementation of the Agreement and the priorities adopted by the Parties;
- to support applied conservation projects;
- to provide seed money to initiate long-term projects that have a multiplying impact well beyond the funding period;
- to stimulate dialogue and cooperation at the local and regional level in order to improve the conservation status of the cetaceans in the ACCOBAMS Area;
- to assist in the development of national capacities to conserve cetaceans and their habitats;
- to raise awareness on the conservation and management needs of cetaceans and their habitats;
- to make small funds available to communities and other conservation stakeholders with limited access to alternative funding sources.

TA3- CONCERNING THE ENHANCEMENT OF CAPACITIES FOR CONSERVATION OF CETACEANS

3.1 - Develop, implement and monitor a capacity enhancement plan

- Resolution 2.11 Facilitation of Scientific Research Campaigns and Programs
- Resolution 3.9 Guidelines for the Establishment of a System of Tissue Banks within the ACCOBAMS Area and the Ethical
- Resolution 4.19 Model measures for the conservation of cetaceans
- Resolution 6.23 Capacity Building

RESOLUTION 2.11 - Facilitation of Scientific Research Campaigns and Programs

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

Aware that scientific research in the Agreement area remains essential to identify the populations having the least favourable conservation status and to address the conservation priorities,

Recalling that research field works are also a major tool for capacity building,

Considering with appreciation international surveys organised on behalf of ACCOBAMS by IFAW and Ocean Alliance in the previous triennium and the help of several Riparian States to delivering research permits,

Aware that international surveys in semi-enclosed seas needs more than elsewhere several national permits, which procedures are not harmonized, long lasting and not well publicized,

Recalling

- Resolution 2.7, adopting a working program for 2005-2007,
- Resolution 2.8 on derogation pursuant to Article II.1 of the Agreement for scientific research,

Without prejudice of national measures imposed by maritime traffic and public security,

1. *Calls upon* Parties, Riparian States, Range States, the International Organisations, the International Scientific Institutions and others to participate and support the ACCOBAMS studies;
2. *Urges* Parties to facilitate research *in situ* campaigns organized under the auspices of ACCOBAMS;
3. *Calls upon* Parties to provide the Agreement Secretariat with the pertinent information concerning *inter alia*:
 - national legal definitions of marine scientific research;
 - concerned geographical areas;
 - conditions and regulations established by the coastal state;
 - procedures;
 - contact points to address any requests of *in situ* research;
4. *Instructs* the Agreement Secretariat to establish, make available and update all the relevant information on the Agreement website.

RESOLUTION 3.9 - Guidelines for the Establishment of a System of Tissue Banks within the ACCOBAMS Area and the Ethical Code

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

On the recommendation of the ACCOBAMS Scientific Committee:

Stressing that:

- Parties' decisions on efficient conservation measures must be based on the best available scientific information, and
- The goal of the present resolution is to ensure that appropriate tissues from stranded, by-caught and other marine mammals are appropriately harvested, processed, stored and distributed,

Recalling that:

- Article II, paragraph 3 (e) of the Agreement invites Parties to reinforce the collection and dissemination of information,
- The Conservation Plan, which is fully part of the Agreement, binds the Parties to:
 - Develop systematic research programmes on dead, stranded, wounded or sick animals to determine the main interactions with human activities and to identify present and potential threats (paragraph 4 (d)),
 - Develop systems for collecting data on observations, by-catches, strandings, epizootics and other phenomena related to cetaceans (paragraph 5 (a)), and
 - Establish, as appropriate, a sub-regional or regional data bank for storing the information collected (paragraph 5 (e)),

Recalling also:

- ACCOBAMS Resolution 1.10 on cooperation between national networks of cetacean strandings and the creation of a database,
- ACCOBAMS Resolution 2.8 concerning the granting of derogations related to Article II and in particular the non-lethal sampling of live cetacean tissues in the wild, and
- ACCOBAMS Resolution 2.10 on the facilitation of exchanges of tissue samples,

Aware that the usefulness of tissue banks is closely associated with the existence of effective stranding networks in the ACCOBAMS area;

Recognizing that stranding networks should be maintained in all Member States and established where they do not exist;

Taking advantage of the existence of a tissue bank in the ACCOBAMS area, the Marine Mammal Tissue Bank of the University of Padua;

1. *Adopts the guidelines for establishment of a system of tissue banks within the ACCOBAMS Area and its ethical code as presented in the Annex 1 to this Resolution;*

2. *Urges Parties :*

- To promote the establishment of national tissue banks;
- To make a long-term commitment to maintain the existence and functionality of national tissue banks;
- To ensure that local stranding networks, governmental organizations, non-profit organizations and any other agencies involved in responding to cetacean strandings contribute to national tissue banks (or, in the absence of a national bank, to the nearest regional tissue bank) by harvesting and sending tissue samples according to a recognized protocol;
- To help in establishing a specific tissue bank network; and
- To support existing local national tissue banks, promote their participation in the tissue bank network and facilitate in this respect exchange of tissues in the tissue bank network by arranging proper permits according to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

ANNEX 1

GUIDELINES FOR THE ESTABLISHMENT OF A SYSTEM OF TISSUE BANKS WITHIN THE ACCOBAMS AREA AND THE ETHICAL CODE

Introduction

The Scientific Committee of ACCOBAMS has recognized the need for Institutions dedicated to the preservation of body parts from marine mammals of the Mediterranean and Black Seas. Such Institutions, from now onward identified as Tissue Banks, should a) promote non-invasive or post-mortal collection of samples from cetaceans living in the Mediterranean and Black Seas and adjacent waters; b) prepare such samples for long term storage; and c) distribute them to the community of marine mammal researchers.

Tissue samples hold an enormous potential for scientific exploitation. Sampling skin fragments from living animals by non-lethal methods or removing tissues and organs from stranded animals may allow extensive studies of population health and dynamics, body structure and pathology, including viral pathology. Tissues may be studied comparing materials derived from geographically separated sites, or a given organ may be investigated in a series of animals that died several years apart. Furthermore, the availability of tissues from cetaceans may greatly improve studies on viral incidence, making it possible to compare lesions and/or viral genetics in outbreaks of epidemics that occurred several years one from the other or simultaneously in distant locations.

The importance of Tissue Banks increases when a single bank is flanked by a series of cooperating Institutions, each dedicated to preservation of body parts of marine mammals in a specific marine area. A network of banks (possibly one for each Member State) could ensure information and exchanges that are vital for scientific studies and could also promote prompt action in case of environmental emergencies (i.e. viral epidemics).

Following thorough examination of primary issues on cetacean mortality, anatomy, pathology and toxicology, and on methods for the collection and preservation of tissue samples, the ACCOBAMS Scientific Committee has approved the purpose of establishing a network of Tissue Banks dedicated to harvesting, manipulation and storage of tissues sampled from cetaceans of the Mediterranean and the Black Sea.

Goals of the effort

The objective of the present Guidelines is to establish a network of Tissue Banks operating along the shores of the Mediterranean and Black Seas to collect tissues from stranded marine mammals and serve the Agreement by making available biological material, mostly deriving from stranded and by caught cetaceans, to the scientific community. Such material would then be used to promote knowledge, *inter alia*, on mortality causes, functional anatomy, physiology (including respiratory and diving physiology), toxicology, pathology (including infectious diseases), population structure, and trophic relationships of the region's cetaceans.

In an ideal context each ACCOBAMS Member State should work toward establishing a National Tissue Bank to serve the adjacent waters.

Samples from each Tissue Bank should be made available to the scientific community of cetacean researchers for free or at the lowest possible cost. Such costs should be – whenever possible – covered by Institutional funding to increase research opportunities.

Countries of the ACCOBAMS Agreement should support the tissue bank system in the general interest of environmental safety and animal and human health protection.

A coordinated network should be established to link all ACCOBAMS Tissue Banks and a Coordinator should be selected among the scientific personnel of the banks (see also below Super national Integration). The link should be extended also to scientist working toward establishing a Tissue Bank in a specific member State even before the bank opens officially, to ensure all potential assistance and support.

Goal of the network is also to prepare and maintain *on-line* databases available to the scientific community. Researchers may check the availability of a given specimen in real time and send motivated scientific requests for it. Each bank should be connected to the others by a continuous exchange of information and possess a specific CITES authorization to directly export/import from/to similar Institutions, avoid undue delays and fully operate within International authorizations.

A list of active tissue bank can be found in Appendix 1.

Procedures for the establishment and maintenance

Individual Tissue Banks who intend to work within the ACCOBAMS agreement should apply to the ACCOBAMS Secretariat providing an individual action plan based on the present Guidelines or eventual future revisions.

The action plan should include a Section dedicated to the existing equipment and personnel and to the funding perspectives.

The Secretariat will approve the action plan after consultation with the Scientific Committee and the Tissue Bank Working Group. Approval from ACCOBAMS Authorities will allow the new Tissue Bank to enter the existing network and ensure support from the Secretariat in every endeavour to obtain recognition and financial aid from Authorities of the relative Member State.

Once part of the ACCOBAMS network, each Tissue Bank should operate harmonically with the other similar Institutions and promote open exchanges of tissues and information with the other Tissue Banks. Eventual area conflicts and disagreements should be discussed within the Tissue Bank Working Group and possibly resolved with mutual cooperation. Failures to comply will be reported to the Scientific Committee and Secretariat for further arbitrate.

The existing Tissue Banks will establish contacts with all governmental and non-governmental Organizations interested in cetacean investigations and welfare. This action should take place within two years following approval of the present Guidelines. A specific ethical code is presented in

Annex 1.

Contacts, exchanges, research programs should follow CITES protocols and International and National regulations concerning protected species. According to ACCOBAMS Resolution 2.10, each Country should designate a specific CITES structure responsible for the Permit procedures.

Super national Integration

The Tissue Bank network will communicate by establishing a *Tissue Bank Working Group* under the responsibility of a Coordinator elected every three years among the scientific personnel of the Tissue Banks. The *Tissue Bank Working Group* will report periodically to the Scientific Committee and will present a report of the activities at the Meetings of the Scientific Committee.

The activities of the *Tissue Bank Working Group* will be reported also to the Secretariat who will suggests specific action plans, research goals and topics of discussion according to the transnational situation.

Objectives, priorities of research and tissues to be stored for the existing and potential future Tissue Banks are established by continuous cooperation between the *Tissue Bank Working Group* and the ACCOBAMS Scientific Committee, and by periodical scientific meetings organized on a regular basis by the interested Institutions.

The ACCOBAMS Secretariat and Scientific Committee are responsible for changes and modification of the Guidelines for establishing Tissue Banks, with the Coordinator of the *Tissue Bank Working Group* acting as a Consultant of the Secretariat.

How to establish a Tissue Bank in an ACCOBAMS member State

Here follows a short summary of the ideal characteristics of an ACCOBAMS tissue bank

- The Tissue Bank should be hosted within an official Institution to ensure the proper scientific background, expertise, equipment and continuity. Candidate institutions are Museums of Natural History, Oceanographic Museums, Universities (Faculties of Sciences or Veterinary Medicine), Public Health Institutions (Animal Health Departments), Environmental Agencies (Marine Monitoring Institutions) or even Ministries of Environment.
- The Tissue Bank should have an adequate number of rooms and/or offices, even in coexistence with other functions (i.e.: a few dedicated rooms may be equivalent to a whole floor in coexistence with other parties). Tissues should be stored in a dedicated space or storage room, furnished with refrigerators or cabinets depending on the nature of the tissues (frozen or fixed). Tissues stored in the bank should not be maintained together with specimens meant for other purposes.
- Each bank should have a fixed yearly budget desirably provided by public funding. The budget could vary according to the different States, but should ensure the coverage of the basic expenses including laboratory equipment (freezers, cabinets) and reagents (formalin, DMSO, etc), and also current operative costs including mail, telephone, energy.
- Public funding should also cover the cost of at least one dedicated employee (laboratory technician or investigator). A long-term position is desirable to ensure continuity in the developing activities of the bank.
- Each bank should open a dedicated web-site in which scientists from the outside could look into the list of preserved materials and possibly request them directly on-line.

Guidelines for tissue harvesting and storage

Tissues should be harvested from every marine mammal found dead after stranding or floating at sea, provided that the operating conditions (including safety health procedures for personnel responsible of the sampling) allow it.

Non-invasive collection of skin samples or bodily fluid is also acceptable, provided the operating party possesses the required Authorizations to perform such biopsy or sampling from the National Ministry of Environment (for CITES regulation) and Ministry of Health (according to EEC Directive 86/609 and later integrations concerning animal protection).

Sampling should be performed under guidance from expert personnel (veterinarians, biologists with specific training, laboratory technicians).

Cubes of sampled tissues should not exceed 1 cm³. Larger samples will be harder to preserve. Samples meant for molecular biology should be either immediately frozen and stored at -30-80 C° or immersed in DMSO. Samples meant for histology should be immersed in buffered formalin. Detailed instructions on how to perform sampling are contained in:

Bruno Cozzi (editor) *Marine mammals of the Mediterranean and Black Sea Natural History and Biomedicine*, Massimo Valdina Editore, Milan, 2006 I.S.B.N. 88-88176-06-3 Special edition prepared for ACCOBAMS

Tissues should be sampled from every organ of the body. If and when available, at least one tooth should be removed from the mandible to provide data on age of the animal. If tooth removal proves impossible, an X-ray or densitometry of the pectoral fin will also allow insights on age.

If and when possible, the brain should be removed as a whole, and subsequently subdivided into transverse (coronal) section not thicker than 1 cm and immersed in buffered formalin. Focal cerebral areas intended for molecular biology should be frozen following the procedures outlined for the other tissues.

Parasites should be photographed and preserved in alcohol or formalin according to specific research purposes.

Detailed pictures should be taken during sampling. If no veterinarian is present on the spot, photographs of all external signs on the body should be taken before opening the body cavities and organ sampling. Pictures of the organs will also help the pathologists in their diagnosis.

Upon arrival at the Tissue Bank, tissues should be classified and prepared for long term storage, either in deep-freezers (frozen tissues for molecular biology) or specific cabinets (for DMSO and formalin-fixed samples).

An updated database should be available on-line containing information on the stranded animal and the tissues available.

Guidelines for Tissue Bank advertisement and tissue distribution

Stored tissues should be made available to the community of marine mammal researchers for free or at the lowest possible cost. To regulate tissue distribution an Ethical Code is presented in Appendix 2.

Tissue Banks should be widely known and recognized as open sources of biological material. To this effect, the establishment of websites is encouraged. A quick research through the on-line database should help scientists from the outside to select tissues and species of interest. When available, data on age, length and body condition of the animal at the moment of sampling should also be available.

Tissue samples could be asked *on-line* or by mail writing a request complete with full address, details on the Institution requiring the samples and a short explanation of the research for which the samples will be analyzed.

Scientists asking for the samples should allow their names and Institutional addresses to be entered into the Bank database and recognize the source of the samples in the Materials & Methods and Acknowledgement sections of their published studies.

Appendix 1**A list of active tissue bank****La Rochelle Bank**

Centre de Recherche sur les Mammifères Marins, Université de La Rochelle
23, Av. A. Einstein, 17071 La Rochelle cedex
France
Tel. : +33 54 644 99 10
e-mail: vridoux@univ-lr.fr

Padua Bank

Mediterranean Marine Mammal Tissue Bank - Banca per i tessuti dei mammiferi marini del Mediterraneo
Scientific Coordinator professor Bruno Cozzi
Department of Experimental Veterinari Science, University of Padua
Viale dell'Università 16 35020 Legnaro – Agripolis (PD) - ITALY
phone: +39.049.8272626 - +39.049.8272621, fax: +39.049.8272669
e-mail: bruno.cozzi@unipd.it
web site: <http://www.sperivet.unipd.it/tissuebank/>

Barcelona Bank

Barcelona BMA Tissue Bank
Scientific Coordinator professor Alex Aguilar
GRUMM-GBC, Department of Animal Biology (Vertebrates), Faculty of Biology, University of Barcelona
08028 Barcelona - Spain
Telephone: (+34) 93 402 14 53; Fax: (+34) 93 403 44 26
e-mail: alexa@bio.ub.es

Appendix 2

Ethical Code for cetacean tissue banks active within the ACCOBAMS Agreement

This ethical code is provided by the ACCOBAMS Secretariat for Tissue Banks active within the Agreement. All tissue banks must accept the Code to operate within the ACCOBAMS Tissue Bank and Stranding network.

Periodical revision of the ethical code will be undertaken every three years by the Tissue Bank working Group and approved by the Scientific Committee.

GENERAL DISPOSITIONS

Definition

ACCOBAMS Tissue Banks are public Institutions dedicated to harvesting, preparing, conserving and distributing tissues derived from marine mammals living in the Mediterranean Sea, Black Sea and adjacent waters.

General principles

1. Tissue Banks must operate according to relevant rules and regulations of the host country.
2. Their activity must follow procedures approved by the competent State Authorities for treatment of live or dead animals under CITES. Accordingly, Tissue Banks must follow CITES procedures during the acquisition, processing and distribution of tissue fragments or bodily parts.
3. Contacts, exchanges, research programs concerning Tissue Banks alone or in relation to the scientific community must follow CITES protocols and international and national regulations concerning protected species.
4. Tissue Banks must avoid any harm to any marine mammal or vertebrate occurring either directly or indirectly in relation to their activity.
5. Tissue Banks are non-profit institutions. Samples from each Tissue Bank should be made available to the scientific community free of charge. Tissue distribution costs may be met either with public institutional contributions or eventually shared with the requesting parties (i.e. scientists asking for specific tissues for scientific purposes). In this latter case the Tissue Bank should net no profit or gain from the transaction but only aim at covering live expenses.
6. Each National Tissue Bank must operate with the network of ACCOBAMS Tissue Banks.

Goals

ACCOBAMS Tissue Banks should:

1. Encourage non-invasive or post-mortal collection of samples from cetaceans living in the Mediterranean and Black Seas and adjacent waters.
2. Be in line with the guidelines on granting exceptions when a special permit is granted.
3. Prepare such samples for long-term storage.
4. Make samples available to the community of cetacean researchers.
Biological material distributed by Tissue Banks should be used to promote knowledge on mortality causes, functional anatomy, physiology (including respiratory and diving physiology), toxicology, pathology (including infectious diseases), population structure, and trophic relationships of the region's cetaceans.

RELATIONSHIP AMONG TISSUE BANKS

1. Individual Tissue Banks which intend to work within the ACCOBAMS framework should apply to the ACCOBAMS Secretariat for inclusion in the network. The Secretariat will approve the programme of work after consultation with the Scientific Committee and the Tissue Bank Working Group.
2. Approval from ACCOBAMS Authorities will allow the new Tissue Bank to enter the existing network and ensure support from the Secretariat in every endeavour to obtain recognition and financial aid from Authorities of the relative Member State.
3. Once part of the ACCOBAMS network, each Tissue Bank should operate harmoniously with other similar Institutions and promote open exchange of tissues and information with the other Tissue Banks. Eventual area conflicts and disagreements should be discussed within the Tissue Bank Working Group and possibly resolved with mutual cooperation. Failures to comply will be reported to the Scientific Committee and Secretariat for further arbitrate.

SPECIFIC DISPOSITIONS

1. It is desirable that the Tissue Bank be hosted within an official Institution to ensure the proper scientific background, expertise, equipment and continuity in the long-term. Candidate institutions include Museums of Natural History, Oceanographic Museums, Universities (Faculties of Sciences or Veterinary Medicine), Public Health Institutions (Animal Health Departments), Environmental Agencies (Marine Science Institutions) or even Ministries of Environment;
2. The Institution should be registered within the CITES according to the Resolution CITES Conf 11.15 and the ACCOBAMS Resolution 2.10 in order to facilitate tissue exchanges;
3. The Tissue Bank should be given adequate space, even in coexistence with other functions (i.e.: a few dedicated rooms may be equivalent to a whole floor in coexistence with other parties). Tissues should be stored in a dedicated space or storage room, furnished with refrigerator or cabinets depending on the nature of the tissues (frozen or fixed). Tissues stored in the bank should not be maintained together with specimens meant for other purposes;
4. Each bank should have a fixed yearly budget desirably provided by public funding. The budget could vary according to the different cases, but should ensure the coverage of the basic expenses including laboratory equipment (freezers, cabinets) and reagents (formalin, DMSO, etc), and also current operative costs including mail, telephone, internet access and website, energy. Adequate backup must be provided in the eventuality of a power shortage. Public funding should also cover the cost of at least one dedicated employee (laboratory technician or investigator). A long-term position is desirable to ensure continuity in the developing activities of the bank;
5. Each bank should open a dedicated website in which scientists from the outside could look into the list of preserved materials and possibly request them directly on-line

TISSUE HARVESTING AND STORAGE

1. Tissues should be harvested from every cetacean found dead after stranding or floating at sea, provided that the operating conditions (including safety health procedures for personnel responsible of the sampling) allow it. Stranding networks should actively contribute to harvesting tissue samples and properly deliver them to the National Tissue Bank or to a local reference Institution for subsequent transport to the closest ACCOBAMS Tissue Bank.
2. Non-invasive collection of skin samples or bodily fluid is also acceptable, provided the operating party

possesses the required authorizations to perform such biopsy or sampling from the competent Authorities.

3. Sampling should be performed under guidance from expert personnel (veterinarians, biologists with specific training, laboratory technicians) and follow the ACCOBAMS for Tissue Banks.
4. Detailed pictures should be taken during sampling. If no veterinarian is present on the spot, photographs of all external signs on the body should be taken before opening the body cavities and organ sampling. Pictures of the organs will also help the pathologists in their diagnosis.

DATABASE, INFORMATION AND PRIVACY ISSUES

1. An updated *on-line* database should be available containing information on the stranded animal and the tissues available.
2. Information on the distribution and use of the samples distributed by the National Tissue Bank should be included in the National Report.
3. Scientists asking for the samples should allow their names and institutional addresses to be entered into the Bank database and recognize the source of the samples in the Materials & Methods and Acknowledgement sections of their published studies.

RESOLUTION 4.19 - Model Measures on Conservation of Cetaceans

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS):

Recalling that compliance with the obligations arising from ACCOBAMS requires the adoption and enforcement of relevant national legislation, as provided for in Annex 2, paragraph 1, to ACCOBAMS,

Considering that it is appropriate that, in drafting and adopting national legislation, the Parties follow, wherever appropriate, a uniform model based on the achievement of a favourable conservation status for cetaceans,

1. *Takes note* of the Model Measures on Conservation of Cetaceans that is annexed to the present Resolution;
2. *Mandates* the Agreement Secretariat:
 - to transmit the Model Legislation on Conservation of Cetaceans to the Parties for their consideration and comments; and
 - to report on this subject at the next Meeting of the Parties.

ANNEX

Model Measures on Conservation of Cetaceans

Considering that:

- Cetaceans are an integral part of the marine ecosystem which must be conserved for the benefit of present and future generations and that conservation of cetaceans is a common concern,
- for hundreds of years cetaceans were taken or killed for commercial purposes, with some cetaceans' stocks hunted to near extinction,
- cetaceans are particularly vulnerable to the long-lasting effects arising from over-exploitation and many cetaceans' stocks have not recovered,
- today cetaceans face an uncertain future due to a variety of threats, including degradation and disturbance of their habitats, ozone depletion, chemical and noise pollution, marine debris, vessel strikes, entanglements with fishing gear, prey depletion, reduction of food resources, increasing offshore industrial development and escalating threats from climate change, including ocean acidification,
- because cetaceans migrate throughout the world's oceans, international cooperation is required to successfully conserve and protect them,
- where there are threats of serious or irreversible damage to cetaceans, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent the damage,
- [State] is a party to a number of international relevant instruments, such as the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS), the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols, the Convention for the Protection of the Black Sea against Pollution and its Protocols, International Convention for the Regulation of Whaling, the Convention on the Conservation of European Wildlife and Natural Habitats, the Convention on Biological Diversity, the Convention on International Trade in Endangered Species of Wild Fauna and Flora [check if the State is a party to all of them];
- the following Law is adopted [or equivalent formula in national use].

SECTION I GENERAL PROVISIONS

Art. 1 Definitions

For the purposes of this law:

1. "Cetaceans" means animals, including individuals, of species, subspecies or populations of *Odontoceti* or *Mysticeti*.
2. "Habitat" means any area in the range of cetaceans where they are temporarily or permanently resident, in particular, feeding areas, calving or breeding grounds and migration routes.
3. "Conservation status" means the sum of the influences acting on cetaceans that may affect their long-term distribution and abundance.

Conservation status is taken as favourable when:

- population dynamics data indicate that the cetaceans are maintaining themselves on a long-term basis as a viable component of their ecosystems;
 - the range of the cetaceans is neither currently being reduced, nor is likely to be reduced, on a long-term basis;
 - there is, and will be in the foreseeable future, sufficient habitat to maintain the population of the cetaceans on a long-term basis;
 - the distribution and abundance of the cetaceans' approach historic coverage and levels to the extent that potentially suitable ecosystems exist and to the extent consistent with wise wildlife management.
4. "Endangered" in relation to a particular cetacean species, subspecies or populations means that it is in danger of extinction throughout all or a significant portion of its range.
 5. "Taking" means to hunt, capture or harass a cetacean.

6. "Harassing" means the disruption of a cetacean's normal behaviour or prior activity by deliberate or negligent acts of pursuit, dispersal, herding, interference, torment, tagging, marking, branding or other acts that annoy or trouble cetaceans, as well as attempts and repeated approaches for such purposes.
7. "Cetaceans watching" means any activity conducted for the purpose of observing a cetacean, including but not limited to being in the water for the purposes of observing or swimming with a cetacean, or otherwise interacting with a cetacean.
8. ["Drift net" means any gillnet held on the sea surface or at a certain distance below it by floating devices, drifting with the current, either independently or with the boat to which it may be attached. It may be equipped with devices aiming to stabilise the net or to limit its drift;]
9. "Competent national authority" means [indicate it, on the basis of national legislation].

Art. 2

Purposes of the Law

The purposes of this law are the following:

- a) to reduce, and where possible, eliminate sources of human-caused death, injury, harassment and disturbance of the cetaceans;
- b) to strengthen cetacean's conservation and protection efforts of relevant international organizations;
- c) to initiate, expand and fund research to improve the understanding of cetaceans, cetacean health and reproduction, cetacean habitats, as well as the impacts of human activities and other threats to cetaceans.

Art. 3

Geographical Scope of the Law

1. The geographical scope of this Law, hereinafter referred to as the "area covered by this Law", is constituted by territory of [State], as well as the maritime internal waters, the territorial sea and the exclusive economic zone [or fishing zone or ecological protection zone] of [State],
2. Beyond the area covered by this Law, the provisions of this Law apply to acts or omissions which, as the case may be, are attributed to:
 - a) nationals of [State];
 - b) persons of whatever nationality who for whatever reason are on board a vessel flying the flag of [State] or an aircraft registered in [State];
 - c) corporations incorporated in [State];
 - d) owners or persons in charge of the operation of a vessel flying the flag of [State] or an aircraft registered in [State].

SECTION II

PROHIBITED OR REGULATED ACTIVITIES

Art. 4

Possession or Use of Drift Nets

It is unlawful to keep on board or to use any drift nets.

Art. 5

Fishing Gears

It is unlawful to discard or leave adrift at sea fishing gears.

Cetaceans that are caught incidentally in fishing gear shall be immediately released in conditions that assure their survival.

Art. 6**Killing or Injuring a Cetacean**

It is unlawful to take any action that results in the death or injury of a cetacean.

Art. 7**Taking of Cetaceans**

It is unlawful to take a cetacean or attempting to engage in such activity.

Art. 8**Possession of Cetaceans**

It is unlawful to possess a cetacean, a part of a cetacean or a product derived from a cetacean killed or taken in violation of this Law.

Art. 9**Import of Cetaceans**

1. It is unlawful to import into [State] any cetacean or part any cetacean which was killed or taken in violation of this Law or killed or taken in another State.
2. It is unlawful to import into [State] any product derived from a cetacean if the importation into the [State] of the cetacean from which such product is made is unlawful under para. 1 of this Article or if the sale in commerce of such product in the country of origin of the product is illegal.

Art. 10**Use of Ports**

It is unlawful to use any port, harbour or other place under the jurisdiction of [State] to take, import or possess a cetacean, any part of a cetacean or any product derived from a cetacean in violation of Art.9.

Art. 11**Trade in Cetaceans**

It is unlawful to transport, purchase, sell, barter, export or offer to purchase, sell or export any cetacean, any part of a cetacean or any product derived from a cetacean in violation of this Law.

Art. 12**Exceptions**

The provisions of this Section do not apply:

- a) for the purpose of non-lethal in situ research aimed at maintaining a favourable conservation status for cetaceans, after having obtained the advice of the ACCOBAMS Scientific Committee and a permit by the [competent national authority] issued under Art. 13;
- b) in emergency situations for cetaceans, when exceptionally unfavourable or endangering conditions occur;
- c) to an action that is taken in a humane manner and is reasonably necessary to relieve or prevent suffering of a cetacean;
- d) to an action that is reasonably necessary to prevent a risk to human life or health;
- e) to an action that occurs as a result of an unavoidable accident, other than an accident caused by negligent or reckless behaviour;
- f) an unintentional action or omission which would be a contrary to Arts. from 5 to 11 above, provided that the author, within seven days after becoming aware of it, notifies the [competent national authority] in writing, by telephone or by use of any other electronic equipment that the action or omission occurred and provides other relevant particulars, including time and place.

SECTION III
MEASURES FOR THE CONSERVATION OF CETACEANS

Art. 13

Scientific Research

1. The [competent national authority] shall promote a comprehensive programme of scientific research to improve knowledge about cetaceans in order to ensure their favourable conservation status.
2. The [competent national authority] shall ensure that scientific research activities on cetaceans:
 - are conducted to high scientific and animal welfare standards;
 - contribute to regional priorities for conservation and management;
 - are undertaken with appropriate regional co-ordination and oversight in order to maximise the benefit of the research and minimise negative effects on individuals, populations and ecosystems.
3. Scientific research initiatives on cetaceans include, but are not limited to:
 - a) the periodical monitoring of cetacean status and trends, especially in poorly known areas or as regards species for which little data are available;
 - b) the determination of the migration routes, habitat use and the breeding and feeding areas, in order to define where human activities may need to be regulated as a consequence;
 - c) the evaluation of the feeding requirements of cetaceans in order to adapt fishing regulations and techniques accordingly;
 - d) the development of systematic research programmes on dead, stranded, wounded or sick cetaceans to determine the main interactions with human activities and to identify present and potential threats;
 - e) the collection of information on cetaceans causes of deaths obtainable through cetaceans' necropsies, particularly of endangered cetaceans' species;
 - f) the development of passive acoustic techniques to monitor cetacean population;
 - g) an assessment of the direct and indirect effects of anthropogenic noise on cetacean's distribution, behaviour, and reproduction;
 - h) information on the impacts on reproduction and immune systems from chemical pollutants;
 - i) information on ecosystem changes due to climate warming;
 - j) the development of more cetacean-friendly fishing gear and methods, including effective fishing gear marking systems;
 - k) the use of passive acoustic sonar and other technologies, including vessel design, to reduce mortality of cetaceans from vessel strikes.

In designing and carrying out this scientific research programme, the [competent national authority] shall cooperate with institutions and experts that are knowledgeable about regional issues relating to cetacean's conservation and management.

Art. 14

Permits for Research

1. Only non-lethal in situ research aimed at maintaining a favourable conservation status for cetaceans is allowed on the basis of a permit granted under an application.
2. Applications for non-lethal in situ research activities that involve the taking of cetaceans shall be reviewed and determined by the [competent national authority] on the basis of the relevant Guidelines adopted under the ACCOBAMS and after having obtained the advice of the ACCOBAMS Scientific Committee.
3. As soon as practicable after receiving the application, the [competent national authority] must cause to be published on the internet the details of the application and an invitation for anyone to give the [competent national authority] comments within twenty days on whether the permit should be issued.
4. In making a decision on the application, the [competent national authority] must consider the comments made under para. 2 above, if any.
5. The [competent national authority] must not issue the permit unless satisfied that the holder of the permit will take all reasonable steps to minimise the interference with cetaceans.
6. No permit shall be issued by the [competent national authority] if there are threats of serious or irreversible damage for cetaceans and their habitats and if measures to prevent such damage are not adopted.
7. The [competent national authority] shall not grant a permit authorising its holder to kill a cetacean or to take a cetacean for live display.

8. Any permit issued under this Article shall specify:
 - a) the number and kind of cetaceans which are authorized to be taken,
 - b) the location and manner in which they may be taken, and
 - c) any other terms or conditions which the [competent national authority] deems appropriate.
9. Researchers holding permit shall submit to the [competent national authority] an annual report of their activities.
10. The [competent national authority] may modify, suspend, impose further conditions to, or revoke in whole or part any permit issued under this Article in order to make such permit consistent with any change made after the date of issuance with respect to any applicable regulation or in any case in which a violation of the terms and conditions of the permit is found.

Art. 15

Impact Assessment for Activities that May Affect Cetaceans or their Habitat

1. The [competent national authority] shall conduct on a regular basis an impact assessment on the conservation status of cetaceans for either allowing or prohibiting the continuation or the future development of activities that may affect cetaceans or their habitat in the area covered by this Law, including fisheries, offshore exploration and exploitation, nautical sports, as well as establishing the conditions under which such activities may be conducted.
2. The results of the impact assessment shall guide in the establishment of the conditions to issue a permit for the relevant activities under Art. 16.

Art. 16

Permits for Activities that May Affect Cetaceans or their Habitat

1. In issuing permits for activities covered by Art. 15 of this Law and in prescribing related regulations, the competent national authorities shall give full consideration to all factors related to the conservation status of cetaceans, including but not limited to the effect of such permits and regulations on:
 - a) existing and future levels of cetaceans' species and population stocks;
 - b) existing international treaty obligations;
 - c) the marine ecosystem and related environmental considerations;
 - d) the conservation, development, and utilization of fishery resources; and
 - e) the economic and technological feasibility of implementation.
2. The [competent national authority] shall undertake periodical scientific reviews of the impact of permits issued under this Article on the cetaceans, providing an opportunity for public comments during the course of such review, and shall include a response to public comments in the final report on such reviews.
3. The competent authorities may modify, suspend, impose further conditions to, or revoke in whole or part any permit issued under this Article in order to make such permit consistent with any change made after the date of issuance with respect to any applicable regulation or in any case in which a violation of the terms and conditions of the permit is found.

Art. 17

Cetacean By-Catch

The [competent national authority] shall:

- a) adopt regulations to reduce cetacean by-catch in fishing activities through the use of appropriate devices, such as pingers and acoustic mitigation devices;
- b) regularly monitor the effectiveness and efficiency of such devices;
- c) estimate cetacean by-catch for different types of fisheries;
- d) raise awareness of fishermen about the need to mitigate the impact of fishing on cetacean populations.

Art. 18

Noise Restrictions

The [competent national authority] shall:

- a) take into account the relevant instruments adopted at the international level, adopt regulations for minimizing the introduction of incidental noise from commercial shipping operations and other

activities into the marine environment for purposes of reducing the potential adverse effects on cetaceans and other marine life;

- b) study and reduce the adverse effects of anthropogenic noise, including when produced by military activities, on cetaceans and other marine life;
- c) identify and promote the use of areas to be avoided by commercial vessels and other navigational measures, such as speed reduction areas in important cetaceans' habitats, in order to minimize the threat of serious injury to cetaceans resulting from collisions with commercial vessels.

Art. 19

Discharges at Sea

The [competent national authority] shall establish and maintain a regularly updated list of pollutants believed to have adverse effects on cetaceans and shall adopt regulations on the discharge at sea of such pollutants.

Art. 20

Specially Protected Areas

1. Within the framework of the national legislation on protected areas and the relevant international treaties, the [competent national authority] shall establish and manage one or more specially protected areas for cetacean conservation, corresponding to the areas which serve as habitats of cetaceans or which provide important food resources for them.
2. The areas referred to in para. 1 shall be established under specific regulations and shall be managed under a management plan and according to criteria agreed upon at international level.
3. If other States are involved, the areas referred to in para. 1 shall be established under an international treaty.
4. The [competent national authority] shall, if appropriate, propose the areas referred to in para. 1 for inscription in lists established under international treaties.

Art. 21

Capacity Building, Training and Education

1. The [competent national authority] shall give priority to capacity building in order to develop the necessary expertise to ensure a favourable conservation status for cetaceans, in particular as regards:
 - a) the development of systems for collecting data on observations, incidental catches, strandings, epizootics and other phenomena related to cetaceans;
 - b) the keeping of lists of national authorities, research and rescue centres, scientists and non-governmental organizations concerned with cetaceans;
 - c) the preparation of a directory of protected or managed areas which could benefit the conservation of cetaceans and of marine areas of potential importance for the conservation of cetaceans;
 - d) the preparation of a directory of national and international legislation concerning cetaceans;
 - e) the establishment of data banks for the storage of information collected under paragraphs a) to d) above;
 - f) the preparation of an information bulletin on cetacean conservation activities;
 - g) the preparation of information, awareness and identification guides for distribution to users of the sea;
 - h) the preparation of a synthesis of veterinary recommendations for the rescue of cetaceans; and
 - i) the development and implementation of training programmes on conservation techniques, in particular, on observation, release, transport and first aid techniques, and responses to emergency situations.
2. In collaboration with competent international institutions and the corresponding authorities of other States, the [competent national authority] shall develop common tools for the collection and dissemination of information about cetaceans and shall organize training courses and education programmes.

Art. 22**Emergency Plans**

1. The [competent national authority] shall develop and implement emergency measures for cetaceans when exceptionally unfavourable or endangering conditions occur. In particular, it shall:
 - a) prepare, in collaboration with competent bodies, emergency plans to be implemented in case of threats to cetaceans, such as major pollution events, important strandings or epizootics;
 - b) evaluate capacities necessary for rescue operations for wounded or sick cetaceans; and
 - c) prepare a code of conduct governing the function of centres or laboratories involved in this work.
2. In collaboration with competent international institutions and the corresponding authorities of other States, the [competent national authority] shall develop common tools for the preparation and implementation of emergency plans.

SECTION IV**CETACEAN WATCHING****Art. 23****Scope of this Section**

This Section addresses cetacean-watching activities carried out for commercial purposes by vessels or aircraft.

Art. 24**Impact assessment**

1. Before allowing cetacean-watching activities, the [competent national authority] shall require an assessment on their impact on the favourable conservation status for cetaceans.
2. The impact assessment shall be based on the best available scientific information.
3. No cetacean-watching activities are authorized if there are threats of significant adverse impact on the behavioural patterns or physiological well-being of cetaceans, having regard to the number and effect of existing cetacean-watching operations.
4. Based on the results of the impact assessment, the [competent national authority] shall establish special conditions to carry out cetacean-watching activities.
5. The impact assessment shall be repeated at periodic intervals.

Art. 25**Permit**

1. Any commercial cetacean-watching activity shall be carried out under a permit granted by the [competent national authority].
2. Every applicant for a permit for a vessel or aircraft cetacean-watching operations should submit to the [competent national authority] an application in writing setting out:
 - a) the type, number and speed of vessels or aircraft intended for use and the maximum number of vessels or aircraft the operator proposes to operate at any time;
 - b) information relating to the noise level of each vessel or aircraft both above and below the sea;
 - c) the area of operation;
 - d) the base of operation;
 - e) the duration and frequency of trips;
 - f) the species of cetaceans with which the operation will have contact and the kind of contact;
 - g) the method of location of cetaceans;
 - h) the maximum number of passengers to be taken on board;
 - i) the experience with cetaceans demonstrated by the persons in command of the vessel or aircraft;
 - j) the educational materials provided to the passengers;
 - k) the altitude of the aircraft.
3. No permit shall be granted if the competent national authority is not satisfied that:
 - a) the operator and the staff who come into contact with cetaceans have sufficient experience with cetaceans;

- b) the operator and the staff have sufficient knowledge of the local area and of sea and weather conditions;
 - c) the operator and the staff who come into contact with cetaceans have no convictions for offences involving the mistreatment of animals;
 - d) the operation proposed has sufficient educational value to the public.
4. The competent national authority may at any time suspend or revoke a permit, or restrict the operation authorized by a permit, where:
- a) the holder contravenes or fails to comply with any requirement relating to cetacean-watching or any condition specified in the permit;
 - b) to suspend, revoke or amend a permit is necessary, on reasonable grounds, for maintaining the favourable conservation status for cetaceans.

Art. 26

Behaviour around cetaceans

The following conditions shall apply where cetacean-watching activities are being carried out:

- a) vessels and aircraft shall be operated so as not to disrupt the normal movement or behaviour of cetaceans;
- b) contact with cetaceans shall be abandoned at any stage if they show signs of becoming disturbed or alarmed;
- c) no cetacean shall be separated from a group;
- d) no rubbish or food shall be thrown near or around the cetaceans;
- e) no sudden or repeated change in the speed or direction of vessels or aircraft shall be made except in the case of an emergency;
- f) where a vessel stops to enable the passengers to watch a cetacean, the engines shall be placed in neutral;
- g) no aircraft shall be flown below 183 metres (600 feet) above sea level;
- h) no vessel shall approach within 100 metres of a cetacean;
- i) no vessel shall cut off the path of a cetacean;
- j) no cetacean shall be prevented from leaving the vicinity of the vessel;
- k) a vessel less than 300 metres from cetaceans shall move at a constant speed no faster than 5 knots and no faster than the slowest cetacean in the vicinity, and shall stop when it approaches within 100 metres of a cetacean;
- l) a vessel departing from the vicinity of cetaceans shall proceed slowly until the vessel is at least 300 metres from the nearest cetacean;
- m) aircraft shall be operated in such a manner that, without compromising safety, the aircraft's shadow is not imposed directly on cetaceans;
- n) only one vessel or aircraft at any one time shall be allowed to stay in the watching area;
- o) the presence in the watching area shall be limited to around 15 minutes for vessels or 2 minutes for aircraft, especially if other vessels or aircraft are waiting for their turn;
- p) vessels shall approach a cetacean only diagonally from the side;
- q) activities such as swimming with cetaceans shall be forbidden or strictly regulated;
- r) cetaceans shall not in any other way be disturbed or harassed.

Art. 27

Training and special quality mark

1. The [competent national authority] shall organise training courses for cetacean-watching operators and staff and grant them a certificate
2. The [competent national authority] shall grant a special quality mark to the operators who have behaved in conformity with the applicable regulations or guidelines, have obtained a training certificate and have a qualified guide on board.

SECTION V
CRIMINAL PROVISIONS

Art. 28
Sanctions⁹⁴

1. The possession on board of drift nets is sanctioned.
2. The use of drift nets is sanctioned.
3. The act of discarding or leaving adrift at sea fishing gears is sanctioned.
4. The omission to immediately release cetaceans that are caught incidentally in fishing gear in conditions that assure their survival is sanctioned.
5. The killing or injuring a cetacean is sanctioned.
6. The taking of cetaceans is sanctioned.
7. Possession of a cetacean, a part of a cetacean or a product derived from a cetacean taken or killed in violation of this provision is sanctioned.
8. The import into [State] of any cetacean, part of a cetacean or product derived from a cetacean in violation of Art. 9 is sanctioned.
9. The use of any port, harbour or other place under the jurisdiction of [State] to take, import or possess a cetacean, any part of a cetacean or any product derived from a cetacean in violation of Art. 9 is sanctioned.
10. The transport, purchase, sale, barter, export or the offer to purchase, sell or export any cetacean, any part of a cetacean or any product derived from a cetacean in violation of this Law is sanctioned.
11. Failure to notify the information provided for in Art. 12 f) is sanctioned.
12. Failure to comply with the conditions for a permit under Art. 14, Art. 16 or Art. 25 is sanctioned.
13. Failure to comply with the conditions of behaviour around cetaceans set forth in Art. 26 is sanctioned.

Art. 29
Aggravating Circumstances

The sanctions provided for in Art. 28 may be aggravated if the cetacean:

- a) was pregnant at the time of killing or taking;
- b) was nursing at the time of killing or taking, or less than eight months old, whichever occurs later;
- c) belonged to a species or population stock which the [competent national authority] has designated as endangered; or
- d) was killed or taken in a manner deemed inhumane by the [competent national authority].

Art. 30
Seizure and Forfeiture

1. Any vessel that is employed in any manner in the unlawful taking or killing of any cetacean shall have its entire cargo or the monetary value thereof subject to seizure and forfeiture.
2. All cetaceans or products derived from cetaceans seized or forfeited under para. 1 shall be disposed by the [competent national authority] in such a manner that it deems appropriate.

Art. 31
Earmarking of Fines

Fines paid under Art. 28 shall be earmarked for activities devoted to scientific research, capacity building, training or education in the field of cetacean, as well as for the establishment of a fund to compensate fishermen having suffered damage to ensure the immediate release of cetaceans caught incidentally in fishing gears.

⁹⁴ The type and level of sanctions should be determined by the State concerned

RESOLUTION 6.23 - Capacity Building

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Conscious that the current heterogeneity of management and research capacity in the ACCOBAMS Area must be addressed through capacity-building and public-awareness,

Recalling Resolution 1.10 on “Cooperation between national networks of cetacean strandings and the creation of a data base”, Resolution 4.16 on “Guidelines for a coordinated cetacean stranding response” and Resolution 5.2 on “the work programme 2014-2016”,

Taking into consideration Recommendation 10.9 of the Scientific Committee,

Recalling the value and role of stranding networks in providing valuable data for cetacean conservation,

Recalling that Article IX, paragraph 3, of the ACCOBAMS calls for voluntary contributions to increase the funds available for monitoring, research, training and projects related to conservation,

1. *Asks* the Permanent Secretariat, subject to the availability of resources, to assist Parties to undertake capacity-building efforts in countries where stranding networks are either not efficiently operating or absent, in particular the training of personnel on how to deal with stranding events, including rehabilitation and euthanasia, and how to run a necropsy, involving local authorities in the network and intervention teams;
2. *Requests* the Scientific Committee to contribute to the preparation of a capacity-building programme for the triennium 2017-2019 with the Permanent Secretariat and to include a follow-up on the research activities in each sub-region, as part of the efforts to ensure the continuity of the programme and the achievement of its long-term goals;
3. *Asks* the Scientific Committee to identify and prioritize needs (e.g. photo-identification, abundance surveys, assessment of interaction with fisheries and other anthropogenic impacts) in sub-regions of the ACCOBAMS area to increase the monitoring and research output quality, in collaboration with the Regional Activity Centre for Specially Protected Areas (RAC/SPA) and the Black Sea Commission, using standardized protocols and approaches;
4. *Asks* Parties to emphasize the use of photo-identification as a standard technique in the ACCOBAMS area, using common platforms to compare data from neighbouring regions, and to provide a wider view of bottlenose dolphin distribution;
5. *Asks* the Permanent Secretariat to assist relevant organizations, from Parties with the lowest capacities, in applying to potential donors for necessary research equipment;
6. *Encourages* the Parties, in collaboration with the Permanent Secretariat and with the Regional Activity Centre for Specially Protected Areas (RAC/SPA) and the Black Sea Commission to:

- promote the ACCOBAMS module on cetology (Master Programme in French and English) for use in relevant educational programs in the ACCOBAMS Area, and
- organize public awareness campaigns regarding cetacean research and conservation, targeting different stakeholders as an initial step prior to facilitating effective capacity-building programmes.

TA4- CONCERNING THE COMMUNICATION AND AWARENESS

4.1 - Develop, implement and monitor a common communication, information and awareness plan

Resolution 1.14	Adopting a Logo for the Agreement and Conditions of its Use
Resolution 2.23	Education Strategy and Programs
Resolution 4.21	ACCOBAMS Logos: Conditions of Use
Resolution 8.6	ACCOBAMS Communication Strategy 2023-2028
Resolution 8.7	NETCCOBAMS

RESOLUTION 1.14 - Adopting a logo for the Agreement, and conditions for its use

The Meeting of the Parties to the Agreement on the Conservation of the Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Considering that any direct visual identification of the Agreement could only be beneficial for mediation and to promote public awareness of the Agreement,

Hoping that the Agreement Partners could also identify their activities and proposals under this identification,

1. *Adopt* the logo of the Agreement shown below and the plan for its diffusion to all "ACCOBAMS Partners";
2. *Instruct* the Secretariat to use the logo to identify actions and proposals concerning the Agreement, the Scientific Committee, the Sub Regional Coordination Units, combined when possible with their own logo, as well as for any activity occurring under ACCOBAMS sponsorship;
3. *Instruct* international Organizations and ACCOBAMS Partners Institutions to use this logo, designed for their intention, for all activities concerning the Agreement's objectives;
4. *Instruct* the Secretariat to inform on the use of the logo at each ordinary Meeting of the Parties.

ACCOBAMS Logo



"ACCOBAMS' Partner" Logo



RESOLUTION 2.23 - Education Strategy and Programs

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

Recognizing that civil society plays a major role in the implementation of ACCOBAMS,

Aware that the acceptance of compulsory measures will be facilitated by the increase of knowledge on cetacean role in the ecosystem by the concerned public and that the young generation must be prepared for a more participative role in the decision process,

Recognizing children and youth as key mediatic actors in the awareness of the civil society and the stakeholders,

Desirous to fully participate in the UNEP and other Intergovernmental bodies efforts in the implementation of the Millennium Goals and the WSSD JPOA in particular, in relation with the gender issues and intergenerational relations as such,

Recalling the ten TUNZA commitments of the UNEP TUNZA International Youth Conference held in Dubna, Russia, from 25th-27th August 2003 and in particular commitment n° 2:

"I will establish communication with individuals and organizations involved in the protection of the environment in my community and in my region, and ensure that relevant information concerning them is included and shared with the TUNZA network through the UNEP website",

Recalling:

- Article II.3 e) of the Agreement and its Conservation Plan engaging Parties to address management measures addressing inter alia capacity building, collection and dissemination of information, training and education for the conservation of cetaceans,
- Resolution 1.11 on implementation priorities action 4 focusing on pilot conservation and management actions in well-defined key area,

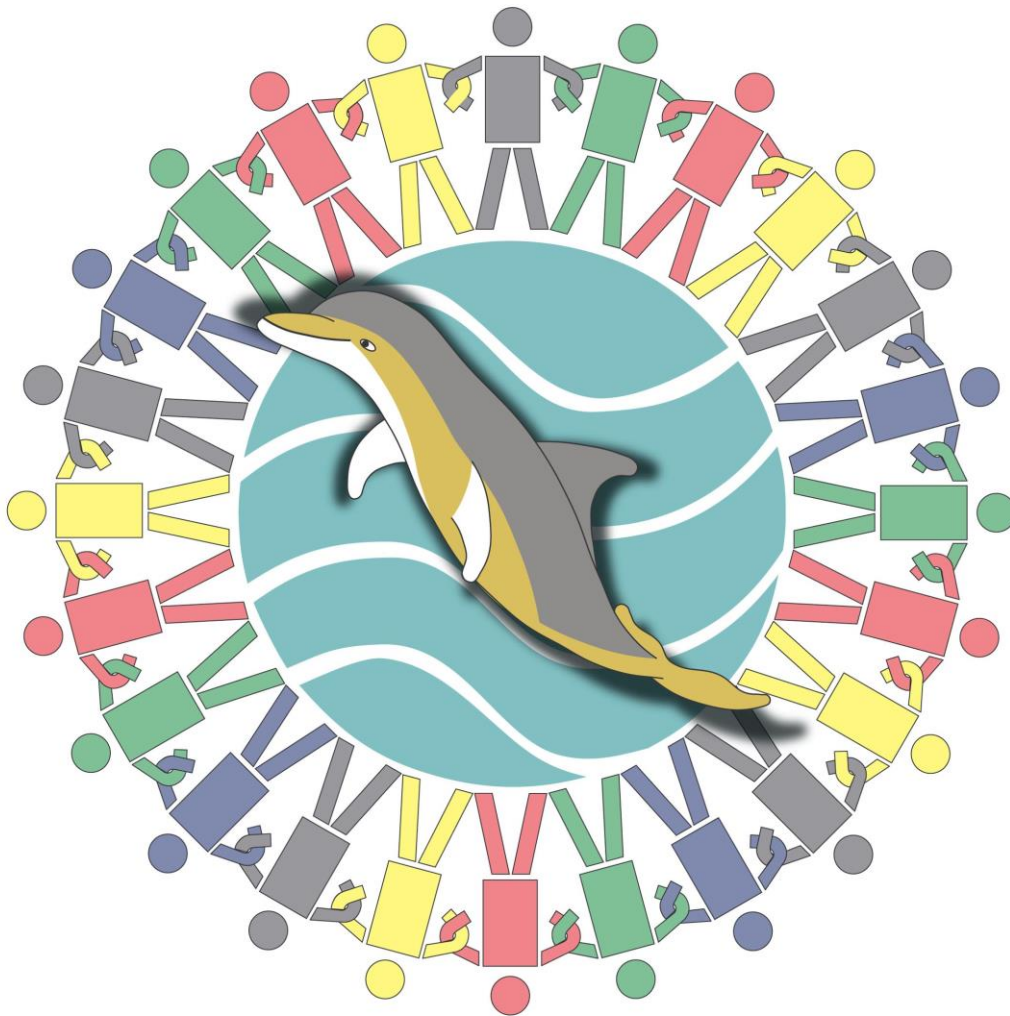
Considering with appreciation the efforts by the NGO's devoted to public awareness and *recognizing* their success in this matter,

1. *Takes note* of the ACCOBAMS Educational strategy and program;
2. *Thanks* WCDCS and ASMS Ocean Care for their involvement in drafting the program;
3. *Calls upon* Parties, Riparian States, Range States, Specialized IGO and NGOs to support this program and participates to its further development at the national and international levels by providing educational material and substantive funding;
4. *Entrusts* WCDCS, ASMS Ocean care, in synergy with other NGOs and in particular others ACCOBAMS Partners:
 - To further develop this strategy and take a key role in the implementation of the programs;

- To develop, if requested, with the support of a limited budgetary allocation from the ACCOBAMS budget, an educational awareness section of the ACCOBAMS web site, under the supervision of the ACCOBAMS Secretariat.

ANNEX I

HOW TO CONSERVE CETACEANS...
AN EDUCATION STRATEGY AND PROGRAMME



A proposal by WDCS⁹⁵, the Whale and Dolphins Conservation Society and ASM Ocean Care⁹⁶

95 In Resolution 1.13. WDCS, the Whale and Dolphin Conservation Society, has been recognised as an “ACCOBAMS Partner”. This has been “a consequence of the historical relationship” with the Secretariat and aims to “facilitate cooperation in assessment and management activities of man-cetacean interactions and also in activities of capacity building, collection and dissemination of information, training and education”.

96 ASMS OceanCare has been recognised as an “ACCOBAMS Partner” in February 2004 with the Secretariat and will “facilitate the awareness on cetacean conservation in the region and also enhance the establishment of scientific based conservation actions”.⁹⁶ Both items produced in the context of education initiatives promoted by WDCS and ASMS Ocean Care.

I. Introduction

With regards Education in the context of conservation and effective management within the ACCOBAMS Agreement Area, Notarbatolo di Sciara & Birkun (2002) remark: "Education and awareness campaigns are critical elements of effective management and need to be prepared and implemented at the highest professional level. The greater public needs to be constantly informed about the status of cetaceans in their region of residence, the possible effects of human activities on their well-being, and ways to improve their chances of survival. Awareness on the very existence of cetaceans, on their possible and real threats, and on **actions that can be taken to ensure their survival** is still very low in the Agreement area, and very inhomogeneous in its distribution. Education and awareness can be achieved both by ensuring that the media operators are trained and updated on cetacean conservation matters, and that educational material and programmes are constantly developed and **appropriately disseminated**. Such activities are particularly suited to a number of Non-Governmental Organisations concerned with cetacean conservation, and best results can be achieved through a co-operative effort between institutions and NGOs"⁹⁷. Art.II. e. of ACCOBAMS and the Action Plan engages parties to address capacity building, collection and dissemination of information, training and education for the conservation of cetaceans. The Action Plan further lists that „Parties shall co-operate to develop common tools for the collection and dissemination of information about cetaceans and to organise training courses and education programmes. Such actions shall be conducted in concert at the sub-regional and Agreement level, supported by the Agreement secretariat, the Co-ordination units and the Scientific Committee and carried out in collaboration with competent international institutions or organizations. The results shall be made available to all Parties “. WDCS and ASMS perceive potential partners to be specialized IGOs (e.g. UNESCO), other NGOs and Foundations.

“Education programmes and well-designed public awareness programmes” are also recognised within the Comprehensive Assessment of cetacean status and problems as essential components of any strategy regarding the mitigation of negative effects of interactions with fisheries, mitigation of disturbance and other threats cetaceans in the Agreement area are facing⁹⁸ and to prepare actual and future generation to accept environmental conservation constraints.

There is no doubt that education and awareness programmes are vital to achieve a wide acceptance and support for the implementation of measures, e.g. based on the International Implementation Priorities for 2002-2006 and the program of work 2005-2007, to conserve and protect cetaceans and their habitat among the public and those interest groups possibly affected by such.

II. Target Audience

Defining the Target audience for an educational programme concerning whales, dolphins and their environment is a difficult task. In one way or another we are all responsible for our activities which, on many occasions, wherever we live, affect cetaceans. For example, although perhaps different to the influence that coastal communities have on the environment, the actions of businesses and tourists can also have a negative impact. As a consequence, any educational programme should ideally reach as many people as possible to accomplish support and understanding for conservation measures.

Educational programmes targeting a young audience are particularly valuable to achieve long-term results, as these can create the necessary sensibility and understanding to support conservation measures. Targeting children is an

⁹⁷ Giuseppe Notarbartolo di Sciara and Alexei Birkun, Jr. 2002. Conservation Needs and Strategies. In: Notarbartolo di Sciara (Ed.), Cetaceans of the Mediterranean and Black Seas: State of Knowledge and Conservation Strategies. A report to the ACCOBAMS Secretariat, Monaco, February, 2002, Section 18., p.21.

⁹⁸ Giuseppe Notarbartolo di Sciara and Alexei Birkun, Jr. 2002. Conservation Needs and Strategies. In: Notarbartolo di Sciara (Ed.), Cetaceans of the Mediterranean and Black Seas: State of Knowledge and Conservation Strategies. A report to the ACCOBAMS Secretariat, Monaco, February, 2002, Section 18., p.21.

investment in the future. They have a strong interest in becoming involved and therefore can become an inspiring example for their parents.

Another important aspect of a successful education programme is the involvement of local communities. Few conservation efforts work effectively without the support of the local stakeholders. Wherever possible, conservation measures should involve and be supported by the local communities. Capacity building of local people as volunteers should be part of the overall programme. Other opportunities involve engaging people in long-term community-based projects that are self-perpetuating.

This proposal focuses on the education and direct involvement of school children (Junior Programme) on the one hand and the development of education programmes within local communities in key areas of the Agreement range (Community Programme) on the other. To reinforce both programmes the training of teachers and other instructors has to be developed and realized.

As Target groups we define:

(1) Junior Programme:

- School children⁹⁹ in Range States
- School children in Countries with high numbers of tourists travelling to the Mediterranean region
- Teachers / Educators

(2) Community Programme:

- Local communities¹⁰⁰
- Local instructors / trainers

III. Objectives

The objectives of this programme are:

-) To create awareness of the cetacean species inhabiting the Agreement Area, Their biology, their needs and habitat and the threats they face;
-) To create acceptance and support for cetacean conservation measures;
-) To create enthusiasm and opportunities to become engaged and join conservation efforts.

The Education Programme should offer solutions and encourage people to take part in conservation activities. Where possible, avenues for ongoing personal involvement in, or commitment to, conservation initiatives should be created. Education becomes a powerful conservation tool when commitment is over a lifetime.

⁹⁹ It is important to distinguish between children of different age groups and recognise them as different target groups. We suggest focusing on children between the ages of 8 and 12 years.

¹⁰⁰ As a starting point, we suggest conducting educational programmes with a focus on human communities living along the coasts of areas of special conservation importance for cetaceans, as recognised within Action No.4 “Development and implementation of pilot conservation and management actions in well-defined key areas containing critical habitat for populations belonging to priority species”, but not be restricted to those.

IV. Methods

1. Junior Programme

The programme consists of producing a sound, practical and informative **education package** that can be attractive to both teachers and pupils. The proposed “Action Kit for Kids” will fulfil these expectations, be suitable for regular updating, and consist of different modules that focus on specific “hotspots” of different regions.

The Kit may include tools based on existing products (e.g. the webclip “Coastal Dolphins” and the documentary “Dolphin People”¹⁰¹). The “Action Kit for Kids” should be based on state-of-the-art scientific information but prepared according to sound educational principles. It should be available in the official languages of the Range states (including those not yet parties to ACCOBAMS¹⁰²), including states whose citizens often choose the Mediterranean as a favoured holiday destination.

The aim of this programme is to provide a basic tool consisting of different modules in one or two languages as a first step. This product is open to translation and synchronization through the different Member States or Parties. The different Education systems and teaching methods of the various Countries will have to be considered while producing individual versions for each Country.

Content of the education package

- Information on the cetacean species inhabiting the Agreement Area (biology, distribution, habitat, threats etc.)
- Explanation and presentation of cetacean conservation measures and ACCOBAMS initiatives, recognising regional hot spots
- Conservation projects and initiatives to join – both inside and outside the classroom
- Presentation of key initiatives focusing on priority species, e.g. coastal dolphin species (e.g. bottlenose dolphin, common dolphin) and large whale species such as the sperm whale and the fin whale
- List of activities necessary to receive a “Whale / Dolphin Diploma” (e.g. answering a questionnaire, writing an essay, participating in a certain number of related projects)

Structure of the education package

- Introduction for teachers: how they can include the material in their lectures and structure lesson plans around whales and dolphins
- Children’s activity sheets
- Teacher’s notes with background information
- Interactive tools (educational games, learning through play)
- Education video materials
- Educational posters. These can be displayed at schools and are not, therefore, solely reliant on teachers giving a lesson
- Mechanisms for children to communicate what they have learnt to other children – most easily done with online tools¹⁰³ and forums
- “Whale / Dolphin Diploma” package

¹⁰¹ Both items produced in the context of education initiatives promoted by WDCCS and ASMS Ocean Care

¹⁰² Albanian, Arabic, Bulgarian, Croatian, English, French, Georgian, German, Greek, Italian, Maltese, Romanian, Russian, Spanish, Turkish, Ukrainian

¹⁰³ This can be restricted to access problems in large portions of the Agreement Range

Educational principles:

Develop problem-solving skills
 Stimulate imagination and planning skills
 Encourage self-responsible learning
 Develop social processes within school classes
 Assist to strengthen children's self-confidence

Products:

„Action Kit for Kids” - Printed version (incl. CD and/or DVD with video materials etc.)
 „Action Kit for Kids” - DVD only
 “Action Kit for Kids” - Downloadable online version

Dissemination of the education package:

-) Online: dedicated section of the ACCOBAMS website

At present the ACCOBAMS website contains of two key sections: Institutional web site and Scientific web site. This programme recommends creating a new “Education & Awareness” section¹⁰⁴.

In the future this third section may include education and awareness subsections targeting the wider public, including interest groups identified as prime targets (e.g. fishermen, whale watching tour operators etc.). The “Action Kit for Kids” could act as a “kick start” for such a section.

The “Kit” section could be linked to the websites of various organisations. A concept for online promotion will be required and could be developed by the proponents of this programme in co-ordination with the ACCOBAMS Secretariat. It is also possible to create chat-lines, email forums or galleries to allow children to communicate their learning process to other children, encouraging an exchange on different initiatives and projects

-) Distribution in schools and integration in national educational programmes

The “Action Kit” will be created in order that it is suitable for integration in national education programmes.

Examples of distributors:

National ministries;
 Federal, regional and local authorities responsible for educational initiatives;
 Institutions focusing on environmental education and conservation (e.g. UNEP¹⁰⁵ or UNESCO);
 Teacher-training colleges;
 ACCOBAMS partners;
 NGOs;
 Organisations that deliver learning resources to schools across the Countries as well as to libraries and other learning centres.

2. Community Programme: Events and Mobile Exhibitions

As described in Chapter II (Target groups), a starting point could be to conduct educational programmes with a focus on human communities living along the coasts of areas of conservation importance for cetaceans, as recognised within Action No. 4 “Development and implementation of pilot conservation and management actions in well-defined key areas containing critical habitat for populations belonging to priority species”¹⁰⁶, but not be restricted to those.

The diversity and variety of field projects in the Agreement area will be instrumental for the development of such programmes. In some areas field projects (conducted by institutions, NGOs, individual researchers, etc.) already have

¹⁰⁴ One of the implications could be that there will be a need to revise the entire website to make it consistent in format.

¹⁰⁵ E.g. as part of the UNEP TUNZA Programme (see www.unep.org/children-youth/tunza/)

¹⁰⁶ ACCOBAMS: International Implementation Priorities for 2002-2006

awareness-raising activities as an integrated part. For instance, successful public awareness initiatives linked to local research projects have been conducted by Blue World in Croatia, Studiomare in Italy, Tethys Research Institute in Italy, Croatia and Greece, Tudav in Turkey; Etc. Whenever public awareness programmes are already in place, such programmes should be supported, complemented, and coordinated to integrate them in the wider effort to promote awareness in the ACCOBAMS region. In other cases where existing field projects do not include public awareness activities, an attempt should be made to develop such activities by taking advantage of the existing local expertise (e.g. Training courses could be implemented. In addition, capacity building initiatives could be planned in areas where no field work is undertaken currently, or new programmes developed to launch education and awareness-raising activities in these regions. All these initiatives should aim to involve the local communities.

At present, the proposed programme cannot include a complete list of the possible activities, as their number and range will depend on the available budget.

Public events:

Organising or supporting public events in areas close to where dolphins or whales live can be an effective tool in making people aware of the importance of protecting the animals.

-) Dolphin Day / Whale Day:

Some ACCOBAMS Partners have successfully established an annual “Dolphin Day” which includes a variety of public awareness events. The institutionalisation of such “Dolphin [or Whale] Days” is an effective way of creating and maintaining awareness among local communities as well as stakeholders and tourists. Depending on the available resources, various activities could be organised, which the local authorities could then promote. A “Dolphin Day” may include public seminars and presentations, video projections, dolphin sounds, music events, beach cleaning, drawing competitions for children, production of whale and dolphin artwork, distribution of dedicated information and public awareness materials, etc.

Targets: Institutionalisation of “Dolphin and/or Whale Days”

Increase number of public events within local communities

Reporting of such events (e.g. online)

-) Mobile exhibition:

While the creation of exhibitions and/or exhibition centres is a reasonable objective, resources may be restricted on some occasions and in some areas. An alternative and/or complementary activity for raising awareness could be a mobile exhibition that, for example, displays inflatable cetacean species. This type of “event” could be an added attraction to a “Dolphin Days” and help raising awareness among the public.

Targets: Develop a mobile exhibition and tour with a selection of inflatable cetacean species of the Agreement area for 2005/2006

Identifying priority regions and communities benefiting from such attraction

Co-ordination with other ACCOBAMS initiatives and activities



RESOLUTION 4.21 - ACCOBAMS Logos: conditions for use

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS):

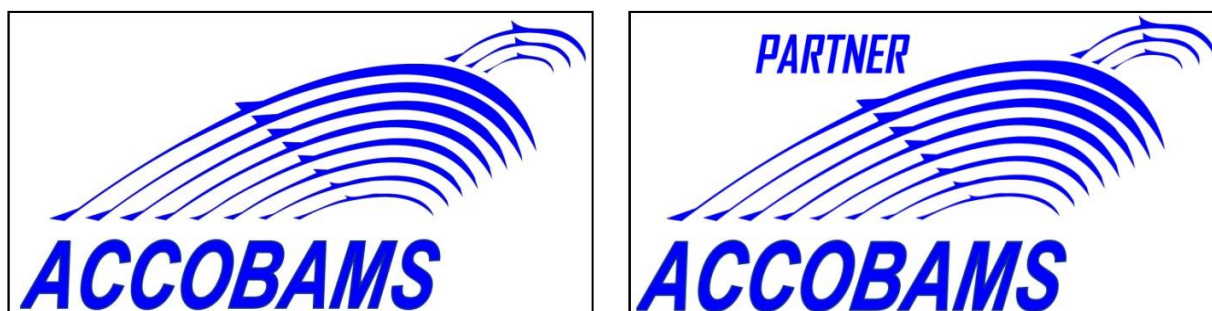
Considering that any direct visual identification of the Agreement could only be beneficial for mediation and to promote public awareness of the Agreement,

Recalling the Agreement logo and the adoption of the Partners ACCOBAMS logo as adopted in Resolution 1.14 on “Adopting a logo for the Agreement and conditions for its use”,

Recalling also the Resolution 4.20 on “Strengthening the status of ACCOBAMS Partners”,

1. *Takes note* of the conditions for the use of ACCOBAMS and ACCOBAMS Partners logos as reproduced hereinafter:

Official version:



Official variations:

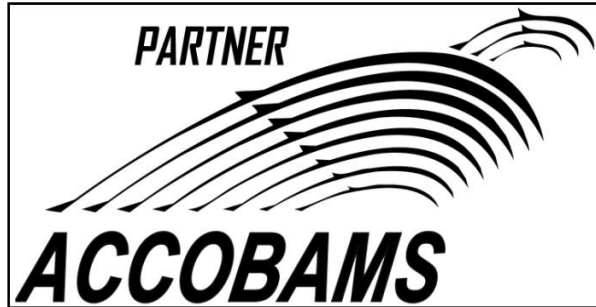
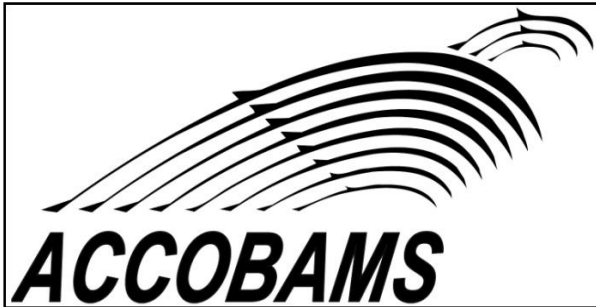
Colour and dark background



Colour and bright background



Black and white



2. *Instructs* the Agreement Secretariat to make available the official logos on the ACCOBAMS website;
3. *Decides that* any change from official version and variations are prohibited;
4. *Urges* any applicant to request the use of the ACCOBAMS logo to the Agreement Secretariat;
5. *Asks* the ACCOBAMS Partners and International Organisations to inform regularly the Agreement Secretariat on the use of the logos.

RESOLUTION 8.6 - ACCOBAMS Communication Strategy 2023-2028

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article IV of the Agreement, paragraph 2 h), according to which the functions of the Agreement Secretariat shall be to provide information to the general public concerning this Agreement and its objectives,

Recalling Section 5 of Annex 2 to the Agreement, according to which Parties shall co-operate to develop common tools for the collection and dissemination of information about cetaceans and to organize training courses and education programmes. Such actions shall be conducted at the sub-regional and Agreement level, with support from the Agreement Secretariat, the Co-ordination units and the Scientific Committee, and carried out in collaboration with competent international institutions or organizations. The results shall be made available to all Parties. In particular, Parties shall co-operate to prepare sub-regional or regional information bulletin on cetacean conservation activities, or contribute to an existing publication serving the same purpose and prepare information, awareness and identification guides for distribution to users of the sea,

Recalling Resolution 5.1 on ACCOBAMS Strategy for the period 2014-2025 and its specific objective A.1, which calls to improve communication across, up and down ACCOBAMS as an organisation,

Recalling Resolution 7.4 on ACCOBAMS Strategy that requires to develop, implement and monitor a common communication, information and awareness plan,

Recalling Resolution 7.5 on ACCOBAMS Funding Strategy that highlights the fact that the development of an ACCOBAMS Communication Strategy is a key step for strengthening ACCOBAMS visibility and reputation, being mindful of the virtuous cycle between communication, outreach and fundraising,

Aware of the importance of communication as a central and cross-cutting element for implementing the Agreement,

Recognizing the need to enhance the visibility of ACCOBAMS activities and achievements in promoting cetacean conservation in the Black Sea, Mediterranean, and contiguous Atlantic area,

Taking into account Resolution 8.21 on Citizen Science,

Recognizing the need to provide adequate resources for consistent and qualitative implementation of communication activities,

Considering the important contribution that the Agreement will provide towards achieving Aichi Biodiversity Targets adopted by the Tenth Conference of the Parties to the Convention on Biological Diversity, in particular with regard to Target 1 on making people aware of the values of biodiversity and the steps they can take to conserve and use it sustainably,

Recalling Resolution 11.8 on “Communication, information and outreach plan” adopted by the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS),

1. *Endorses* the ACCOBAMS Communication Strategy for 2023-2028, as shown in the [Annex](#) to this Resolution;
2. *Requests* the Secretariat to work on its implementation, including mid-term and final assessments of its effectiveness in 2025 and 2028 respectively, in cooperation with the Bureau and the Scientific Committee, and in collaboration with relevant partner organizations;
3. *Requests* Parties to provide voluntary contributions towards the implementation of the ACCOBAMS Communication Strategy for 2023-2028, with priority to the communication activities proposed in the Programme of Work of the concerned triennium;
4. *Invites* all ACCOBAMS Parties, partners and relevant stakeholders to actively assist through in-kind support the implementation of the ACCOBAMS Communication Strategy.

ANNEX

ACCOBAMS Communication Strategy for 2023-2028

Introduction

1. ACCOBAMS overall objective, as a daughter Agreement of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), is to achieve and maintain a favourable conservation status for cetaceans in the Agreement area, notably by improving knowledge on their populations and by implementing protective and conservation measures in areas considered critical habitats.
2. The efforts implemented since its entry into force in 2001 made ACCOBAMS an international recognized organization in cetacean conservation, at the national and regional levels, as well as at the global level.
3. The majority of the communication actions developed so far were targeted towards ACCOBAMS community (National Focal Points, ACCOBAMS Scientific Committee, Sub-regional Coordinating Units, ACCOBAMS Partners and other partner organizations with which ACCOBAMS collaborates) to inform them of Agreement's activities and encourage them to disseminate this information. Many communication actions targeted towards a wider non-ACCOBAMS audience were also carried out on an opportunistic basis, in the framework of projects such as the ACCOBAMS Survey Initiative, or during special events, such as IUCN World Conservation Congresses or Monaco Ocean Weeks.
4. ACCOBAMS has a high potential in terms of communication, in particular considering how much cetaceans are emblematic species, alongside with the vitality of the Agreement and its community. From a strategic communication perspective, ACCOBAMS should strengthen its brand and assure homogenic visual aspects of its communication products while adapting the messages to convey according to the different audiences targeted, and thus boosting the echo to the ACCOBAMS action.
5. The implementation of an ACCOBAMS Communication Strategy is a key step for increasing visibility of the work being carried out under ACCOBAMS, highlighting its activities and outcomes, as well as improving the Organization's reputation.
6. Effective and better-targeted communication will help ACCOBAMS reaching its objectives. In particular, making ACCOBAMS more visible will help in disseminating experience and good practices but also in raising awareness on cetacean conservation issues.
7. Highlighting the actions carried out by ACCOBAMS and communicating its impacts will also contribute to enhancing the image of ACCOBAMS, making ACCOBAMS more reliable, and better able to attract new opportunities for partnership and funding, as highlighted in the ACCOBAMS Funding Strategy adopted through Resolution 7.5.
8. This Communication Strategy is designed to enable ACCOBAMS to plan, manage and focus the institutional communication process and it should be considered as a leverage tool to support the implementation of the overall ACCOBAMS Strategy¹⁰⁷ and to strengthen its effectiveness.
9. This Communication Strategy is an overarching framework providing main orientations for the Communication plans to be developed at each triennium. It is not intended to provide details on specific activities and financial

¹⁰⁷ The current ACCOBAMS long-term Strategy covers the period 2014-2025 and was adopted by Resolution 5.1 and completed by ACCOBAMS Resolution 7.4.

resources needed to ensure its implementation. Those are to be specified in the Programmes of Work for each triennium presented for adoption by Parties.

I. Communication Strategy

I.1 Goal and specific objectives of the Communication Strategy

10. The overarching goal of the ACCOBAMS Communication Strategy is to enhance the visibility of ACCOBAMS' activities and achievements in promoting cetacean conservation in the Black Sea, Mediterranean and adjacent Atlantic area.
11. More specifically the ACCOBAMS Communication Strategy aims to:
- Highlight the actions being taken to accomplish ACCOBAMS' Mission and Vision;
 - Strengthen ACCOBAMS' reputation as an efficient and reliable regional cooperation organization for cetacean conservation;
 - Engage key stakeholders in the implementation of ACCOBAMS provisions, guidelines, and best practices;
 - Raise awareness about cetacean ecology and biology, their conservation status, and threats affecting them;
 - Inform and mobilize various audiences on the need to improve efforts for cetacean conservation in the Black Sea, Mediterranean and adjacent Atlantic area.
12. From an operational perspective, implementing the ACCOBAMS Communication Strategy helps to:
- Maintain regular communication within the ACCOBAMS community and improve communication with external audiences;
 - Improve quality and consistency in the dissemination of information materials;
 - Increase quality, consistency and quantity of media coverage, through regular communication tools, based on a well-structured communication plan.

I.2 Audiences

13. Audience identification is vital to any communication strategy. ACCOBAMS must talk to the right people, making best use of resources - budget, time and human power - by targeting different "publics".
14. The way the messages are delivered depends on the target audience, as different audiences have:
- different levels of awareness on ACCOBAMS,
 - different perceptions of what ACCOBAMS is and does,
 - different needs and motivations when dealing with ACCOBAMS as an organisation.
15. Internal and external audiences should be distinguished. Internal audiences are those who are familiar with / involved in ACCOBAMS, as members of the different ACCOBAMS bodies or through close collaboration with ACCOBAMS (such as the organizations with whom Memorandum of Understanding are signed): CMS Family members, Bureau Members, National Focal Points, Scientific Committee Members, Sub-regional Coordinating Units, ACCOBAMS Partners, IGO partners and other international Agreements and Conventions.
16. External audiences are not (yet) familiar with and involved in ACCOBAMS, but they are interested in cetacean conservation: national public managers, professional organizations, researchers, university students, journalists, youth and general public, in particular of the Agreement Area. Their interests are different from each other, and

they may need different levels of background information which would be unnecessary when communicating with internal audiences.

17. Internal and external communication does not have the same objectives, communication messages should be then adapted.

I.3 Key messages

18. To improve ACCOBAMS positioning and avoid communication and resources dispersion, ACCOBAMS communication should follow three main orientations:

- Who ACCOBAMS is (vision, mission and positioning)
- What ACCOBAMS does (activities)
- What the outcome of ACCOBAMS action is (achievements)

19. The messages to broadcast should be aligned with these main communication orientations. Here are some examples targeted to external audience:

What ACCOBAMS is:

- ❖ ACCOBAMS is the only organization in the world specially focused on protection and conservation of whales and dolphins in the geographical area of the treaty: the Black Sea, Mediterranean and contiguous Atlantic area.
- ❖ ACCOBAMS is an agreement and a commitment between 24 countries to protect whales and dolphins since 1996.
- ❖ ACCOBAMS is the collaborative exchange of human knowledge and international cooperation aiming to protect and conserve cetacean life.
- ❖ ACCOBAMS is a collective effort to engage and communicate externally.
- ❖ ACCOBAMS is a coordination tool that maximizes the individual efforts towards cetaceans' protection.

What ACCOBAMS does:

- ❖ ACCOBAMS is a cooperation tool that relies on the production and exchange of information and knowledge in order to help countries, organisations and individuals to protect cetaceans and their habitats.
- ❖ ACCOBAMS thoroughly researches and monitors cetaceans, their habitats and the impact of human activity, developing measures to mitigate the threats caused by it.
- ❖ ACCOBAMS aids people and organisations helping cetaceans and protecting the environment surrounding these animals, through training and education.
- ❖ ACCOBAMS responds to emergency situations involving cetaceans, by providing knowledge and guidelines to tackle those occurrences.

What the outcome of ACCOBAMS activity is/will be:

- ❖ More and better means to improve the lives and habitats of cetaceans, not only in the Agreement Area, but around the globe.
- ❖ A hub of knowledge exchange amongst people and institutions interested in making sure we respect cetaceans, whom we share the same planet with.

- ❖ Cetaceans playing an important part in our present and in our future.

20. Internal communication is all about promoting effective communications among the ACCOBAMS community. It involves producing and delivering messages on ACCOBAMS activities, results and achievements, as well as facilitating dialogue with and among the people who contribute to the functioning of the organization.

II. Implementing the Communication Strategy

II.1 Definition of a corporate identity: the ACCOBAMS brand, signature and style

21. The diagnostic phase that supported the development of the Communication Strategy highlighted that one of the main weaknesses in ACCOBAMS communication is the lack of corporate identity and positioning.

22. ACCOBAMS needs to have a corporate identity and thus to be looked at as a brand, with a set of values and a specific positioning, so to be relevant to different audiences.

II.1.1 The brand ACCOBAMS

23. ACCOBAMS develops a series of activities that are branded, yet not in a consistent manner, which assume different graphical expressions, different moods, and a low brand consistency. The corporate identity or brand is the starting point of any Communication Strategy, and it influences the way in which ACCOBAMS will communicate in the future.

24. The brand of an organization is based on their defined Mission and Vision, and on how they envisage their future. The ACCOBAMS Mission and Vision¹⁰⁸ are the foundations of its brand or corporate expression:

The ACCOBAMS Mission	The ACCOBAMS Vision
ACCOBAMS promotes and facilitates active regional cooperation at all levels, providing best expertise and standards and propelling implementation of all necessary measures for conserving cetaceans in the Black Sea, Mediterranean Sea and contiguous Atlantic Area.	Cetacean populations in the Black Sea, Mediterranean Sea and contiguous Atlantic Area will be in a favourable conservation status, expressed as healthy populations and habitats with minimised adverse human impacts, with ACCOBAMS having a role of key regional player as an Agreement applied on a large scale in areas of great interest for cetaceans, including the adjacent Atlantic areas.

II.1.2 The ACCOBAMS positioning

25. ACCOBAMS has its purpose well defined, yet it has not been converted into a brand positioning, which is important in order to define how ACCOBAMS intends to be perceived by its various audiences. Nonetheless, in social media, specifically on Facebook, the central message already displayed encapsulates the core message “dolphin and whale conservation”.

26. An ACCOBAMS positioning will provide the brand strategic pillars to position ACCOBAMS amidst other

¹⁰⁸ ACCOBAMS Mission and Vision were adopted in Resolution 5.1 on the ACCOBAMS Strategy for the Period 2014 – 2025

organisations that operate in similar, related or complementary fields.

27. The proposed ACCOBAMS brand positioning was developed based on a positioning model which comprises some of the following elements:

Uniqueness	The only IGO exclusively devoted to protecting and improving the life of cetaceans in its specific geographical area
Brand values	Regional cooperation; Knowledge sharing; Protection; Respect; Collective action
Brand purpose	Taking coordinated measures to achieve and maintain a favourable conservation status for cetaceans
Positioning statement	ACCOBAMS is a legal conservation tool where 24 countries cooperate towards cetaceans' conservation
Brand in two words	Healthy Cetaceans

28. The recommended brand positioning for ACCOBAMS is “*knowledge and regional cooperation to protect cetacean lives*”.

II.1.3 The ACCOBAMS Brand mood and style guide

29. ACCOBAMS style for internal documentation is relatively well-embedded in the routines of the Secretariat. Nonetheless, ACCOBAMS lacks a consistent brand style and a coherent brand mood. Brand mood means the way the brand presents itself graphically and the tone it uses when communicating, as brands use specific tones - friendly, formal, down to earth, inquisitive, serious, amongst many other.

30. Currently, ACCOBAMS doesn't have a consistent brand mood, which makes it difficult to be publicly recognised. The more consistent the mood is, the more recognizable and visible the brand will be. The colour blue and the sea are the two common elements of most ACCOBAMS communication, and they can be considered as part of its current brand mood. Yet, other elements are still lacking in order to define a coherent brand mood, such as the same font type, design style, brand properties, tone of voice, in sum, a brand style that contributes to form a unique identity that, in time, will be associated to ACCOBAMS brand.

31. A brand style needs to be established so to provide ACCOBAMS publications with a consistent expression of text and pictures used, based on, and projecting beyond its corporate brand or logotype. The development of a brand style guide will enable brand consistency across different platforms, partnership activities, and communication channels. A design advice is necessary so to apply the same brand style to all communication products.

II.2 Communication tools

II.2.1 The ACCOBAMS website

32. Consistent communications within the ACCOBAMS community are a strength of the organisation. However, the way in which the website is structured seems to have been planned to be more directed to internal audiences.

33. The ACCOBAMS website already centralizes an important and huge repository of information and knowledge.

34. The direct access to the NETCCOBAMS through the ACCOBAMS site would be advantageous so to promptly accede

to this knowledge platform, which provides the visualization of different layers of information and offers a communication channel with internal and external communication targets.

35. The “High Quality Whale Watching” label will be promoted through a dedicated page in the ACCOBAMS website.
36. Although a bit dated in terms of design, the desktop version of the current ACCOBAMS website provides a relatively easy access to find information, as opposed to its mobile version, not easy to navigate on. Also, while currently disposing of a huge image repository, ACCOBAMS website displays a basic image library, which may be boosted and used consistently.
37. The ACCOBAMS website should be easier and more fluid to navigate on, to search and find appropriate information, both for internal and external audiences, including for users with little background in cetacean conservation.
38. An essential is to promptly provide information to target audiences, the solution being to apply a user-friendly access in a new style website, presenting updated images and reshaped content.
39. The website being a component of brand communication and an expression of positioning, it is the ACCOBAMS best and most important “touch point” to ACCOBAMS various audiences and stakeholders.
40. Thus, ACCOBAMS online presence should be modernized and include a more outer directed approach. Also, a “Media section” could be used as part of a Public Relations (PR) programme in order to increase awareness on ACCOBAMS activities and events.

II.2.2 Media outreach

41. To date, ACCOBAMS media activity has been focused on providing information, with rare press briefings or press releases on significant ACCOBAMS initiatives or events. Few proactive stories have been initiated, neither have specific press briefings been held.
42. It is advisable to broadly plan media content on a yearly basis, and to consider any necessary quarterly adjustments depending on the concrete activities developed and on the communication priorities, in case they evolve differently from the initial planning.
43. Regarding branding social media channels, ACCOBAMS currently uses Facebook and Twitter. However, publishing the same content in both channels should be avoided as channels audiences are different and motivated by unlike topics. Twitter should be used for internal communication, with relevant topics for internal audiences, while Facebook, for external communication, featuring less “technical” information.
44. Currently used social channels target mainly adult audiences. If younger or professional audiences are to be considered as part of the strategy, a 3rd (or 4th) social media channel could be considered, like Instagram or LinkedIn, respectively. Adding more channels would require more resources (internal or external) as they would imply using a different approach and tone to the topics.
45. The posting frequency is a much-debated subject as it relates to social media budget, and depends on the channels, the subject and the audience. Environmental activists, for example, are more aware of subjects regarding the environment and probably search for it on a weekly or daily basis.

46. ACCOBAMS internal audiences will probably be open to have regular weekly information about different activities and subjects, while external audiences could find exhausting to receive daily posts about main topics. One to two weekly posts in Facebook and one to three weekly posts in Twitter are recommended.

II.2.3 Printed material and video

47. The ACCOBAMS offline communication activity should contain a key message, or a set of central messages, reflecting what the organization stands for. The printed material should also be graphically homogeneous, and specific activities should be communicated based on such messages.

48. The ACCOBAMS offline material currently follows a number of constant elements, like colour palette or images of the sea, but a number of rules should be set in order to define a consistent brand style, given that the brand communicates directly to its audiences, on its own.

49. It is advisable to apply and consistently follow an established brand style guide to the different offline materials, which would also help graphic designers or/and web developers to respect the unified vision of the ACCOBAMS brand.

II.2.4. Presential events

50. ACCOBAMS is regularly invited to participate in national events, such as conferences, forums, fairs, awareness raising activities organized by local organizations with which ACCOBAMS collaborates. When budget and time allow, participation in such events is a good way to make ACCOBAMS more visible, to share information about the role and activities of ACCOBAMS with wider audiences.

51. Participation in international meetings, such as official meetings of IGOs with which ACCOBAMS collaborates, and international events is also a way to make ACCOBAMS visible, especially to stakeholders working in the field of environmental conservation and sustainable development. Beyond the official statements in session, the organization or participation in side events on these occasions contribute to highlight the actions of ACCOBAMS.

II.3 Communication Content Planning

52. Communication content is all information produced by ACCOBAMS (and some specific 3rd parties) that can be conveyed to various audiences.

53. The determination of the communication content helps planning in advance the themes to be included in the ACCOBAMS communication calendar, and so pre-defining when and where to communicate them.

54. Content planning has an impact on social media strategy, on the Public Relations (PR) strategy, and eventually on website content, if ACCOBAMS makes use of a dynamic news section.

55. It is advisable to plan in advance ACCOBAMS communication content on a yearly basis, and to define the detailed content each quarter, always working one quarter ahead. This will allow considering those content pieces that became relevant although they had not been initially planned.

II.4 Resources needed

56. Properly implementing the ACCOBAMS Communication Strategy requires both human and financial resources. The details of specific activities to be carried out to achieve the overall objectives of the Communication Strategy are not detailed in the Strategy itself. Rather, they are specified in the Work Program for each triennium, along with information on the required budget. For some of these activities, costs can be externalized, while those related to systematic communication activity could be provided in-house by a Communication Officer, upon availability of resources.

II.5 Monitoring and assessment of the implementation of the Communication Strategy

57. Key implementation tools that will be necessary to put in place the Communication Strategy will on their own offer the means to monitor and assess outreach and effectiveness.

58. Subject to establishing baselines and quantitative indicators, from which an assessment of the effectiveness of the Communication Strategy can be done, notably through quarterly performance reports, evaluation means may include those already existing (FINS) and/or in development (NETCCOBAMS), as well as those related to the online and offline presence of ACCOBAMS, as shown, non-exhaustively, hereafter:

website	number of visits, of page-views, time per visit, most-visited pages
social media	number of followers, positive feedback, number of republication/retweets
online and offline material and newsletter (FINS)	number of requests to be added to the mailing list, comments received, number of favourable feedbacks
offline material	number of printed materials distributed
NETCCOBAMS	number of national reports introduced by countries in NETCCOBAMS
	number of projects introduced in NETCCOBAMS
Face-to-face events/International meetings	Number of national/international events & meetings attended

59. Monitoring the implementation of the Communication Strategy can be made internally by the Secretariat who can report every year to the Bureau and every three years to the Meeting of the Parties.

60. The assessment of the implementation and the effectiveness of the Communication Strategy should be made externally and should include both a mid-term assessment in 2025 and a final assessment in 2028. Outcome of the mid-term and final assessments will be also useful in the framework of the revision of the Communication Strategy (see below).

II.6 Duration and revision of the Communication Strategy

61. This Communication Strategy is planned for an initial period of 6 years, from 2023 to 2028.

62. Being considered as a leverage tool in support of the implementation of the ACCOBAMS overall Strategy, the ACCOBAMS Communication Strategy shall be revised when updating the ACCOBAMS Strategy. A revision of the later is expected for 2023-2025 leading to the adoption of a revised ACCOBAMS overall Strategy at the Ninth Meeting of the Parties in 2025. In face of that, a revision of the Communication Strategy may be necessary in 2025 to align it with the revised ACCOBAMS overall Strategy.

II.7 Synergy with the ACCOBAMS Funding Strategy

63. As highlighted in the ACCOBAMS Funding Strategy adopted through Resolution 7.5, the development of an ACCOBAMS Communication Strategy is a key step for strengthening ACCOBAMS visibility and reputation, being mindful of the virtuous cycle between communication/outreach and fundraising. Strengthening communication to targeted donors will be then support and facilitate the efforts to liaise with them.
64. Finally, keeping in mind how emblematic cetaceans are, a well-structured, dynamic and effective communication could support the launching of sponsorship programs and/or crowdfunding campaigns.

RESOLUTION 8.7 - NETCCOBAMS

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Taking into consideration Recommendation 14.10 “NETCCOBAMS” of the 14th meeting of the Scientific Committee,

Recognizing that the NETCCOBAMS online platform, available at the link: <https://hub.sinay.ai/accobams/home>¹⁰⁹ is a source of valuable information on pressures and threats for cetaceans,

1. *Encourages* Parties to support the further development and improvement of NETCCOBAMS and *invites* Parties to report relevant information on activities through NETCCOBAMS;
2. *Welcomes* the establishment by the Scientific Committee of an expert Working Group, including scientists, managers, stakeholders and Parties, acting under the following Terms of Reference, for it to guide and provide oversight on:
 - a. the selection and incorporation of appropriate validated data and information, including conditions of uploading and use¹¹⁰,
 - b. analytical tools to be used for the various datasets,
 - c. appropriate visualisation approaches (including those relevant to Cetacean Critical Habitats) and associated advice to Parties and other relevant subjects on the interpretation of outputs, and
 - d. the future development of the NETCCOBAMS online platform (with a view to, inter alia, taking into account other threats and facilitating data entry and validation) to assist in the provision of conservation advice on cetaceans and their habitats, with priority given to developing a module for automatic identification system (AIS) data analysis by providing information in a specific selected area using the results of existing projects or online platforms (such as type of vessel, density, speed, waiting time, etc.) and taking account of data collected and reported under Resolution 8.18 on “Ship Strikes”;
3. *Requests* the Working Group to report on its work to the Ninth Meeting of the Parties;
4. *Invites Parties and instructs the Secretariat* to encourage relevant stakeholders, including ACCOBAMS Partners and industry bodies, to submit relevant data and information on cetaceans and on anthropogenic activities to NETCCOBAMS, according with the Working Group’s advice, with a view to improving the value and application of the online platform in the provision of management advice over time;
5. *Asks* the Scientific Committee to instruct the Working Group to:
 - a. liaise with the Joint Noise Working Group regarding (i) the definition of potential quantitative targets in terms of reduction of risk; (ii) improvements in the robustness of model outputs (incorporating model uncertainty, in situ verification at selected sites); and (iii) the development of new features including simulated scenarios of noise (and risk) reduction in response to potential mitigation approaches to evaluate their likely effectiveness;

¹⁰⁹ To create a NETCCOBAMS account, please contact the ACCOBAMS Secretariat.

¹¹⁰ Such as validated abundance and habitat maps, Partner’s reports, documentation on the work of ACCOBAMS and its Committees, Parties and Partners.

- b. liaise with the other relevant Working Groups when the platform will implement additional features;
6. *Requests* the Secretariat to disseminate information on the value of the NETCCOBAMS online platform, including its contribution to achieved mitigation measures, to national and international *fora*, managers and stakeholders, such as shipping companies, port authorities and the International Maritime Organization, with a view to increase the visibility of the work done in this context, to encourage the platform's utilization, and the submission of data.

SECTION 2
-
CONSERVATION ACTIONS (CA)

TA5- CONCERNING THE IMPROVEMENT OF KNOWLEDGE FOR CONSERVATION

5.1 - Centralize, organize and disseminate the existing knowledge on cetaceans, their habitat, the pressures and impacts, the national institutions, legislations and capacities

- Resolution 4.18 Guidelines on the granting of exceptions to Article II, paragraph 1, for the purpose of non-lethal in situ research in the Agreement area
- Resolution 6.13 Comprehensive Cetacean population estimates and distribution in the ACCOBAMS Area
- Resolution 8.12 IUCN Red List Status of cetacean species in ACCOBAMS Area

RESOLUTION 4.18 - Guidelines on the Granting of Exceptions to Article II, Paragraph 1, for the purpose of non-lethal *in situ* research in the Agreement area

The Meeting of the Parties to the Agreement on the Conservation on Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area (ACCOBAMS):

Aware of the fact that cetaceans are particularly vulnerable to disturbance,

Recognising the value of non-lethal *in situ* research, to provide sound scientific foundation to the decisions of the Parties, but that such activity entails risks to cetacean populations and impacts to individual welfare that may be difficult to evaluate or predict,

Recalling that:

- Article II, paragraph 1, of ACCOBAMS prohibits any deliberate “taking” of cetaceans,
- Article I, paragraph 3, of ACCOBAMS provides that “taking” shall have the same meaning as in Article II, paragraph 1, i), of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), that includes “harassing”,
- Article II, paragraph 2, of ACCOBAMS establishes the possibility for any Party to grant an exception to this prohibition for the purpose of non-lethal *in situ* research aimed at maintaining a favourable conservation status for cetaceans and after having obtained the advice of the Scientific Committee,
- In an emergency, Parties shall immediately inform the Bureau and the Scientific Committee, through the ACCOBAMS Secretariat, of any exception that has been granted and the ACCOBAMS Secretariat then shall inform all Parties of the exception without delay by the most appropriate means,
- Article XI, paragraph 1, states that the provisions of ACCOBAMS shall not affect the right of any Party to maintain or adopt more stringent measures for the conservation of cetaceans and their habitats,

Considering that for the purpose of the present Resolution, harassing should mean to disrupt deliberately or incidentally the normal behaviour or prior activity of a cetacean either by actions or omissions,

1. *Recommends Parties:*

- to limit exception permits¹¹¹ to “taking” that only has the potential to disturb a cetacean population by causing disruption of behavioural patterns, and excluding those takings which have the potential to injure a cetacean or cetacean population;
- to consider that harassment risk begins when a vessel is voluntarily closer than the minimum distance identified in common rules of commercial cetaceans watching (ACCOBAMS Resolution 4.7);

2. *Adopts the “Guidelines on the granting of exceptions to Article II, paragraph 1, for the purpose of non-lethal *in situ* research in the Agreement area”, as in the Annex to this Resolution, to be applied for research in waters under the jurisdiction of States Parties and to their nationals conducting research wherever in the Agreement area;*

¹¹¹ Permit should be considered as a general term covering any form of national procedure to notify exception granting.

3. *Recommends* to Parties, other Riparian States and Range States, when granting such exceptions permit, in line with Resolution 2.15 on tissue banks, to request that all materials collected or obtained under this exception shall be maintained according to accepted curatorial standards. After completion of initial research goals, any remaining samples shall be deposited into a *bona fide* scientific collection, which meets the minimum standards of collection curation and data cataloguing, as established by the scientific community. Information from each sample should be optimized by conducting all possible analyses on each one;
4. *Asks* the Secretariat:
 - to seek the advice of the Scientific Committee on any experimentation, conducted by non-Parties States in the context of cooperation with ACCOBAMS, which may induce or risk cetacean harassing and communicate this advice to its principal investigator;
 - pursuant to the definition of Range States¹¹², to contact the pertinent administration of non-Party States whose ships are engaged in research activities that could cause or risk cetacean disturbance in order to seek their collaboration;
 - in application of Article II, paragraph 2, to establish, update and make available on the web site the list of the national authorities in charge of granting exception permits and all the exception permits granted under this Resolution;
5. *Decides* that the present Resolution replaces Resolution 2.8.

¹¹² Art. I, para. 3.g: "'Range State' means any State that exercises sovereignty and/or jurisdiction over any part of the range of a cetacean population covered by this Agreement, or a State, flag vessels of which are engaged in activities in the Agreement area which may affect the conservation of cetaceans".

ANNEX

Guidelines on the granting of exceptions to article II, paragraph 1, for the purpose of non-lethal *in situ* research in the Agreement area¹¹³

I. Introduction

1. Exceptions for scientific research under international instruments

Almost no species-based treaties have equivalent mechanisms to ACCOBAMS. Although the 1979 Agreement on the Conservation of Small Cetaceans of the Black and North Seas and the North Atlantic Marine Mammal Commission¹¹⁴ promote scientific research, they do not provide for strict prohibitions/research exceptions nor do their institutions have specific powers to advise on national actions.

a. International Convention on the Regulation of Whaling (ICRW)

The nearest equivalent to the ACCOBAMS system is ICRW's permit review system with the key difference that its exception procedure covers lethal research.

Any Contracting Government may grant a "special permit" authorizing a national to kill, take and treat whales for purposes of scientific research: such actions are then exempt from the ICRW's operation¹¹⁵. It must immediately report such authorizations to the International Whaling Commission (IWC) and submit an annual report on the results of such research¹¹⁶.

Consolidated *Guidelines for the review of scientific permit proposals*¹¹⁷ call on Governments to seek the ICRW's Scientific Committee's advice before deciding on permits. Review criteria are whether:

- the permit adequately specifies its aims, methodology and the samples to be taken;
- the research is essential for rational management, the Committee's work or other critically important research needs;
- the methodology and sample size are likely to provide reliable answers to the questions asked;
- the questions can be answered using non-lethal research methods;
- the catches will have an adverse effect on the stock;
- there is the potential for scientists from other nations to join the research programme.

The IWC may comment on the permit proposal after receiving the Committee's report and pass Resolutions asking governments to refrain from issuing specific permits. However, responsibility for permit decision-making remains with the government concerned, as under the ACCOBAMS system.

The ICRW system has run up against two main difficulties: first, the need to streamline review procedure; second, the lack of consensus on general interpretational questions stemming from the Guidelines that call for more than purely scientific judgement (e.g. what comprises 'essential' for management? what constitutes 'reliable'? what counts as a 'critical' research need?).

¹¹³ Document based on the preparatory study written by: Clare Shine, Consultant in Environmental Policy and Law

¹¹⁴ Established under the Agreement on Cooperation in Research, Conservation and Management of Marine Mammals in the North Atlantic (Nuuk, 1992).

¹¹⁵ Art.VIII.1.

¹¹⁶ Art.VIII.3.

¹¹⁷ See generally <http://www.iwcoffice.org/conservation/permits.htm>

A Scientific Permits Working Group set up to improve the permit review process produced a draft Pro Forma in 2006¹¹⁸. One area of disagreement was whether review criteria should include the degree to which the research proposal addresses information relevant to IWC management needs or the Scientific Committee's work.

b. Post-exception reporting systems within European level

Two European instruments mandating strict protection of cetaceans provide for exceptions for scientific research¹¹⁹. National authorities are required to submit periodic reports¹²⁰ on exceptions already granted. This kind of system lacks the up-front screening role built in to ACCOBAMS but if properly followed, can provide useful input (detection of abuses, areas in need for tightening up).

Two generic conditions must be met to justify the grant of an exception (the wording is taken from the more recent 1992 Habitats Directive, used in the European Union to implement the Bern Convention):

- there must be no satisfactory alternative;
- the exception must not be detrimental to “the maintenance of the populations of the species concerned at a favourable conservation status in their natural range”.

Reports submitted to the European Commission¹²¹ must specify:

- the species subject to the derogations and the reason for the derogation, including the nature of the risk, a reference to alternatives rejected and scientific data used;
- the means, devices or methods authorized for the capture/killing of a protected animal and the reasons for their use;
- the circumstances of when and where such derogations were granted;
- details of the competent national authority and its relevant powers;
- the supervisory measures used and the results obtained.

2. Exceptions for scientific research at the national level

a. United States of America (US)

i. Legal framework and review process

The US has a long-established framework for strict protection of cetaceans. The competent agency, the National Marine Fisheries Service (NMFS), may authorise exceptions for scientific research:

- for species not listed as endangered/threatened under the Marine Mammal Protection Act¹²²;
- for endangered/threatened species, stricter rules apply under the Endangered Species Act¹²³.

The MMPA's provisions apply to “any person, vessel or other conveyance subject to the jurisdiction of the United States regarding taking on the high seas or in waters or on lands under the jurisdiction of the United States”¹²⁴. All research must meet two conditions:

¹¹⁸ See *Report of the Scientific Committee IWC/58/Rep1* and Annex P (*Revised Suggestions for improved review of Special Permit proposals and results within the Scientific Committee*) at www.iwcoffice.org/commission/sci_com/screport.htm.

¹¹⁹ Art.9, Convention on the Conservation of European Wildlife and Habitats 1979 (Bern Convention); Art.16, Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

¹²⁰ To the Bern Convention Standing Committee and the European Commission respectively.

¹²¹ Pursuant to Art.16(3) Habitats Directive.

¹²² Section 104 MMPA; 16 U.S.C. 1361 *et seq.*

¹²³ Section 10(a)(1)(A) ESA, 16 U.S.C. 1531 *et seq.* These incorporate and go further than the MMPA's provisions.

¹²⁴ s.102, MMPA; 16 U.S.C. 1372.

- any taking during the research must be “humane” (the method of taking that involves the least possible degree of pain and suffering to animals practicable). There are no standard criteria to interpret this term;
- the proposed ‘taking’ must be for a “bona fide” scientific purpose¹²⁵. There is no general agreement on precisely how this standard should be implemented, but the proposed research must *inter alia* be likely to yield something new and worthwhile.

The basic threshold for an MMPA permit is “taking”, defined as “to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal”.

In 1994¹²⁶, a two-tier system was set up to distinguish between taking that may involve disturbance and taking that may involve injury and to simplify administrative procedures for the former category. The two types of authorisation are summarised below:

*Scientific Research Permits for Level A Harassment:

A scientific research permit is required for research involving “Level A Harassment”, defined as “*any act which has the potential to injure a marine mammal or marine mammal stock in the wild*”, and for all research involving an ESA-listed species.

All permit applications must be reviewed by the Marine Mammal Commission (MMC) for consistency with applicable legal requirements and relevant regulations. The MMC provides non-binding recommendations to implementing agencies but does not have enforcement powers. It is advised by a nine-member Committee of Scientific Advisors on Marine Mammals¹²⁷. Applications are subject to a 30-day public comment period.

About 30-40 applications are made per year, not including applications for amendments. The average processing time is a little over 100 days but may be much longer. NMFS recommends submitting applications at least 6 months in advance of the intended research start date for non-ESA listed species and at least 1 year in advance for research on ESA-listed species.

Lethal taking may be authorised under a scientific research permit but only where the applicant demonstrates that a non-lethal method of conducting the research is not feasible (similar to the ICRW standard). Lethal taking from a depleted species or stock may only be permitted if research results will directly benefit that species or stock or the research fulfils a critically important research need.

The MMC recognizes that accidental mortalities or injuries may occur in the course of conducting some types of activities (e.g., captures, tagging, sedation). It is common practice for permits to specify a low level of accidental mortalities in the course of the research. If that number is reached, research activities must be stopped until the circumstances surrounding the mortalities are reviewed and authorisation to proceed is granted.

*“General authorization” for Level B Harassment for Scientific Research:

“Level B harassment” is defined as “*an act of pursuit, torment, or annoyance of marine mammals which has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioural patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but does not have the potential to injure a marine mammal or marine mammal stock in the wild*”¹²⁸.

¹²⁵ Defined to cover scientific research, the results of which (A) likely would be accepted for publication in a refereed scientific journal; (B) are likely to contribute to the basic knowledge of marine mammal biology or ecology; or (C) are likely to identify, evaluate, or resolve conservation problems (MMPA 1972: § 1362).

¹²⁶ Following amendments to the MMPA.

¹²⁷ Both these bodies were established under the MMPA 1972.

¹²⁸ 16 U.S.C. 1374 Sec.104(c)(3)(C).

The indicative list of activities likely to involve only Level B harassment¹²⁹ currently includes photo-identification studies, behavioural observations, vessel surveys and aerial surveys over water or land. The only quantified standard under existing regulations is limited to pinniped rookeries¹³⁰.

Collection of tissues, fluids or other cetacean parts naturally sloughed, excreted or otherwise discharged by a living marine mammal in the wild also counts as low-impact taking that does not require a permit. Holding, registration and transfer requirements for such parts are the same as for those salvaged from beached or stranded marine mammals¹³¹. NMFS indicates that approaches for collection purposes should generally respect the distances laid down for the general public e.g. for whale watching.

The grey area regarding interpretation is where Level B-type activities present – independently or linked to other factors - a risk of Level A harassment. NMFS now routinely excludes from the General Authorization procedure:

- activities that meet the regulatory definition of “intrusive”¹³²;
- active acoustics (because it is difficult to ensure no ESA-listed species would be affected or that the impact would not exceed level B impacts); and
- procedures like remote biopsy sampling or tag attachment, as these could result in level A harassment under certain circumstances.

The General Authorization procedure does not involve review by MMC. It works as follows:

- researchers submit a Letter of Intent containing detailed information to enable NMFS to accurately determine whether the research is bona fide and its impacts are limited to Level B Harassment;
- if NMFS determines that the project is eligible, based on the information provided by the applicant, no public comment period is necessary;
- the researcher then receives a Letter of Confirmation that s/he is covered under the GA and may commence research activities immediately;
- Any taking not covered by the General Authorization, and conduct of activities causing Level A harassment, is an offence subject to penalties under MMPA.

16-20 General Authorizations are issued per year, representing a small subset of research activities. Researchers must notify the NMFS Regional Office at least two weeks before starting on-site activities and comply with any requirements for coordination.

Research activities conducted under General Authorizations are reviewed periodically to ensure that they do not individually or cumulatively result in takes other than by Level B harassment. Annual reports submitted by researchers are one of the tools used by NMFS and MMC for monitoring. NMFS indicates that there is no evidence that this system is being abused.

ii. Environmental impacts of research

Scientific research permitting count as a “decision-making process” for the purposes of the National Environmental Policy Act (NEPA¹³³) which requires federal agencies to consider the environmental impacts of their proposed actions

¹²⁹ Listed in implementing regulations at 50 CFR 216.45(a)3.

¹³⁰ Aerial surveys may only be carried out over rookeries at altitudes greater than 1,000 ft (305m). Flights at lower altitudes are considered to present a risk of potential injury (Level A harassment) and are thus subject to permit.

¹³¹ Implementing regulations (50 CFR part 216.26 as amended).

¹³² 50 CFR 216.3: the definition includes any procedure that will break or cut the skin of an animal, the insertion of instruments, the use of substances on or near animals that are likely to contact the animal or be ingested and that are likely to affect the animal's tissues (e.g. eyes), or other types of stimuli that may involve a risk to the health or the welfare of the animal.

¹³³ 42 U.S.C. 4321 et seq.

and reasonable alternatives to those actions. Agencies must prepare an Environmental Assessment, an Environmental Impact Statement or classify the action as “categorically excluded” from this requirement.

NMFS has developed guidance¹³⁴ for applying NEPA requirements to permit decisions. Although scientific research permits generally qualify for a Categorical Exclusion, certain factors must first be considered. A more detailed assessment may be required for research involving:

- the presence of a geographic area with unique characteristics;
- public controversy;
- uncertain environmental impacts or unique or unknown risks¹³⁵;
- establishing a precedent or decision in principle about future proposals;
- the possibility of cumulatively significant impacts;
- the possibility of any adverse effects upon endangered or threatened species or their habitats.

The last factor means that an Environmental Assessment will usually be required before issuing permits affecting ESA-listed cetacean species.

NMFS must also consider the cumulative impacts on cetaceans from the total number of permits issued under Categorical Exclusions.

iii. Issues most relevant to ACCOBAMS

The US system is similar to ACCOBAMS to the extent that agency decision-making is preceded by independent scientific review by an advisory body.

Key problems are the length of time taken to process permit applications and bottlenecks in EIA procedures. Both problems mainly affect research involving ESA-listed species and/or invasive procedures with some risk of mortality or morbidity. A major internal review began in June 2006.

The main causes of delay include incomplete applications, applications not processed in order received and insufficient staff resources relative to workload: staff also recognise the need to better coordinate and prioritise EIA procedures.

NMFS and MMC do not yet have programmatic/quantitative standards for use in permit decision-making, although a NMFS-led panel has developed a checklist for reviews.¹³⁶ MMC reviews individual applications on an essentially case-by-case basis, building on members’ experience. NMFS indicates that objective criteria or guidelines would be useful to strengthen consistency in the review process but would not remove the need to consider all factors associated with a proposal.

The MMC notes difficulties in tackling cumulative impacts of multiple research projects focused on similar areas/populations¹³⁷. The US currently has no formal procedure for deciding between or coordinating similar research projects, which may lead to a ‘first come, first served’ situation. One option under consideration is to prepare online EIA documentation to cover routine ‘direct take’ requests as well as a clear list of activities or procedures benefiting from Categorical Exclusion under MMPA and ESA permits. MMC identifies the need to prepare environmental impact statements that consider a broader range of environmental stressors in the context of cetacean research.

Sectoral programmes and non-cetacean research that may result in incidental disturbance or injury (‘indirect take’) are subject to separate permit procedures under MMPA. Applications are copied to NMFS staff responsible for research permits to help them monitor cumulative impacts (required for NEPA).

¹³⁴ NOAA Administrative Order No. 216-6 (NAO 216-6), Environmental Review Procedures for Implementing the National Environmental Policy Act. See in particular section 5.05c (Exceptions for Categorical Exclusions).

¹³⁵ NMFS is currently working on environmental assessment of standards for acoustic exposure.

¹³⁶ Originally developed for use in a general review of humpback and killer whale research in the eastern North Pacific.

¹³⁷ See e.g. Reeves R.R and Ragen T.J. 2003. Future Directions in Marine Mammal Research (Report of the Marine Mammal Commission Consultation, August 4-7 2003).

b. Australia

The Australian context is more straightforward because:

- *the cetacean research community is relatively small and well-known to permit officials;*
- *research in Commonwealth waters is mainly focused on three whale species (blue, southern right and humpback) and to a lesser extent, dolphins;*
- *most research is government-funded which makes project coordination easier;*
- *environmental stressors are lower because of Australia's relative isolation.*

The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) requires a permit to “interfere with¹³⁸, injure, take, trade, keep, move, possess or treat¹³⁹ a cetacean”, not only in the Australian Whale Sanctuary¹⁴⁰ but also in international waters. A permit may be granted for “actions that will contribute significantly to the conservation of cetaceans” including scientific research for this specific purpose. No permit may be issued to kill a cetacean¹⁴¹.

Permits are determined by the Approvals and Wildlife Division, Department of the Environment and Heritage. Applicants must complete two forms which may be submitted simultaneously:

- *Cetacean research and incidental impacts permit form¹⁴²;*
- *Cetacean Preliminary Information Form (required for environmental assessment).*

Research applications are electronically notified to individuals and bodies listed in the public consultation register, who may make written submissions to the Minister. They are also published in a newspaper¹⁴³ and on the Department website. The comment period varies from 5-20 days.

Applicants are required to seek approval from their university or State Animal Ethics Committee (AEC) for invasive research techniques (e.g. biopsies, tagging, controlled exposure experiments). AEC approval is not generally required for non-invasive techniques (photo-identification, collection of sloughed skin, faeces, blow samples unless this involves an approach much closer than that allowed for the general public under whale watching rules.

When determining permit applications and possible conditions, the Minister must consider:

- the precautionary principle¹⁴⁴;
- the environmental assessment report on the proposed action;
- all written comments received by the set deadline.

In addition to detailed implementing regulations¹⁴⁵, the Department has developed *Standard Conditions for Cetacean Permits* although these do not cover all types of potentially invasive procedure. The Department indicates the average time taken to process an application is 2-3 months but may be 4-5 weeks. Where an applicant wishes to appeal (e.g. against refusal of a permit or against its conditions) it may request a statement of reasons. This has happened twice to date.

¹³⁸ Defined as to “harass, chase, herd, tag, mark or brand”

¹³⁹ Defined as to “divide or cut up, or extract any product from, the cetacean.

¹⁴⁰ Includes all Commonwealth waters from the 3 nautical mile state waters limit out to the boundary of the Exclusive Economic Zone (i.e. out to 200 nautical miles and further in some places) as well as coastal waters of a State or territory that are “prescribed waters” (s.225 EPBC Act). NB All Australian states and territories also protect whales and dolphins within their waters.

¹⁴¹ s.238 (4), EPBC Act.

¹⁴² See <http://www.deh.gov.au/coasts/species/cetaceans/permits/research-incidental.html>.

¹⁴³ As no comments have ever been received in response to newspaper advertisements, DEH indicates that this requirement may be dropped as a result of the ongoing review of regulations.

¹⁴⁴ s.391(2) EPBC Act.

¹⁴⁵ Environment Protection and Biodiversity Conservation Regulations 2000, as amended by Environment Protection and Biodiversity Conservation Amendment Regulations 2006 (No.1).

Where unintentional death, injury, taking or harassment results from an action authorised under the permit, the permit holder must notify the Department within seven days of the incident¹⁴⁶.

A research permit application automatically triggers the Act's EIA provisions because cetaceans are categorised as a "matter of national environmental significance"¹⁴⁷ The Cetacean Preliminary Information Form is treated as a "referral" i.e. the applicant does not have to initiate separate procedures for the EIA component.

Five methods of assessment range from an accredited assessment process to full public inquiry¹⁴⁸. Information provided in the Form is usually sufficient for assessment. Applicants should submit relevant management/conservation plans along with the Form to simplify the public comment process. In potentially controversial cases, the Department encourages applicants to contact objectors directly.

Sectoral activities that may indirectly affect cetaceans, notably seismic surveys conducted by oil and gas exploration companies, are assessed by a separate division under separate provisions of the Act. The Department is generally consulted on the likelihood and timing of cetacean presence in the area concerned and on mitigation methods. Conditions may be attached to any consent where it is known that cetaceans may be present. The Department is currently revising Guidelines on consideration of cetacean impacts from such operations¹⁴⁹.

¹⁴⁶ s.232, EPBC Act.

¹⁴⁷ s.165. Such matters include actions affecting migratory species, threatened species and ecological communities.

¹⁴⁸ s.67. The Minister must consider information received before deciding on the appropriate approach for assessment (s.86).

¹⁴⁹ See <http://www.deh.gov.au/coasts/species/cetaceans/industry.html#petroleum>.

c. Examples in ACCOBAMS area

	Aim	Relevant Institutions	Timing	Relevant Documents
Albania	Authorization for research activities	Nature Protection Policies Directorate Ministry of Environment, Forests and Water Administration, Rruga e Durrësit, No.27 Tirana -	One to three months	Law 9587/2006 Law 7908/1995 Law 8870/2002
Croatia	Permits for research of strictly protected species, including cetaceans	Ministry of Culture, Nature Protection Directorate	1 year	Nature Protection Act 70/05, 139/08
Monaco	Authorization for marine research activities			Loi n°1.198 du 27/03/1998
Morocco		Ministère de l'Agriculture, du Développement Rural et des Pêches Maritimes Département des Pêches Maritimes BP 476 Agdal Rabat		
Portugal	Research permit	Ministry for the Environment Institute for the Nature Conservation and Biodiversity (ICNB)	The authorization must be issued within 45 days after the application has been received by ICNB	Decree – Law 49/2005 (24 th February)
Romania	Research permits - Permits for collection and transfer of samples	Romanian Ministry of Environment and Waters Management	1 month at least	
Slovenia	Permit in all marine areas under national jurisdiction is requested for research when using methods causing disturbance of species (e.g. through marking or blood samples or sampling parts of their dead bodies).	Ministry for the Environment and Spatial Planning, Environmental Agency of the Republic of Slovenia	1 or 2 months after a complete application is received	Decree on the protection of wild animal species (OJ RS, 41/04)
Spain	Navigation and Research permits	Subdirección General de Seguridad Marítima y Contaminación / Deputy Directorate-General for Maritime Security and Pollution, Ministerio de Fomento / Ministry of Public Works. Ruiz de Alarcón, 1. E-28071-Madrid (Spain). Fax: +34915979287	Around 2 months	Law 4/1989
Tunisia	Research permits	Competent Ministry	6 months before the beginning of the research activity	Décret n. 97- 1836/15 -09-97

3. Risks associated with potentially invasive research

Advances in technology have opened up new field research possibilities to a growing number of cetacean researchers. However, several of the procedures to collect data to fill critical information gaps carry risks of harm to the research subjects, i.e. the animals.

One example is non-lethal sampling of cetacean tissues in the wild, the samples being used to improve scientific knowledge generally and to facilitate worldwide scientific collaborations that will lead to better knowledge of cetaceans in the Agreement Area¹⁵⁰. Another is research that involves exposure to potentially harmful noise in order to determine maximum safe levels of exposure and thus ultimately to protect cetaceans from threats posed by sound-generating human activities in their natural environment.

Cetaceans are, like many other organisms, vulnerable to disturbance, which may disrupt normal behaviour and even trigger reactions comparable to those used to avoid predation¹⁵¹. Research activities that disturb cetaceans may cause stress and place the animals at greater risk of injury or predation. Excessive stress resulting from harassment can reduce health, performance, immune function and reproduction and harassment may force cetaceans away from optimal habitat.

Potentially invasive research on cetaceans is thus a controversial subject, particularly in the Agreement Area where cetaceans benefit from strict legal protection, have high visibility and are held in considerable public esteem. Parties to ACCOBAMS recognise that non-lethal in situ research can provide a sound scientific foundation for their decisions but that “such activity entails risks to cetacean populations and impacts to individual welfare that may be difficult to evaluate or predict”¹⁵².

This leads to a balancing act. Impacts on individual animals need to be weighed against the benefits of the research for conservation at the population, species or ecosystem level. Decisions to authorise research also need to consider the conservation status of the species involved and the possible cumulative impacts of separate research projects.

These draft Guidelines provide a framework for decision-makers to distinguish professionally conducted research with scientifically valid objectives and high welfare standards from unprofessional, irresponsible or superfluous studies carried out by individuals who lack the minimum necessary expertise. They also streamline the permitting process so that high-quality and urgently needed programmes do not get unreasonably delayed.

4. ACCOBAMS: relevant provisions and experience to date

The importance of research to improve knowledge of cetacean biology, ecology and population dynamics and support the implementation of conservation measures is a central tenet of the ACCOBAMS Agreement. However, research is not a right under the Agreement but a privilege, an exception to the general prohibition on deliberate taking¹⁵³.

The Agreement imposes the following checks and balances on research:

- it must be non-lethal, *in situ* and aimed at maintaining a favourable conservation status for cetaceans¹⁵⁴;
- the precautionary principle should be applied to research activities in Annex II¹⁵⁵;
- advice should be obtained from the Scientific Committee before the Party concerned decides whether to issue a research permit¹⁵⁶.

¹⁵⁰ ACCOBAMS Resolution 2.10 (*Facilitation of exchange of tissue samples*).

¹⁵¹ See eg Frid, A. and L. M. Dill. 2002. *Human-caused disturbance stimuli as a form of predation risk*. *Conservation Ecology* 6(1): 11 (<http://www.consecol.org/vol6/iss1/art11>).

¹⁵² Resolution 2.8 (*Framework guidelines on the granting of exceptions for the purpose of non-lethal in situ research aimed at maintaining a favourable conservation status for cetaceans*).

¹⁵³ Art.II.1.

¹⁵⁴ Article II.2.

¹⁵⁵ Art.II.4.

¹⁵⁶ The Committee’s General Rules of Procedure provide (Rule 20) that “in application of Article II.2 of the Agreement, any Party may ask for advice on derogations. The Secretariat shall communicate the request to the members for advice within 30 days. The advice received within the 30 days will be immediately communicated to the requesting Party”.

A Party is not legally bound to follow the Committee's advice, although a general obligation of good faith applies to treaty implementation¹⁵⁷. It must immediately inform the Committee, through the Agreement Secretariat, of any research exception it has granted.

The ACCOBAMS system thus combines national decision-making with regional expertise and oversight. If properly implemented, it should deliver consistency in research permitting throughout the Agreement Area.

The Committee has adopted *Procedures for the evaluation of research and management proposals*¹⁵⁸ which cover submission of proposals, review by individual Committee members and the timeframe for providing opinions to the requesting Party. However, the Secretariat indicates that the Committee has never received a formal request for prior advice on research proposals from any Country Party or non-Party. As a result, regional oversight and coordination of research is basically not operational.

Variations between Parties' regulations, definitions and procedures have caused long delays in obtaining multiple permits for international cooperative research projects. Resolution 2.11 (*Facilitation of scientific research campaigns and programs*) calls for improved coordination between States and with international organisations on ACCOBAMS-supported research and for provision to the Secretariat of information on national permit systems and competent authorities. These problems have been taken into account in the draft Guidelines.

5. Animal welfare and ethical guidance

There are sound scientific as well as ethical and legal reasons why research procedures should be humane. Disturbance may create biases that affect both gathering and analyzing of data¹⁵⁹. Ethically acceptable procedures that minimize interference to individual study animals, populations and their habitats may thereby increase the validity of the experimental data¹⁶⁰.

There are no international guidelines dealing specifically with welfare/ethical standards in cetacean research although two initiatives are under way:

- *the Society for Marine Mammalogy (Ethics Subgroup) is developing Guidelines for the Treatment of Marine Mammals In Field Research to reflect internationally acceptable approaches and provide a resource for Animal Ethics Committees around the world. The preliminary draft was not available for citation when this report was prepared;*
- *The European Cetacean Society established an Ethical Advisory Committee in 2005. Its Steering Committee is developing guidelines to be approved by members before preparation of detailed recommendations on best scientific practice. The Society will reject material for publication if the research was not carried out consistently with the new guidelines (this was already the case informally, but formal Guidelines are intended to improve compliance and transparency).*

A range of codes and protocols on animal welfare¹⁶¹ support three generally applicable principles:

- Replacement
Techniques that totally or partially replace the use of animals for research with other methods (not always feasible in the cetacean field research context).

¹⁵⁷ With reference to international agreements, "every treaty in force is binding upon the parties to it and must be performed by them in good faith" (Vienna Convention on the Law of Treaties 1969, art. 26).

¹⁵⁸ At its second meeting (Istanbul, 20-22 November 2003).

¹⁵⁹ *Live animal capture and handling guidelines for wild mammals, birds, amphibians & reptiles*. 1997. Standards for Components of British Columbia's biodiversity; no.3.

¹⁶⁰ Animal Behavior Society & Association for the Study of Animal Behaviour (1997) Guidelines for the treatment of animals in behavioural research and teaching. <http://www.societies.ncl.ac.uk/asab/ethics.html>.

¹⁶¹ E.g. New Zealand's National Animal Ethics Advisory Committee's operations under the Animal Welfare Act 1999; Australian code of practice for the care and use of animals for scientific purposes, 7th Edition 2004, from which the following extracts are taken.

- **Reduction**
Projects must use no more than the minimum number of animals necessary to ensure scientific and statistical validity, but this principle should not be implemented at the expense of greater suffering of individual animals. Studies must not be repeated unnecessarily.
- **Refinement**
Investigators must use the best available scientific and educational techniques to reduce the adverse impact on animals. Welfare of the animals must be a primary consideration in the provision of care, based on behavioural and biological needs, and projects should be designed to avoid or minimise pain and distress in animals.

In Canada, investigators using vertebrates in field research should adhere to humane principles and follow Canadian Council on Animal Care guidelines¹⁶² when assigning a category based on the potential level of pain and distress. Research protocols must be submitted to an appropriate review committee where studies are classified in Categories B¹⁶³ through E¹⁶⁴. CCAC operates a precautionary approach when considering categorization of protocols.

Observational studies are generally categorized as Category A, provided that there is no disturbance of the animals. They may be assigned to a more invasive category if e.g. the investigator needs to approach the cetaceans more closely than standard whale watching guidelines to better identify an individual using photo-identification.

In the US, an MMC-backed Advisory Committee is developing a discussion document on Ethical and Animal Welfare Aspects of Directed Acoustic Research on Marine Mammals. This has not yet obtained consensus within the working group.

II. Guidelines on the granting of exceptions for the purpose of non-lethal *in situ* research aimed at maintaining a favourable conservation status for cetaceans

1. Objectives

1.1 These Guidelines are intended to facilitate consistent and efficient implementation of the exception procedure established under Article II, paragraph 2, of the Agreement. According to this Article, four sets of Guidelines might be developed:

- a) guidelines for research permits
- b) emergency plan to be implemented in case of pollution (Resolution 4.16)
- c) emergency plan to be implemented in case of epizootics (Resolution 4.16)
- d) rescue operations for wounded or sick cetaceans (Resolution 4.16)

1.2 These Guidelines are designed to ensure that all scientific research on cetaceans in the Agreement Area:

- is conducted to high scientific and animal welfare standards;
- contributes to regional priorities for conservation and management;
- is undertaken with appropriate regional co-ordination and oversight in order to maximise the benefit of the research carried out in the Agreement area and minimise negative effects on individuals, populations and ecosystems.

1.3 These Guidelines are a living document maintained by the Scientific Committee of ACCOBAMS. That Committee may revise and clarify the Guidelines in the light of experience gained during their application and in accordance with new techniques or information that becomes available.

1.4 A list of definitions is presented in Appendix 1.

2. Target audience

¹⁶² E.g. Ethics of Animal Investigation; Guidelines on the care and use of wildlife; Categories of Invasiveness in Animal Experiments, all available from <http://www.ccac.ca/en/>.

¹⁶³ "Experiments which cause little or no discomfort or stress".

¹⁶⁴ "Procedures which cause severe pain near, at, or above the pain tolerance threshold of unanesthetized conscious animals".

2.1 The Guidelines are intended to provide advice to Parties and the Secretariat with respect to the granting of exceptions and to all wishing to engage in scientific research on cetaceans in the Agreement Area.

2.2 In addition, it is hoped that the Guidelines will prove valuable to the appropriate authorities in other Range States. To that end, the ACCOBAMS Secretariat should send them to all such authorities, both initially and whenever changes are made, with a request for consultation with the Secretariat before the nationals of such states undertake research in the Agreement Area.

3. Geographical scope

3.1 The Guidelines should be interpreted and applied in conformity with relevant rules of international law as reflected in the United Nations Convention on the Law of the Sea 1982, particularly Art 65, 77, 245 and 246.

3.2 Each Party should take the necessary legislative, regulatory or administrative measures to apply the Guidelines to all cetacean research activities:

- conducted in waters under its sovereignty and/or jurisdiction;
- conducted by its nationals on the high seas;
- conducted from any vessel subject to its jurisdiction.

3.3 Parties, other Range States, should cooperate to promote observance of the Guidelines, particularly in waters beyond national jurisdiction. The Parties should notify the Secretariat immediately if they become aware of unauthorised research activities that could disturb or injure cetaceans. The Secretariat should contact the competent authority of the Range State whose nationals/vessels are engaged in such activities.

4. Legal threshold for obligatory research permits

4.1 A permit is required for all research activities that involve potential harassment of cetaceans in breach of the prohibition on deliberate taking laid down by Article II.1 of the Agreement.

4.2 Harassment should be interpreted for the purpose of these Guidelines to mean disruption of a cetacean's normal behaviour or prior activity by deliberate or negligent acts of pursuit, dispersal, herding, interference, torment, tagging, marking, branding or other acts that annoy or trouble cetaceans, as well as attempts and repeated approaches for such purposes.

4.3 Research activities that fall within this category include but are not limited to:

- tagging of animals, irrespective of the method used;
- remote biopsy sampling;
- other activities involving invasive procedures;
- restraint or detention of a cetacean, even temporary;
- acoustic playback experiments;
- investigation of impacts of active and passive sonar systems, including controlled exposure experiments;
- experiments involving acoustic deterrent devices; and
- close-range behavioural observation and photo-identification.

4.4 All permit applications should be reviewed and determined in accordance with the criteria listed in these Guidelines and any technical indicators developed by the Scientific Committee.

4.5 Each Party should designate a competent authority to issue permits for scientific research on cetaceans in accordance with these Guidelines.

5. Notification of low-impact research

5.1 The following activities are considered to present low harassment risk, provided that the vessel involved does not deliberately approach live cetaceans closer than the minimum distances [laid down by Resolution 4.7]:

- behavioural observations;
- aerial surveys using aircraft or helicopters, including with photo-identification;
- boat-based surveys, including with photo-identification;
- collection of tissues, fluids or other cetacean parts naturally sloughed, excreted or otherwise discharged from a live cetacean in the wild;
- collection of dead cetaceans or parts thereof.

5.2 Activities listed in para. 5.1 can be carried out on the basis of a previous notification to the competent national authorities. Applicants should provide a written outline of the proposed project, objectives and techniques, giving enough information to determine whether the activity is bona fide scientific research and humane.

5.3 Activities conducted under notification should avoid chronic, low-grade or cumulative disturbance on research subjects resulting from techniques such as prolonged boat-based focal-follow photography. Where an authorised activity is found to present a risk of harassment, the competent national authorities should require the researcher(s) to apply for a research permit in accordance with these Guidelines.

5.4 Researchers carrying out activities under notification should submit an annual report of their activities to enable possible cumulative impacts to be anticipated and monitored.

5.5 Procedures conducted on live-stranded animals by professional staff or an attending veterinarian for purposes of animal care, as well as medical procedures that, in the reasonable judgement of the attending veterinarian, would not constitute a risk to the health or welfare of the captive animal, present low harassment risk.

6. Criteria for evaluating permit applications

6.1 Before issuing a permit, a Permit Authority should determine that the proposed research is:

- *bona fide* and does not involve unnecessarily duplicative research;
- humane; and
- is not likely to have significant adverse effects on other components of the marine ecosystem of which the target species or population is a part.

6.2 The Permit Authority should ensure compliance with relevant legal requirements for public consultation, environmental impact assessment and/or conservation of marine protected areas prior to the issue of a research permit.

6.3 The Permit Authority should have necessary powers to:

- attach conditions/research protocols to a permit;
- vary such conditions/protocols where necessary for technical or animal welfare reasons;
- transfer the permit to a new investigator where consistent with these Guidelines;
- suspend or cancel a permit in cases of non-compliance.

6.4 The Permit Authority should be consulted by the department(s) responsible for environmental impact assessment of sectoral programmes or activities that may incidentally disturb or injure cetaceans. It should have the right to make recommendations and propose mitigation measures prior to any decision being taken on the programme or activity concerned.

7. Factors to be examined in granting a permit

(i) Research team

7.1 The relevant qualifications and experience of the Principal Investigator (and where applicable, the Co-Investigator) and, where appropriate, other key participants in the research (e.g. boat skippers etc.) will be examined. Attention will be paid as to whether the personnel have the necessary skills and background to ensure that:

- the project has a high probability of meeting its scientific objectives; and
- stress on the animals is minimised and within current animal welfare standards.

7.2 The provision for capacity building, where applicable and appropriate, will be examined.

7.3 Underwater observations and operation or manoeuvring of a boat around cetaceans should not be conducted without appropriate training and/or the relevant experience and certification.

7.4. Projects conducted in areas where local expertise is lacking should contribute to capacity building by involving local researchers and/or students and providing opportunities for learning and professional growth.

(ii) Objectives of the research

7.5 The clarity and relevance of research objectives will be examined, taking into account:

- regional conservation and management priorities defined by Parties to the Agreement¹⁶⁵
- research needs identified by the ACCOBAMS Scientific Committee;
- the development of appropriate conservation and management measures at the national or regional level; and/or
- the implementation of Recommendations adopted by relevant intergovernmental Organisations insofar as these are consistent with policies and Recommendations adopted by ACCOBAMS.

(iii) Quality of the project design

7.6 The proposed *temporal* and *geographical scope* of the project, the *field* and *laboratory methods* and the *analytical techniques* will be examined. The review will consider whether they are scientifically appropriate and have a realistic chance of meeting the project's objectives within the proposed timeframe. In considering this, due care will be given to reviewing whether:

- sample size (including age/sex class) is appropriate;
- the research is unnecessarily duplicative; and
- the proposed methods techniques are well understood and specified.

7.7 Project *location*, *timing* and *field methods* will also be examined to ensure that they:

- minimise potential negative effects on populations, ecosystems and individuals consistent with the research objectives – justification for use of techniques that involve potential negative effects will be carefully examined and alternative methods may be recommended if consistent with achieving the objectives of the study in an efficient manner;
- are consistent with applicable legislation and current best practice for cetacean research and animal welfare as reflected in these Guidelines.

In examining the above, due consideration will be given to (a) the status of the population(s) concerned; (b) the potential value to the conservation of the population(s) concerned and (c) the potential value of the research to the overall goals of ACCOBAMS. Particular attention will be given to proposed new field methods and recommendations may be made regarding the need for further assessment of potential negative effects before recommending their use.

¹⁶⁵ e.g. [Resolution 4. 5 "Work Programme 2011-2013"]

7.8 Plans for response to accidental death or serious injury will also be examined. These should include, at least, agreement to suspend research for a sufficient time to review the circumstances surrounding the incident and identify measures to reduce the risk of further incidents. This will normally include:

- agreement that the Principal Investigator will notify the Permit Authority and the ACCOBAMS Secretariat of any such incident as soon as possible and submit a written report within seven days describing the relevant circumstances and proposed mitigation measures;
- Provision for prompt review of the report by the Permit Authority and if necessary, revision of the research protocol under the permit before authorising the work to recommence.

(iv) Archiving

7.9 The proposal will be examined to ensure that biological, photographic and other material will be archived appropriately, with regard for such aspects as:

- assurance that any samples remaining after the completion of initial research are deposited into an appropriate scientific collection (i.e. one that meets acceptable standards of curation and data cataloguing);
- assurance that optimal use is made of any tissues collected, e.g. the carrying out of other analyses not part of the primary research proposal, or the facilitation of tissue exchanges. Exchange of cetacean tissue samples collected during research activities should be facilitated, notably between competent laboratories registered with the CITES Secretariat, in accordance with Resolution 2.10 (Facilitation of exchange of tissue samples).¹⁶⁶

(v) Reporting procedures and presentation/use of final results

7.10 The proposal will be examined to determine whether there are adequate and timely reporting procedures:

- between the permit holder and the Permit Authority;
- between the permit holder and the scientific community (e.g. the ACCOBAMS Scientific Committee, other national or international bodies) in terms of progress and final reports;
- plans for publication of results in the scientific literature.

7.11 Consideration will also be given to plans for:

- using the results to develop practical recommendations for conservation and management;
- using the results to promote capacity building at the appropriate level;

8. Compliance

8.1 Activities conducted under a research permit must comply with:

- applicable requirements of the Country and/or in the marine area of research operations with regard to cetacean conservation, marine environmental protection, animal welfare and the import, transit or export of biological material;
- specific conditions laid down by the permit.

8.2 It should be an offence to carry out or attempt to carry out research or related activities without the necessary permit or in breach of permit conditions or applicable legislation, whether intentionally or negligently. National legislation should provide for meaningful penalties in the event of a conviction.

8.3. The Permit Authority should notify the Secretariat of cases of non-compliance.

9. Role of the Scientific Committee

9.1 The ACCOBAMS Scientific Committee is responsible for the granting of previous general advice on research activities requiring obligatory permit under these Guidelines and advises the relevant Permit Authority(ies) on how to handle the applications.

¹⁶⁶ See ACCOBAMS Resolutions 2.10 (Facilitation of exchange of tissue samples) and 2.15 (Guidelines on tissue banks).

9.2 The Committee should advise the Secretariat on any experimentation, conducted by non-Party Range States in the context of cooperation with ACCOBAMS that may induce or risk cetacean harassment, indicating specific measures to prevent or minimise such risks.

9.3 As an integral part of the Guidelines, the Committee has developed as a live document a guide to best practice with respect to research techniques, methods and equipment to address particular research questions and topics and to be amended regularly (Appendix 3). In developing this guide it will also indicate whether such techniques can normally be considered of 'potentially low impact' or of 'potentially significant impact' (see below), recognising the need to consider the frequency and duration of their use in any one application (or among applications).

APPENDIX 1

Definitions

Acute behavioural response – Repeated, prolonged or excessive actions of a cetacean whose normal behaviour has been disrupted as a result of harassment. It includes but is not limited to a rapid change in direction or speed; escape tactics such as prolonged diving, underwater course changes, underwater exhalation, or evasive swimming patterns; interruptions of breeding, nursing, or resting activities; attempts by a cetacean to shield a calf from a vessel or human observer by tail swishing or by other protective movement; or the abandonment of a previously frequented area.

Agreement Area: The geographical area defined under Article I.1.a) of ACCOBAMS

Approach - A continuous sequence of vessel manoeuvres involving a vessel, aircraft, or researcher's body in the water, including drifting, directed toward a cetacean or group of cetaceans for the purposes of conducting authorized research which involves one or more instances of coming closer than 100 m to that cetacean or group of cetaceans or closer than permitted under the common rules of cetacean watching as presented in Resolution 1.11.

Bona fide research - Scientific research on cetaceans that is (a) conducted by qualified personnel, the results of which are likely to contribute to basic knowledge of cetacean biology or ecology or to the identification, evaluation or resolution of conservation problems affecting cetacean populations, species or habitats in the Agreement Area, and (b) likely to be submitted to and accepted for publication in a refereed scientific journal. This definition excludes non-cetacean research that may incidentally lead to taking of cetaceans.

Co-Investigator - On-site representative of the Principal Investigator with comparable qualifications and responsibilities.

Harassment¹⁶⁷ – Disruption of a cetacean's normal behaviour or prior activity by deliberate or negligent acts of pursuit, dispersal, herding, interference, torment, tagging, marking, branding or other acts that annoy or trouble cetaceans, as well as attempts and repeated approaches for such purposes.

Humane - The method of taking that involves the least possible degree of pain and suffering practicable to the animal involved, consistent with the goal of the research and given the information being sought.

Invasive (intrusive) research –A procedure conducted for bona fide scientific research involving:

- A break in or cutting of the skin or equivalent;
- insertion of an instrument or material into an orifice, introduction of a substance or object into the animal's immediate environment that is likely either to be ingested or to contact and directly affect animal tissue (i.e., chemical substances); or
- a stimulus directed at animals that may involve a risk to health or welfare or that may have an impact on normal function or behaviour (i.e. audio broadcasts directed at animals that may affect behaviour).

Normal behaviour - Behaviour of an animal in the wild in the absence of disturbance or threat resulting from human activities, including but not limited to migrating, breathing, nursing, breeding and feeding.

Permit Authority – Competent authority designated by a Contracting Party to consider and determine research permit applications.

Range State - Any State that exercises sovereignty and/or jurisdiction over any part of the range of a cetacean population covered by this Agreement, or a State, flag vessels of which are engaged in activities in the Agreement area which may affect the conservation of cetaceans.

¹⁶⁷ This proposed definition combines elements from Resolution 2.8 and the Australian, Canadian and American legislative definitions.

Research permit – A general term covering any form of national procedure used to grant an exception to the prohibition on deliberate taking of cetaceans for the purpose of conducting specified scientific research in accordance with Article II.2 of the Agreement.

Permit Holder - Person, institution or agency that applies for the permit and has ultimate responsibility for the activities carried out by individuals under the authority of the permit.

Principal Investigator - The individual with primary responsibility for the work carried out under a research permit, including selection and supervision of research assistants (may also be the Permit Holder).

Research Assistant - Individual who works under the direct supervision of the Principal Investigator and/or Co-Investigator and is assigned responsibilities commensurate with his or her qualifications, knowledge and experience (including but not limited to data recording and serving as safety observer or boat tender).

Taking - Hunting, fishing, capturing, harassing, deliberately killing, or attempting to engage in any of these (CMS Article I.1.i, incorporated into the Agreement by Article I.3).

Unnecessarily duplicative research – Research for which the results are not necessary to verify the results of previous studies; can be reasonably and accurately predicted from the body of knowledge currently available in the scientific literature; or can be predicted from the expected results of ongoing or authorised studies.

APPENDIX 2

Pro forma for permits

The *pro forma* provides the format that should be used for applications for permits by Permit Authorities

PART A - SUMMARY OF APPLICATION

1. Project Title

2. Date of submission

3. Location of proposed research

Will the proposed research be conducted (tick more than one box where applicable)?

In waters under national sovereignty and/or jurisdiction?

YES / NO

In international waters?

YES / NO

From vessels under the national jurisdiction?

YES / NO

4. Project abstract (maximum 200 words)

Summarise the problem or question to be addressed, the methods to be used, possible outcomes and the importance of the proposed research for advancing cetacean science and conservation in the Agreement Area.

5. Funding

How will the proposed research be funded?

PART B - RESEARCH TEAM

6. Permit holder

- Provide full name and contact details of the person, institution or agency making the permit application.
- Where applicable, is this institution an ACCOBAMS Partner Organisation?
- Where applicable, is this person the Principal Investigator?

7. Principal Investigator

- Provide full name and contact details of the person who will have primary responsibility for any taking and related activities carried out under the research permit.
- Specify qualifications, knowledge and experience relevant to the type of proposed activities, with particular reference to cetacean research already conducted in the Agreement Area.
- Indicate professional links to any ACCOBAMS Partner Organisation.
- Attach to the *pro forma* a copy of the curriculum vitae and a list of publications relevant to the objectives, methods or other aspects of the proposed research.

8. Co-Investigator

Where the research team includes a Co-Investigator (on-site representative of the Principal Investigator with comparable qualifications and responsibilities), please provide information as for Section 10.

9. Research assistants

- Provide name and contact details of each research assistant who will be working under the direct supervision of the Principal and/or Co-Investigator.
- Provide a brief summary of each assistant's role in the project and relevant experience, qualifications and training. Do not send full curriculum vitae.

10. Capacity building

- Does the project provide for participation of scientists from other Countries in the Agreement Area?
- For research involving waters under the jurisdiction of another State, what if any steps have been taken to involve local researchers and/or students?

PART C - DETAILED DESCRIPTION OF THE PROPOSED RESEARCH

11. Specific location of research activities

- Describe each marine area in which research activities will be conducted, including longitude and latitude, and attach an A4 sized map to show the boundaries of such area or areas.
- Is any part of these waters designated as a marine protected area or fisheries reserve? If so, indicate whether an additional permit is required to conduct research, from which agency or department and whether this has already been obtained.

12. Objectives of the proposed research

- State the broad goal and specific objectives of the research and where applicable, the hypothesis to be tested.
- Describe how the proposed research will contribute to maintaining a favourable conservation status for cetaceans in the ACCOBAMS Area, making specific reference where possible to:
 - conservation and management priorities defined by Parties to ACCOBAMS;
 - research needs identified by the ACCOBAMS Scientific Committee;
 - relevant recommendations of other intergovernmental Organisations.
- What is the expected nature of the research results and how will success be evaluated?

13. Coordination with other research programmes

- What steps have been taken to identify:
 - complementary or overlapping research programmes in the ACCOBAMS Area?
 - activities in the research area that may affect the conduct or results of this research and/or increase the risk of adverse effects on the research subjects (i.e. cetacean species or populations)?
- How would the proposed research be coordinated with such programmes or activities to avoid duplication and minimise impacts on cetaceans?

14. Start date and duration of proposed research

- Indicate the start date and duration of the proposed research.
- Provide a timetable for fieldwork and analysis.

15. Sample size and design

- For each species covered by the study, please specify:
 - Common and scientific name;
 - Number of animals to be sampled or disturbed (only applies to certain types of research);
 - Age/size (e.g. are calves, mothers and/or pregnant females likely to be disturbed?)
 - Time of year when the research will take place.
- Justify the size and design of the sample by reference to statistical power or other aspects.

16. Research techniques

- For each technique that involves potential harassment of a cetacean, specify:
 - reasons for selection;
 - specific research questions being posed;
 - data required to answer these questions;
 - estimated accuracy of the data that will be collected;
 - how such data will address the project's overall objectives;
 - means that will be used to evaluate the project's success.
- Where a project involves multiple techniques (capture, marking, tagging, sampling etc.), indicate the number of procedures to which each animal may be subjected and the steps that will be taken to minimise re-use of the same animals.

17. Ethics and animal welfare considerations

17.1 Have non-invasive or less invasive techniques been considered for collecting the data necessary for this research? If so, on what basis were they rejected?

17.2 Describe the likely short- and long-term impacts on the welfare of the individual(s) and the population(s) under study? How will these be assessed and monitored?

17.3 Provide evidence to support the choice of invasive techniques (e.g. approval of research protocol by a competent Animal Ethics Committee, consistency with a code adopted by a professional association).

17.4 What steps will be taken to minimise pain or distress to the subjects of the research?

17.5 Has a contingency plan been prepared?

18. Aerial or boat-based surveys and/or photo-identification

boundaries of the survey area(s);

- time(s) of year for the surveys;
- type of survey craft (e.g. fixed-wing, helicopter, etc.) or vessel.

For aerial surveys

- survey altitude;
- ground speed
- photo-ID altitude

- number of passes per animal or group;
- measures to minimize disturbance.

For boat-based surveys

- protocols for going “off track” to photo-id animals
- type/size of photo-id vessel
- vessel speed
- number of close approaches per animal or group
- measures to minimize disturbance.

19. Procedures involving collection of tissues or other samples from animals

Justification for selection of sampling technique

Remote biopsy sampling

- type of vessel and speed
- minimum approach distance
- number of close approaches per animal
- type of sample (blubber biopsy, muscle biopsy)
- size and kind of biopsy dart
- dart deployment method (e.g. cross bow, rifle, pole, etc.) including force of impact
- maximum depth of dart penetration
- preferred sampling site on animal (i.e. shoulder, back, hindquarter, etc.)
- target number of samples and sampling scheme
- size of individual sample (diameter x depth)
- measures to avoid serious injury or mortality.

Blood sampling

- method of collection
- location of sample (which blood vessel);
- total volume needed for assay;
- total volume to be collected.

Serial blood samples (e.g., total body water or metabolic rate measurements)

- total number of samples per animal
- sampling interval
- total volume per sample.

20. Procedures involving remote attachment of scientific instruments

- minimum approach distance
- approach method (i.e. type of vessel, vessel speed etc.)
- maximum number of close approaches per animal
- deployment method (i.e. pole, crossbow, shotgun etc.)
- attachment method (i.e. suction cup, implantable)
- if implantable, depth of penetration (blubber layer, implant in the muscle?) and composition of attachment device
- maximum duration of attachment (implications for tag design and battery requirements)
- method of removal/retrieval, if applicable
- location of attachment on animal
- type of instrument

- mass and total external dimensions of instrument
- if instrument emits signal, indicate frequency (Hz), intensity (dB), pulse rate and duration of signal
- maximum number and type of tags an individual animal would receive
- arrangements for monitoring the individual during tagging research (re-sights)
- post-tagging monitoring.

21. Procedures involving non-remote external attachment of scientific instruments

- attachment method (e.g., epoxy, harness, flipper or fin tag, etc.)
- location of attachment on animal
- type of instrument attached
- mass and total external dimensions of instrument
- if instrument emits signal, indicate frequency (Hz), intensity (dB), pulse rate and duration of signal
- maximum duration of attachment and implications for tag design and battery requirements
- method of removal/retrieval, if applicable
- arrangements for monitoring the individual during tagging research (re-sights)
- post-tagging monitoring.

22. Procedures involving active acoustics (playbacks or broadcasts):

- type of signal
- depth in water column
- power output
- source level
- frequency
- maximum intended received level
- signal duration and duty cycle
- inclusion of a propagation model is desirable.

RESULTS OF THE PROPOSED RESEARCH

23. Intended outputs

23.1 Describe the anticipated products of the research (e.g. articles for publication in peer-reviewed literature, reports, photographs, acoustic recordings, workshops, identification catalogues)

23.2 How will the research results contribute to technical recommendations to governments and/or management bodies?

23.3 Where and when will the research results be published or made available to the public?

23.4 Could the research results be used in capacity-building activities in other parts of the Agreement Area?

23.5 Disposal of biological material

23.6 Will biological material be collected under the research permit for laboratory or other analysis?

23.7 If so, describe the proposed arrangements for disposal or archiving of such material after completion of initial research goals.

APPENDIX 3

Technical indicators for acceptable research methods and equipment

Several jurisdictions outside the Mediterranean and Black Seas have established highly prescriptive conditions for observing and treating cetaceans under research permits (e.g. Standard Conditions for Cetacean Permits under Australia's Environment Protection and Biodiversity Conservation Act 1999). Some of those were reviewed during the preparation of this annex. They include, for example, specific limits on approach distances for tagging, biopsy sampling and photography; specifications on how many approaches are allowed during a unit of time; and requirements for work to be interrupted if the animals respond in specific ways.

It was decided that at the present stage of development of an ACCOBAMS strategy for dealing with the granting of exceptions, a less prescriptive approach was appropriate and that the technical indicators would be optimally presented as guidelines rather than as requirements. Also, it was agreed that this annex would be subject to ongoing review and revision by the Scientific Committee such that improvements could be made in the light of experience and new scientific findings.

Aerial survey

This is a generally low-impact activity, particularly as long as the aircraft is flying on a steady course along predetermined routes as in a line- or strip-transect survey. Circling over the animals, a procedure that is often necessary to obtain reliable identifications and accurate counts during surveys, is of most concern. Disturbance is caused mainly by noise from the aircraft's propeller rotation and engine although the shadow of an overflying craft can elicit a startle response on the part of cetaceans at the surface. The level of sound entering the water generally decreases with flight altitude, so as a general rule, the survey design should ensure that the searching altitude is 183 m (=600 feet) or higher – the chosen altitude will depend on the size of the target animals (e.g. 183 m for porpoises and other small cetaceans found in small groups; 230 m for larger cetaceans, e.g. fin whales). Circling over animals should only occur if it is necessary to confirm species identification and/or school size and it should be carried out as quickly and as high as possible whilst still meeting the scientific objectives.

Ship-based survey

This is also a generally 'low impact' activity. The main concern is how the animals are approached, if they are approached. The following Guidelines should be applicable in most circumstances:

- When approaching animals:
- Maintain an oblique angle in relation to their heading (ca. 110° to 160°) and do not attempt to cut them off; try to ensure that they are aware of the approaching vessel; establish a course parallel to theirs before closing to within 50 m.
- Reduce speed to accommodate to the animals' speed.
- Never make sharp turns or quick changes in speed when near the animals; all turns and speed changes should be progressive and slow to give the animals a chance to notice and react.
- Do not allow the vessel to come between a mother and calf.
- If animals show strong reactions to an approach, abandon it and move away.
- Do not chase the animals if they show an avoidance response.

Photo-identification

This too is a generally 'low impact' activity. The main concern is how the animals are approached (this is also a component in the evaluation of other techniques such as biopsy sampling and tagging/marking).

- Approach the animal(s) following the Guidelines for 'Ship-based survey' above, but once parallel to the individual or group, start closing slowly at a small angle until the necessary distance for obtaining suitable

photographs has been achieved, then complete the photography session and move away deliberately and without revving the engine.

- Before closing in to cetacean(s) known to bow-ride, allow some time for animals to approach and bow-ride your boat, an act that will facilitate photographing as well as sampling/tagging.
- If the animals show strong reactions to the approach, abandon it and move away.
- Do not allow the vessel to come between a mother and calf.
- Do not chase the animals if they show an avoidance response.

Biological sampling

Small tissue (and faecal) samples collected from free-living cetaceans are used in a wide variety of studies, many with high relevance to conservation. In all cases, such sampling should be carried out only by experienced, trained researchers. Also, if the target animals show strongly negative reactions to repeated approaches (e.g. rapid movement away from the research vessel, changing their respiratory cycle in an obvious way), the procedures should stop and the animals left alone.

Biological samples are obtained in three main ways, as follows:

- **Biopsies**

Obtaining biopsies from live, free-ranging cetaceans should not be attempted unless it is well justified within the context of a bonafide research program. The use of biopsy darts fired from a rifle or crossbow is generally regarded as the most invasive non-lethal method of obtaining biopsies. It should be carried out only by experienced and trained researchers. As a general rule, biopsies from large cetaceans should be collected using a specially designed rifle, crossbow or pole; those from medium-sized cetaceans using a pole or, in special circumstances and with caution, a crossbow; and those from small cetaceans using only a pole. Some additional general guidelines for biopsy sampling are as follows:

- Avoid calves and mothers with small calves except when well justified by the importance of genetic or other information.
- For long-range biopsies (rifle, crossbow) do not fire at ranges of less than:
 - 7 m for large whales (baleen whales, sperm whale, adult male killer whale) and
 - 12 m for medium-sized whales (female and immature killer whale, pilot whales, Risso's dolphin, beaked whales).
- Rifles and crossbows should be avoided for smaller cetaceans (striped, common and bottlenose dolphins, and porpoises).
- If animals show strong reactions to repeated approaches, stop procedures and leave them.
- Try to avoid multiple sampling of the same animal during a single encounter, e.g. by always sampling from the same side of animals.
- Do not use oversized tips (e.g. large whales' tips for small cetaceans).
- Calibrate the strength of the rifle (e.g. according to species) and the distance according to the power of the device. Avoid using powerful crossbows (compound ones) at short distances (7 m); consider having different crossbows for different species of cetaceans (e.g. one for large ones and one for medium-sized ones).

- **Skin swabs**

- Try to avoid small calves and mothers with small calves.
- Try to avoid multiple sampling of the same animal during a single encounter.

- **Sloughed skin and faeces**

- Try to use nets and avoid entering the water unless necessary.
- Do not force animals to make shallow dives to encourage skin sloughing.
- Do not place the boat between mothers and calves to collect faeces or sloughed skin.

Many of these suggestions are not much more than common sense. What is important is that researchers, when applying for an exception, provide an explicit rationale as to why any potentially disturbing or intrusive procedures are necessary to acquire data, and how the data will contribute to scientific understanding and cetacean conservation. It

should be possible to demonstrate in the application that every reasonable effort has been made to minimize disturbance and the risk of harm to the animals themselves.

Tagging or marking

The application of tags to animals (or actively marking them in some way), whilst often being extremely informative, is among the most intrusive research methods. This is particularly true if deliberate live capture to apply the tags or marks is proposed. As a result, a great deal of effort has been made to develop devices and procedures to reduce, and minimize, the risk of harm. Any tagging or marking must be performed quickly, easily, and with minimal pain. While care for individual animals is always important, from a conservation perspective, it is especially important to take carefully into account the status of the population when deciding the appropriate research technique to use to answer questions. For endangered/severely depleted populations, the conservation benefits of learning more about the animals (and thus informing better mitigation against threats) must be weighed against the potential for damage to the health of an individual animal or animals.

Different tagging or marking techniques have different levels of 'invasiveness' and the choice of the most appropriate techniques should be considered carefully in relation to the questions being asked. Time-depth recorders (TDRs) attached by suction cups are often used for short-term monitoring of diving behaviour, while implanted or dart-attached satellite tags are often used to obtain longer-term data on movements and migration.

When applying for a permit, a detailed description of the method(s) selected and a justification for that selection should be included. If a more invasive technique is proposed (e.g. implanted tag instead of suction cup), the pros and cons should be reviewed thoroughly in order to justify one method over the other. If similar results can be obtained with a less intrusive attachment technique, priority should be given to it over any more invasive one.

When reviewing an application for tagging/marking, the following must be considered:

- the conservation status of the affected population;
- the approach will yield valuable results (especially from a conservation/management perspective);
- the process is not likely to result in immediate or long-term hindrance or irritation to the animal;
- the process is not likely to significantly affect an individual's survival or reproductive capacity.

Controlled Exposure Experiments (CEEs)

Controlled exposure experiments provide a way of testing the effects of various stimuli on wildlife. Such experiments, when carried out on free-ranging cetaceans, need to be carefully designed and rigorously executed to ensure that the information being sought is obtained efficiently but with minimal or no risk to the research subjects. ACCOBAMS particularly concerned about the potential proliferation of CEEs on beaked whales in areas of the Mediterranean Sea where circumstances are amenable (e.g. the animals are predictably present, logistics and environmental conditions are often favorable) has established clear guidelines for Parties contemplating such activities. These include prior notification to the Scientific Committee and requirements that (a) all possible alternative means of obtaining the needed information, e.g. opportunistic study of beaked whales exposed to measured types and levels of underwater sound, have been fully explored; (b) monitoring has a high probability of detecting both target and non target animals in real time across the area of potential exposure; and (c) the experimental design is sufficient to satisfy clear, specific management objectives and is part of a long-term study of population status and health.

RESOLUTION 6.13 - Comprehensive cetacean population estimates and distribution in the ACCOBAMS area (monitoring of cetacean distribution, abundance and ACCOBAMS survey Initiative)¹⁶⁸

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article II, paragraph 3, of the Agreement and its Annex 2 (Conservation Plan), paragraph 2,

Recalling Resolution 2.11 on the facilitation of scientific research campaigns and programmes,

Recalling Resolution 5.9 on “Comprehensive cetacean population estimates and distribution in the ACCOBAMS Area (ACCOBAMS Survey Initiative)”, which has replaced the previous Resolutions 2.19 and 3.15,

Recalling Resolution 5.1 on the ACCOBAMS Strategy for the period 2014-2025, in particular, its specific objective B.1 “Improve the knowledge about state of cetaceans”,

Taking into consideration Recommendation 10.1 of the ACCOBAMS Scientific Committee,

Reiterating that the work for obtaining baseline population estimates and distributional information of cetaceans within the ACCOBAMS area represents the highest priority for conservation research within the ACCOBAMS area and is of great importance in the assessment of risk from different sources (e.g., by-catch, degradation of habitats, disturbances, pollutions) and in the determination of appropriate mitigation measures and priority actions,

Stressing that, without such information and a suitable monitoring programme, it will be impossible, *inter alia*, to determine whether ACCOBAMS is meeting its conservation objectives,

Aware that the implementation of the ACCOBAMS Survey Initiative would allow to obtain baseline cetacean population estimates and distribution in the ACCOBAMS Area and to progress in the regional monitoring of cetacean populations,

Recalling the commitment of the Parties to the ACCOBAMS Survey Initiative, to promoting it at the national and international levels and to carrying it out,

Recalling that identification of the components of biological diversity is a fundamental priority, expressed *inter alia* in the Convention on Biological Diversity, and that the Habitat Directive (92/43/EEC) requires to monitor the conservation status and the impact of human-induced mortality on populations of all cetacean species,

Recognizing also the importance given by the Marine Strategy Framework Directive (2008/56/EU) to qualitative descriptors for determining good environment status, including the maintenance of biological biodiversity,

Stressing that the ACCOBAMS Survey Initiative could provide a fundamental contribution to other relevant initiatives, such as the Ecosystems Approach (EcAp) Process within the framework of the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and the 2009 Strategic Action Plan for the Environmental Protection and Rehabilitation of the Black Sea,

¹⁶⁸ This Resolution is complemented by Resolution 7.10 (para.20).

Welcoming the development by the Scientific Committee of the Monitoring Guidelines to Assess Cetacean's Distributional Range, Population Abundance and Population Demographic Characteristics,

Recalling the commitment of the Barcelona Convention ' Contracting Parties to facilitate and support the ACCOBAMS Survey initiative through the implementation of the decision IG.22/12 related to the adoption of the updated Action Plan for the Conservation of Cetaceans in the Mediterranean Sea,

Considering that it is possible to undertake the survey separately for the Mediterranean and the Black Seas waters and that there are advantages in establishing links between the ACCOBAMS Survey Initiative and other survey programmes which are being carried out by other entities in the North Atlantic Ocean,

Thanking the French Agency for Marine Protected Areas for the financial support provided for developing the ACCOBAMS Survey Initiative,

Thanking also the Regional Activity Centre for Specially Protected Areas (RAC/SPA), the International Union for Conservation of Nature (IUCN) and the French Agency for Marine Protected Areas for their support within the Steering Committee of the ACCOBAMS Survey Initiative,

Expressing its gratitude to Italy, Spain, the Prince Albert II Foundation and the MAVA Foundation for their voluntary contributions and financial support, and to other Parties that have accepted to provide in-kind contributions,

Welcoming the announcement by France for its generous contribution,

I – Monitoring of cetaceans distribution and abundance

1. *Asks* the ACCOBAMS Parties and *invites* the Range States to ensure that any proposed national programme for monitoring abundance and distribution of cetaceans is in line with the Monitoring Guidelines to Assess Cetacean's Distributional Range, Population Abundance and Population Demographic Characteristics that are annexed to the present Resolution, stressing the importance to have standardized protocols for data collection and analysis;
2. *Recommends* that, as monitoring methodologies evolve and new techniques become available, these Guidelines be considered as a living document to be reviewed at least every triennium and updated, as necessary;
3. *Urges* the Parties to facilitate the release of permits according to their national legislation for research activities to be conducted in the Agreement area in line with the actions presented in the ACCOBAMS programme of work;
4. *Asks* the researchers involved in these surveys that:
 - as soon as possible, all the information obtained from these surveys is available on the ACCOBAMS web tools, (such as NETCCOBAMS) and OBIS SEAMAP with all the GIS information and raw data as necessary;
 - all measures are taken when and if possible to train and increase the capacity building of all the Countries involved;
5. *Asks* the Scientific Committee for advice on the development and coordination of international and national research and monitoring programmes on cetacean population abundance and distribution in the ACCOBAMS area, in compliance with Article VII, paragraph 3, d), of the Agreement;

II - ACCOBAMS Survey Initiative

6. *Welcomes* strongly the launching of the ACCOBAMS Survey Initiative;
7. *Commends* the efforts by the Secretariat to secure funding for the ACCOBAMS Survey Initiative and asks it to pursue such efforts;
8. *Recommends* that the ACCOBAMS Parties, the Secretariat, the Sub Regional Coordination Units and the ACCOBAMS Partners actively promote the visibility of the ACCOBAMS Survey Initiative, underlining its scientific, conservation, education and capacity building components;
9. *Invites* the ACCOBAMS Parties and range States to:
 - a) Actively participate in the implementation of the survey;
 - b) give priority to contributing with financial or in-kind support for the survey;
 - c) appoint a national contact person to assist the National Focal Point, whose tasks will be mainly to:
 - facilitate the process of obtaining permits for vessels and aircraft to operate in the waters under their jurisdiction in accordance with relevant provisions of United Nations Convention on the Law of the Sea (UNCLOS);
 - co-ordinate the identification of financial and/or in-kind support for the survey;
 - co-ordinate ongoing monitoring projects and, where appropriate, facilitate the development of new projects;
 - identify observer candidates;
 - d) share with the Secretariat reports and GIS information of national programmes on the study of abundance and distribution of cetaceans;
10. *Encourages* other competent international organizations and the ACCOBAMS' Partners to participate in the programme;
11. *Reiterates* the urgent need to hire a scientific co-ordinator to work in close cooperation with the fund-raiser and the ACCOBAMS Survey Initiative Steering Committee within the financial resources allocated to the project;
12. *Decides* that the present Resolution replaces Resolution 5.9.

ANNEX

MONITORING GUIDELINES TO ASSESS CETACEANS' DISTRIBUTIONAL RANGE, POPULATION ABUNDANCE AND POPULATION DEMOGRAPHIC CHARACTERISTICS

Introduction

The Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS) has been working for several years on defining an exhaustive program for estimating abundance of cetaceans and assessing their distribution and habitat preferences in the Black Sea, Mediterranean Sea and the adjacent waters of the Atlantic (the "ACCOBAMS Survey Initiative"). This initiative consists in a synoptic survey to be carried out in a short period of time across the whole Agreement area and it will combine visual survey methods (boat- and ship-based surveys) and passive acoustic monitoring.

This document was elaborated based on the documents prepared by the ACCOBAMS Scientific Committee that has worked for several years on the definition of the most appropriate methodologies for collecting data on cetaceans at the Mediterranean and Black Seas scale, taking into account the protocols used in other regional contexts¹⁶⁹. It presents specific information on monitoring by visual line transect surveys (conducted from boat and airplane) and by acoustic survey. It should be noted that it does not address all the tools and methods that could be used for cetacean survey, neither new technologies that are currently experimented (i.e. drones and satellite imagery). Significant information also comes from stranding networks. Lastly, this document is considering surveys using large ships, but the shipboard cetacean surveys conducted from small vessels would also make use of this document.

Monitoring cetacean species may be addressed at two spatial scales:

- 1) **Regional monitoring** - if the requirement is to monitor the use of a specific area by a particular species, e.g. monitoring the status of relative abundance between and within years in national waters or marine protected areas.
- 2) **Population level monitoring** - if the requirement is to monitor the status of a whole population, e.g. estimate density and abundance of cetaceans in the whole ACCOBAMS area.

Before conducting any type of monitoring of animal populations, it is important to define the objectives. The main aim in both aerial and vessel-based surveys is to assess density and abundance and, if systematic monitoring programs are in place, assess potential trends over time. Monitoring at the regional level may require data collection throughout the year, to better understand seasonal patterns in distribution, whereas monitoring at the population level would mainly address inter-annual changes.

Cetaceans generally occur in low densities and are highly mobile. They are difficult to spot and to follow at sea, even during good survey conditions, because they typically only show part of their head, back and dorsal fin while surfacing and spend the majority of their time underwater.

There are a number of actions that need to be taken when initiating any type of monitoring, either for species distributional range or to estimate population abundance of selected species.

2. Select the target species (surveys can be multi-species or single species).
3. Determine whether to monitor an entire population or a portion of it (in a given region).
4. Define the population or area to monitor and the time-window.
5. Define monitoring objectives.
6. Consider logistics for the monitoring (e.g. size of area, weather, depth of area, available survey platforms).
7. Conduct statistical power analysis to find the best method to meet the monitoring objectives.

¹⁶⁹ e.g. in the Atlantic waters within the framework of (i) the SCANS surveys undertaken to assess the populations of Small Cetaceans in the European Atlantic and North Sea, and (ii) the CODA surveys (Cetacean Offshore Distribution and Abundance in the European Atlantic) aiming to estimate cetacean abundance in European Atlantic waters.

8. Conduct a cost-benefit analysis.

Currently, there are at least five potential approaches to be used in monitoring cetaceans:

1. Visual surveys from ship, aircraft or land observation platforms (LOP).
2. Passive acoustic monitoring carried out during ship surveys with towed hydrophones.
3. Passive acoustic monitoring performed by means of static acoustic monitoring, e.g. using T-PODs.
4. Photo-identification and mark-recapture analysis.
5. Satellite telemetry to track individual animals.
6. A combination of all or some of the above methodologies.

When deciding which monitoring method to implement, it is important to consider the limitations of each approach and compare the different methodologies. In general, surveys from ship or aircraft have a low temporal resolution, ship surveys may have bias due to responsive movements of animals, stationary acoustic systems have low spatial resolution and logistical problems with deployment, photographic identification relies on visual differences between individuals to allow identification, and telemetry typically only allows small samples resulting in much inter-individual variation.

There are different types of platforms and methods of detection that can be used for each approach, e.g. fixed observation points such as headlands or moving survey platforms such as ships and aircraft, or direct visual or acoustic detections of vocalizing animals, respectively. The methods can therefore range from very basic, yielding simple indices of abundance in limited areas, to very advanced providing accurate (how close the estimate is to the true value) and precise (the statistical variation in estimates generated from repeated samples) estimates of absolute abundance across wide areas.

Target species

Cetaceans

Eleven species of cetaceans are considered to regularly occur in the Mediterranean area: short-beaked common dolphin (*Delphinus delphis*), striped dolphin (*Stenella coeruleoalba*), common bottlenose dolphin (*Tursiops truncatus*), harbour porpoise (*Phocoena phocoena*), long-finned pilot whale (*Globicephala melas*), rough-toothed dolphin (*Steno bredanensis*), Risso's dolphin (*Grampus griseus*), fin whale (*Balaenoptera physalus*), sperm whale (*Physeter macrocephalus*), Cuvier's beaked whale (*Ziphius cavirostris*) and killer whale (*Orcinus orca*). In the Black Sea, three small cetaceans' species are represented by resident populations: common dolphin (*Delphinus delphis ponticus*), bottlenose dolphin (*Tursiops truncatus ponticus*) and harbour porpoise (*Phocoena phocoena relicta*).

Knowledge about the ecology, abundance and habitat preferences of some of these species, including the most abundant ones, is in part scant and limited to specific sectors of the ACCOBAMS area, due to the uneven distribution of research effort during the last decades. In particular, the south-eastern portion of the basin, the coasts of North Africa and the central offshore waters are amongst the areas with the most limited knowledge on cetacean presence, occurrence and distribution (2010 ACCOBAMS Status report - Conserving whales, dolphins and porpoises in the Mediterranean and Black Seas, by Giuseppe Notarbartolo di Sciara & Alexei Birkun, Jr.).

Other marine endangered species

Even if cetacean species are the first targets of this monitoring effort, the observations of other marine endangered species, such as marine turtles, giant devil rays, monk seals and sea birds, and other elements such as marine debris, could be reported during the surveys. Specific protocols have to be designed for these opportunistic observations, bearing in mind that the primary objective is to collect data on cetaceans.

Dedicated vessel or aircraft visual surveys

For monitoring programmes involving dedicated visual surveys both ship-based and aerial methods are well established. Although in some situations the choice of platform will be determined by logistical constraints, and despite the fact that a full and comprehensive comparison of aerial and vessel-based surveys has not yet been carried out, generally the method which provides an estimate with the required precision for the lowest cost should be chosen.

For visual surveys, it is important to consider observer skill and experience. Observers may vary in sighting efficiency and observer training is important to obtain consistent results. Furthermore, consistency in data collection protocols, observers, survey design and planning is essential to guarantee reliable and robust results in the long term, especially when systematic monitoring programmes are scheduled.

Line transect sampling is typically used to estimate abundance and assess density. In line transect sampling, a survey area is defined and surveyed along pre-determined transects. The distance to each detected animal is measured and consequently used to obtain a detection function, from which an estimate of the effective width of the strip that has been searched can be calculated. This is necessary because the probability of detecting an animal decreases the further away it is from the transect line. Abundance is then calculated by extrapolating estimated density in the sampled strips to the entire survey area. The calculated number is therefore an estimate of abundance in a defined area at a particular time.

On ships, distances are either estimated by naked eye (observers should be trained in distance estimation and use individually calibrated tools) or using binoculars with distance calibrated reticules. Video range measuring methods allow distance to be accurately measured. To calculate the perpendicular distance to a sighting the radial angle should be recorded using an angle board. If an aircraft is used, an inclinometer reading, taken when the sighting is abeam of the aircraft, and the altitude of the aircraft allow precise calculation of the perpendicular sighting distance to the transect. Animals occur in groups in many cetacean species so the target for detection in a line transect survey is often a group rather than individuals. Hence, data on the group size and composition must also be accurately collected.

When estimating absolute abundance using the line transect distance sampling method, it is assumed that all animals on the track line are detected, i.e. probability to detect an animal or a group of animals is maximum ($g(0)=1$).

There are two potential categories of bias that may invalidate the assumption that $g(0)=1$:

- availability bias (when the animal is underwater or, in general, not available to be seen during the period it is within visual range) and
- perception bias (when for whatever reason an observer misses an animal that is available at the surface).

To address the availability bias, data on diving behaviour of the target species could be taken into consideration and used as a correction factor. With trained observers and large cetaceans, perception bias can be considered equal to or approximately equal to 1. However, if $g(0)$ is significantly lower than one (as is often the case for small cetaceans) then this will result in a considerably negatively biased estimate and the true value of $g(0)$ must be estimated. For shipboard surveys, the double-platform approach has been successfully used to address this problem. Availability bias is a particular problem for animals with very long dives; in the case of the sperm whale, acoustic techniques can overcome this problem.

The logistics of aerial surveys often prevent the use of two independent platforms to allow estimation of the proportion of animals missed on the transect line, however, recently Partenavia P-68 planes have been equipped with two sets of bubble windows, to allow double-platform data collection by means of independent observers on board of the same aircraft. Data collection protocols implementing aircraft circling back after a sighting to simulate the second research platform can be also used.

Relative abundance using only one platform may be sufficient for detecting population trends, reducing surveys cost considerably and may be used to monitoring the status of the target population between large-scale absolute abundance surveys based on larger budgets.

Another assumption for line transects methodology is that animals do not move prior to detection. This is not a problem for aerial surveys but may bias shipboard surveys that typically survey at speeds around 10 knots. Evasive movements lead to negative bias in estimates of abundance, while attractive movements lead to positively biased estimates. Double-platform methodology can be applied to assess responsive movements. According to this method, observations are carried out from two platforms. Observers from the secondary or 'tracking' platform search an area ahead of the 'primary' survey area and sufficiently wide to ensure that animals are detected prior to any responsive movement to the ship, and to allow the tracking of animals until they are detected by the primary platform. The observers from the primary platform search independently of the tracking platform.

To assist in planning a line transect survey and to analyse the data there is a comprehensive analysis program available called DISTANCE.

DISTANCE provides software for estimating detection functions, density and abundance, and can be used to design the surveys. The latest version also includes mark-recapture distance sampling which allows analysis of dual observer distance sampling surveys, where the probability of detection on the trackline can be estimated. All versions of DISTANCE can be downloaded free from <http://www.ruwpa.st-and.ac.uk/distance/>.

It is clear from the above examples that proper design of the survey is critical to address monitoring issues of cetacean populations, and in particular that a large enough area is covered so that shifts in distributions can be accounted for when analysing the data.

The areas to be surveyed are usually divided into survey blocks and the transects are designed to ensure equal coverage probability, using the dedicated software.

Survey design

The basic requirement for a line transect survey is that it provides representative coverage of the area for which an abundance estimate is desired (*i.e.* each point in the area has an equal or quantifiable probability of being sampled). A common design for vessel-based surveys at sea is a set of zig-zag lines following a regular pattern, starting from a random point along one edge of the survey area. In aerial surveys, 'parallel transects' are to be preferred and the coverage should be allocated according to target species' density: more coverage where their density is higher.

Survey blocks

The development of appropriate survey blocks is a combination of biological factors (species, distribution/stock structure and abundance, habitat types etc.) and pragmatism associated with the logistics (numbers of vessels/planes; port/airport facilities; transit times; national boarders etc.).

Effort required per block

The effort required per block is determined as a function of ship/airplane time available in each block, available information on density of species and logistical constraints. The higher the level of coverage the better, as it allows for a larger sample size and therefore for more precise and robust abundance estimates.

There are some practical points needing attention when designing a survey. Transects should, as far as possible, run perpendicular to any density gradient; for example, coastal surveys typically have transects that run more or less perpendicular to the shore line.

Closing mode versus passing mode

In order to confirm certain information (species identification, group size and, historically, distance to sighting), cetacean surveys could be operated in 'closing mode'. In this mode, once a sighting has been made and the initial distance and angle been recorded, the vessel then approaches the animal(s) to identify the species and group size. It is also used if, for example, it is desired to obtain biopsy samples or photographs.

Nevertheless, operating in ‘closing’ mode can result in biased abundance and estimates. The preferred approach is thus to operate in ‘passing mode’ whenever possible (*i.e.* once a sighting is made the vessel remains on the designated course). However, this too has its problems, if, for example, many sightings are unidentified to species (the use of cameras with large stabilized zoom lenses may facilitate species identification).

Deciding between vessel and aerial surveys

Visual line transects surveys can be operated from a ship and from an aircraft. When deciding which platform to use, the relative merits of each approach for the species and areas to be covered must be considered. These include:

- aerial surveys are usually more cost-efficient per area than large vessel surveys, provided that the area to be covered is within the range of the aircraft from an airport and taking safety considerations into account (this often means not travelling more than 200 nautical miles or so offshore);
- aerial surveys can take better advantage of good weather conditions, in that they can cover much larger areas in the same period;
- aerial surveys are more efficient (and trackline design is easier) if the area to be covered has complex coastlines, many islands or large areas of shallow waters;
- aerial surveys can be more tolerant of swell but less tolerant of sea state and low cloud – they can also be affected by poor weather at the airport even if survey conditions are acceptable at sea;
- animals are less disturbed (if at all) by aircraft at normal flying altitudes and thus the problem of responsive movement is minimal;
- for multispecies aerial surveys, compromises must be made in terms of the optimum altitude for flying e.g. flying at the optimum altitude for a harbour porpoise survey means that the searching area for larger species such as fin whales is considerably reduced;
- vessels are generally better platforms for photo-identification and aircraft are unsuitable for biopsy sampling and acoustic recording;
- availability bias is much greater for aerial surveys;
- it is generally easier to obtain a suitable vessel than a suitable aircraft.

Platforms of opportunity

Platforms of opportunity are a potentially valuable resource for monitoring, but it is usually not possible to choose the time or area of operation. Survey coverage is therefore typically extremely uneven and some areas, crucial for the presence of a target species, may not be covered; such unrepresentative coverage may introduce bias into assessment of distribution and abundance.

Platforms of opportunity using visual and/or acoustic methods are the cheapest way to monitor cetaceans. However, the success of using such vessels depends on finding the right platform that can cheaply and effectively accommodate observers and equipment and that cover appropriate areas at suitable speeds. These criteria are seldom fulfilled, especially since long term monitoring ideally requires the conditions to be consistent. Ferries may be suitable in some areas, but spatial coverage is likely to be poor because of the fixed routes covered. Research vessels conducting annual monitoring of e.g. oceanography or fish resources have the potential to be valuable platforms of opportunity for monitoring if they take place at the right time(s) in the right place(s).

Acoustic surveys

The collection of acoustic data for cetaceans has some significant advantages over visual methods. Acoustic methods can be automated, data can be collected 24-hrs a day and data collection is not dependent on observer’s skills, is less sensitive to weather conditions and can detect the presence of diving animals not available for visual observations. Disadvantages are that these methods rely on animals making sounds within a useful detection range and are identifiable to the species level. Furthermore, with exception of some species such as the sperm whale, methods to estimate abundance are not well established yet.

All odontocetes (toothed whales) have the ability to echolocate by producing and listening to particular “click” sounds. This allows them to navigate during night-time or in murky waters, and to find and catch preys. Most toothed whales such as most dolphins (e.g. bottlenose and common dolphins) also produce other frequency modulated sounds (whistles) used for intraspecific communication. The monitoring of these sounds allows for the collection of information on spatial and temporal habitat use, as well as estimation of relative density.

Ship-board line transect acoustic survey is the most effective way of surveying sperm whales in the open sea and to collect the data required for accurate and robust estimation of absolute abundance in these waters. Visual-only survey techniques could introduce biases due to the long dive duration abilities demonstrated by the species and the little time generally spent at the surface, which makes them mostly unavailable for visual detection.

Acoustic data from sperm whales can be used to assess both relative and absolute abundance provided that the appropriate equipment and survey design is followed. Sperm whales produce loud regular clicks, which can be detected at ranges of tens of kilometres. Sperm whale click characteristics are generally easily recognisable. Thus, software automatization has been developed and used on a number of surveys resulting into real-time tracking and location to single animals or groups. By tracking a whale for a period of time, crossed bearings to successive clicks give a position for each whale, which can be used in a distance-based analysis.

A major task in this type of analysis is the assignment of clicks to individual whales when many animals are vocalizing simultaneously. Often, clicks from different whales are easily resolved using bearing information with dedicated software implementing beamforming. The regularity of the click train on each bearing indicates that they represent a single whale. On occasions where more than one whale is on the same bearing, clicks can be assigned to individuals using spectral and amplitude information, inter-click intervals and inter-pulse intervals. By identifying the most obvious whale in a group and removing those clicks from the analysis, identification of successive whales becomes progressively easier until all clicks are assigned.

Since acoustic detection ranges are generally ~10 km, a survey vessel travelling at 18 km per hour (10 knots) will be in acoustic range of a sperm whale close to the track line for over an hour. Typically, sperm whales dive for approximately 30-50 minutes followed by 10-15 minutes at the surface. Clicking is generally continuous when the whales are submerged and they are silent while resting at the surface.

On occasion, whales cease clicking regularly for periods of 2-3 hours, but evidence from tagging and observational studies suggests this is infrequent. The probability of a whale to remain silent for the entire time that the vessel is in range is therefore considered to be small, indicating that $g(0)$ for acoustic surveys is close to 1. However, calves (which may represent up to 20% of the population) do not make long foraging dives and are not clicking regularly. Consequently, their detection may have low efficiency and a correction factor calculated from existing data should be applied.

Acoustic survey data for sperm whales can generally be collected simultaneously with visual data for other species particularly if the survey is operating primarily in passing mode. Survey vessels can also continue acoustic sampling in conditions unsuitable for visual survey (bad weather and night-time).

Abundance estimates, based on acoustic methods, are only possible for sperm whales. Potentially, information on distribution can be obtained from acoustic data for all species, although with much more uncertainties for common and striped dolphins, given the difficulties in distinguishing their vocalizations.

A hydrophone array is towed behind each vessel. The equipment consists of a desktop computer running automatic detection software, the towed hydrophone, and various interface cards for getting sounds into the computer. The computer is running all the time, and one scientist is in charge of the acoustic system on each vessel.

Photo-identification

Photo-identification is a widely used technique in cetacean research that can provide estimates of abundance and population parameters e.g. survival and calving rate. It has been used for monitoring purposes for common bottlenose

dolphins and killer whales since the 1970s. The technique relies on being able to obtain good quality photos of animals' body parts that constitute unique recognizable markings.

This method can be used for population level monitoring of species with appropriate markings, if data can be collected across the distribution of the population. This approach cannot be applied to species that lack suitable individual identification marks.

Using photo-identification, it is sometimes possible to census the whole population when all individuals can be encountered at any given time in an area, all are well marked and no individuals seem to be moving in or out of the population. This is however unusual and has only been accomplished for a few populations of bottlenose dolphin, e.g. Sado Estuary, Portugal and Doubtful Sound, New Zealand, and for killer whales off Vancouver Island. More commonly, mark-recapture models must be applied to photo-identification data to estimate abundance (rather than a census the whole population) for specific areas that populations or part of populations occupy during one or more seasons of the year.

Information on the proportion of the population possessing recognisable markings is also required to allow estimation of population size.

The standard software program for mark-recapture analysis is program MARK (<http://www.cnr.colostate.edu/~gwhite/mark/mark.htm>), which includes a wide range of models to estimate population size and survival rates. There are models that can take account of heterogeneity of capture probabilities, a common problem in mark-recapture studies. These include program CAPTURE, a widely used multi-sample closed population model. If animals are believed to emigrate temporarily from the study area, there are also methods available for taking this into account in analysis.

Satellite tracking

Information on the movements and distribution of individual animals can help to identify important habitats, migration routes and to define boundaries between populations. Effective conservation of animal populations is enhanced by this information, which can also be valuable when designing monitoring programmes. In recent years satellite tagging of cetaceans has been increasingly used to obtain information on seasonal movements, distribution and diving behaviour.

To make inferences about large populations ranging over a wide area, many animals must be tagged, especially in species with high individual variation in behaviour. For some areas and species this would be a significant logistical challenge.

Many kinds of tags have been used in studies of cetaceans, including VHF transmitters, satellite tags and GPS data loggers. Satellite telemetry has the advantage that because data are transmitted to an earth-based station via a satellite, it is possible to follow animals all over the world without retrieval of the tag.

Each tagged animal can provide a wealth of information but the limitation is that typically only a few animals can be tagged in a study due to limited funding or access to live animals. General conclusions are therefore often difficult especially if all members of the population are not equally available for tagging.

Power analysis

For any type of monitoring it is necessary to ensure that the chosen method and the study design will be able to provide an answer to the question posed with a useful level of precision. A power analysis can indicate the ability of the statistical procedure and the available or planned data to reveal a certain level of change i.e. the ability to detect a trend of a given magnitude. Power analysis can be used in two situations: firstly for interpretation of results of analysis of existing data; and secondly to plan studies to calculate the necessary sample size e.g. the length of time

series of abundance estimates, or the coefficient of variation (CV) of those estimates, needed to detect specified rates of population change in a trend analysis.

TRENDS is a freely available program designed to carry out a power analysis of linear regression, particularly in the context of monitoring populations in wildlife studies:

<https://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuId=228&id=4740>).

TRENDS summarises the power analysis in five parameters: duration of study, rate of change, precision of estimates, Type 1 error rate, and power (1 - Type 2 error rate). The value of any one of these can be estimated if the other four are specified. TRENDS is therefore designed to help answer such questions as:

- How many years are required to detect a trend?
- How much effort would be required to detect a certain level of change in a certain time period? What is the probability of detecting a trend?

RESOLUTION 8.12 - IUCN Red List Status of cetacean species in ACCOBAMS Area

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Acting upon recommendation 14.2 of the Scientific Committee,

Recalling Resolution 2.22 on strengthening relations with IUCN, Resolution 3.19 on the IUCN Red List of cetaceans in the Mediterranean and Black Seas and Resolution 6.15 on the assessment of IUCN conservation status of cetaceans in the ACCOBAMS Area,

Bearing in mind that the IUCN Red List provides a simple way of classifying the status of taxa at species or lower taxonomic levels such as subspecies, variety or subpopulation into one of eight categories: Data Deficient, Least Concern, Near Threatened, Vulnerable, Endangered, Critically Endangered, Extinct in the Wild, and Extinct,

Aware that all cetaceans regularly present in the Mediterranean and Black Seas have now been assessed or re-assessed and that the Scientific Committee has completed the work assigned to it in Resolution 6.15 (Assessment of IUCN Conservation Status in the ACCOBAMS Area), being greatly supported in this ambitious task by the data collected under the ACCOBAMS Survey Initiative, as well as by other data collected since the previous assessments,

Deeply concerned about the critical consequences of the armed aggression and military activities in the Black and Azov Seas within the ranges of species listed in the Red List,

Taking into account proposals to develop a Black Sea cetacean conservation plan, in the form of separate conservation plans for each of the three species,

Expressing its gratitude for the work carried out by the Scientific Committee, the experts, the assessors and IUCN for the 2018-2021 assessments,

Recalling that numerous conservation measures have been developed by the Scientific Committee and have been endorsed and adopted by the Meeting of the Parties in different Resolutions towards a favourable conservation status of cetacean species within the Agreement Area,

Taking into consideration Decision IG.25/13 of the Meeting of the Parties to the Barcelona Convention, in particular its Annex 1 on the Action Plan for the conservation of cetaceans in the Mediterranean Sea,

Noting with satisfaction that the status of two species in the Mediterranean Sea (the striped and common bottlenose dolphins) has improved from Vulnerable to Least Concern,

Noting that the status of the three Black Sea species¹⁷⁰ have remained the same (Vulnerable for the Black Sea common dolphin and Endangered for the Black Sea bottlenose dolphin and the Black Sea harbour porpoise), as has the status of Mediterranean sperm whales (Endangered) and Mediterranean common dolphins (Endangered), although for the latter the Alborán Sea is now excluded and the subpopulation is called the Inner Mediterranean subpopulation,

¹⁷⁰ These classifications are provisional as the assessments are under review by IUCN and the IUCN SSC Cetacean Specialist Group.

Noting with concern that the status of the Mediterranean fin whale has worsened from Vulnerable to Endangered,

Acknowledging that Mediterranean rough-toothed dolphins have been identified as a subpopulation and have been assessed as Near Threatened, that Mediterranean Cuvier's beaked whales have been assessed in 2018 as Vulnerable, while in 2006 they had been classified as Data Deficient, and that Risso's dolphins, previously assessed as Data Deficient in 2012, have now been assessed as Endangered,

Appreciating that Mediterranean long-finned pilot whales are now considered two subpopulations (Inner Mediterranean long-finned pilot whales are Endangered, whilst those in the Strait of Gibraltar are Critically Endangered) and that four subpopulations of other species have also been agreed and assessed (Gulf of Corinth common dolphins – Critically Endangered; Gulf of Ambracia bottlenose dolphins - Critically Endangered; Gulf of Corinth striped dolphins – Endangered (in review); Strait of Gibraltar killer whales – Critically Endangered),

Noting that four draft Conservation Management Plans are close to completion,

1. *Invites* Parties to take note of the IUCN Red List status of cetacean species following the 2018-2021 assessments as well as of the changes occurred since the previous assessments:

Species	Previous IUCN Red List status		IUCN Red List status following the 2018-2021 assessments	
Bottlenose dolphin <i>Tursiops truncatus</i>	Mediterranean subpopulation	Vulnerable	Inner Mediterranean subpopulation	Least Concern
			Gulf of Ambracia subpopulation	Critically Endangered
Bottlenose Dolphin Black Sea subspecies <i>Tursiops truncatus ssp. ponticus</i>	Black Sea subspecies	Endangered	Black Sea subspecies	Endangered ¹
Common dolphin <i>Delphinus delphis</i>	Mediterranean subpopulation	Endangered	Inner Mediterranean subpopulation	Endangered
			Gulf of Corinth subpopulation	Critically Endangered
Common dolphin Black Sea subspecies <i>Delphinus delphis ssp. ponticus</i>	Black Sea subspecies	Vulnerable	Black Sea subspecies	Vulnerable ¹
Cuvier's beaked whale <i>Ziphius cavirostris</i>	Mediterranean subpopulation	Data Deficient	Mediterranean subpopulation	Vulnerable
Fin whale <i>Balaenoptera physalus</i>	Mediterranean subpopulation	Vulnerable	Mediterranean subpopulation	Endangered
Harbour porpoise Black Sea subspecies <i>Phocoena phocoena ssp. relicta</i>	Black Sea subspecies	Endangered	Black Sea subspecies	Endangered ¹
Killer whale <i>Orcinus orca</i>	Mediterranean subpopulation	Not Evaluated	Strait of Gibraltar subpopulation	Critically Endangered

¹ These classifications are provisional as the assessments are under review by IUCN and the IUCN SSC Cetacean Specialist Group.

Species	Previous IUCN Red List status		IUCN Red List status following the 2018-2021 assessments	
Long-finned pilot whale <i>Globicephala melas</i>	Mediterranean subpopulation	Data Deficient	Inner Mediterranean subpopulation	Endangered
			Strait of Gibraltar subpopulation	Critically Endangered
Risso's dolphin <i>Grampus griseus</i>	Mediterranean subpopulation	Data Deficient	Mediterranean subpopulation	Endangered
Sperm whale <i>Physeter macrocephalus</i>	Mediterranean subpopulation	Endangered	Mediterranean subpopulation	Endangered
Striped dolphin <i>Stenella coeruleoalba</i>	Mediterranean subpopulation	Vulnerable	Mediterranean subpopulation	Least Concern
			Gulf of Corinth subpopulation	Endangered
Rough-toothed dolphin <i>Steno bredanensis</i>	Mediterranean subpopulation	Not Evaluated	Mediterranean subpopulation	Near Threatened

2. *Urges* Parties to implement measures to address the threats posed to the populations assessed according to the list above, with particular regard to Critically Endangered and Endangered populations, and to update their national Red Lists;
3. *Recommends* that the draft Conservation Management Plan for common dolphins pays special attention to the Gulf of Corinth common dolphins that have been newly assessed as “Critically Endangered”;
4. *Strongly urges* Parties and *asks* non-Parties to pay particular attention to those “sub-populations” that have been assessed as Critically Endangered or Endangered or Vulnerable and to take appropriate conservation actions, including in case of species for which Conservation Management Plans have not yet been developed;
5. *Calls on* Parties to take into account the military and anthropogenic impacts of military operations during the implementation of Conservation Management Plan in the Black Sea;
6. *Decides* that the present Resolution replaces Resolutions 3.19 and 6.15.

TA5- CONCERNING THE IMPROVEMENT OF KNOWLEDGE FOR CONSERVATION

5.2 - Identify the gaps in knowledge and propose actions or programmes to improve the knowledge on cetaceans

Resolution 2.28 On the Promotion of Photo-Identification Activities

Resolution 6.14 Population Structure Studies

Resolution 8.10 ACCOBAMS Long Term Monitoring Programme

Resolution 8.11 Cetacean Population Genetics

RESOLUTION 2.28 - On the promotion of photo-identification activities

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

Aware of the fact that «Europhlukes», a EU-funded programme having the goals of developing a European cetacean photo-identification system and related matching software, of initiating a European network of providers and end-users of the European Cetacean photo-identification system, and of ensuring the continued contribution of material and supportable use of the database, has reached the end of its term,

Considering the International Implementation Priorities adopted by the First Meeting of the Parties, and in particular Implementation Priority n. 11 (“Development of photo-identification databases and programmes encompassing the entire ACCOBAMS Area”), where it was “highly recommended that an operational link be established between ACCOBAMS and the «Europhlukes» project management, to explore possibilities for future co-operative effort, for the extension of the programme to non-European partners within the Agreement Range States, and to help ensuring the indefinite continuation of this worthy initiative after the European project is terminated”,

Convinced of the importance of providing photo-identification training in the Agreement area (as demonstrated by the successful training conducted to the benefit of Black Sea research teams), of the need to make further progress, and of integrating photo-identification techniques in current and future efforts of advancing in the understanding of comprehensive description of cetacean populations distribution and abundance in the Agreement area, and that there is a need to take this complex of activities forward with independent funding,

Considering the reports of the First and of the Second Meetings of the Scientific Committee, containing recommendations to implement pilot projects to develop capacity-building programmes on photo-identification techniques, in particular envisaging the establishment of a link between Europhlukes and Black Sea Countries, to support the involvement of Black Sea researchers and the provision of their data to «Europhlukes», thus gaining access to the deliverables «Europhlukes» will develop before the end of 2004,

Aware of the participation of ACCOBAMS in the Steering and Liaison Committees of «Europhlukes»,

Aware that the European Cetacean Society has agreed to provide initial support for the project in an interim period of one year (2005),

1. *Instructs* the Scientific Committee to present a scientific study on the results of the project and to report to the Bureau for further support.
2. *Mandates* the Secretariat, with the agreement of the Bureau, to actively support the project.
3. *Mandates* the Secretariat to encourage Parties and non-Parties to participate and to support actively the Programme, in order to guarantee the continued survival and growth of the «Europhlukes» activities in collaboration with other relevant organisations.
4. *Charges* the Secretariat in close cooperation with the Scientific Committee to report to the next meeting of the Parties the result of this collaboration and to make any proposal for the follow-up.

RESOLUTION 6.14 - Population Structure Studies

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Taking in consideration Recommendation 10.2 of the ACCOBAMS Scientific Committee on population structure, as well as the Work Programme 2014-2016, as adopted by Resolution 5.2,

Recalling that Article II, paragraph 3 (e), of the Agreement invites Parties to reinforce the collection and dissemination of information,

Recalling ACCOBAMS Resolutions:

- 2.10 on facilitation of exchange of tissue sample,
- 2.11 on facilitation of scientific research campaigns and programs,
- 3.9 on guidelines for the establishment of a system of tissue banks within the ACCOBAMS area and the ethical code,
- 4.18 on guidelines on the granting of exceptions to Article II, paragraph 1, for the purpose of non-lethal in situ research in the Agreement Area,

Taking note of the draft CITES Resolution proposed to the COP 17 and prepared by ACCOBAMS on the identification of origin of cetaceans bred or kept in captivity,

Recalling CMS Resolution 11.23 on Conservation Implications of Cetacean Culture, encouraging governments to take into account culturally transmitted behaviours in conservation and management measures and threat assessments, applying a precautionary approach if there is evidence that influence of culture and social complexity may be a conservation issue for a population,

Recognising the importance of information on population structure highlighted by the project “ACCOBAMS Survey Initiative¹⁷¹”,

Acknowledging that genetic methods represent an important tool among the techniques that are of value in determining units-to-serve, also considering that other methods, such as photo identification and satellite telemetry, provide valuable information on stock structure,

Stressing the relevance of genetic research to elaborate specific conservation measures, as confirmed by the decisions taken by the Conference of the Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as regards the Black Sea Bottlenose dolphin (*Tursiops truncatus*),

Recalling the report of the Joint ECS/ACCOBAMS/ASCOBANS Workshop on Cetacean Population Structure (27th ECS Conference, 6 April 2013, Setubal, Portugal), which identified a number of priorities for immediate attention, given conservation concerns,

¹⁷¹ Comprehensive cetacean population estimates and distribution in ACCOBAMS area.

1. *Urges* Parties to support projects and activities giving information on population structure to help in the definition of specific conservation measures;
2. *Recommends* the re-establishment by the Scientific Committee of a working group on population structure and *takes note* of its terms of reference, as provided in document ACCOBAMS-MOP6/2016/Doc16;
3. *Requests* the Scientific Committee, in collaboration with the Working Group on Population Structure, to implement population structure priorities including region-wide and local genetic/morphometric/pollutant profile studies, based on the knowledge gap analysis performed in 2013, allowing identification of isolated populations and better descriptions of populations, especially as regards:
 - Short-beaked common dolphins, particularly in Greek waters;
 - Risso's dolphins, given some evidence that they may occur in small, local "management units";
 - Killer whales in the Strait of Gibraltar and Gulf of Cadiz with a focus on the relationship with the Atlantic waters outside the Mediterranean;
 - Harbour porpoises in the Black and Aegean Seas and in the Atlantic contiguous area;
 - Cuvier's beaked whales;
 - Fin whales;
4. *Encourages* collaboration between tissue banks and countries to facilitate exchanges of samples for joint analysis;
5. *Decides* that the present Resolution replaces Resolution 4.11.

RESOLUTION 8.10 - ACCOBAMS Long-Term Monitoring Programme

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article II, paragraph 3, of the Agreement and its Annex 2 (Conservation Plan), paragraph 2,

Recalling Resolution 2.11 on the facilitation of scientific research campaigns and programmes,

Recalling Resolution 5.1 on the ACCOBAMS Strategy for the period 2014-2025, in particular its specific objective B.1 “Improve the knowledge about state of cetaceans”,

Recalling Resolution 6.13 on Comprehensive cetacean population estimates and distribution in the ACCOBAMS Area (Monitoring of cetacean distribution, abundance and ACCOBAMS Survey Initiative), which has replaced previous Resolutions 2.19, 3.15 and 5.9,

Recalling Resolution 7.10 on Improving monitoring and assessment of cetacean population abundance and distribution in the ACCOBAMS Area, which recommended the development of a suitable monitoring programme for the ACCOBAMS region to enable abundance trends and potential distributional changes to be identified, consistently with the relevant reporting cycles of European Union legal frameworks, inter alia the Habitats and Marine Strategy Framework Directives, and IMAP (Integrated Monitoring and Assessment Programme of the Mediterranean Sea and coast and related Assessment Criteria) of the Barcelona Convention,

Taking into consideration Recommendation 14.1 of the Scientific Committee on the ACCOBAMS Long-Term Monitoring Programme (LTMP),

Taking into consideration the Recommendations from the Ad Hoc Group established to provide guidance on financial aspects related to the ACCOBAMS LTMP,

Considering that the LTMP is not only fundamental to the ability of the Parties to meet the stated objectives of ACCOBAMS, but will also assist individual Parties to meet relevant national and international commitments, which include the objectives of the Barcelona Convention Ecosystem Approach/Integrated Monitoring and Assessment Programme (EcAp/IMAP) and the Action Plan for the Conservation of cetaceans in the Mediterranean Sea (IG25/13), the European Union relevant legal frameworks, inter alia the Habitats and Marine Strategy Framework Directives, the Black Sea integrated monitoring and assessment programme,

Welcoming strongly the realization of the ACCOBAMS Survey Initiative in the Agreement Area and *commending* the Parties, the non-Party Range States, the Secretariat, the sub-regional Co-ordination Units, the Scientific Committee, all partner organizations and all persons involved for the successful implementation of the survey campaigns in summer 2018 and 2019 in the Mediterranean Sea, Contiguous Atlantic Area and in the Black Sea,

Expressing its gratitude to France, Italy, Monaco, Slovenia, Spain, the MAVA Foundation, the Prince Albert II of Monaco Foundation and the International Fund for Animal Welfare (IFAW) for their voluntary contributions and financial support, and to other Parties that have provided in-kind contributions for the ACCOBAMS Survey Initiative in the Mediterranean Sea,

Expressing its gratitude to the European Commission for financing the project ‘CeNoBS’ - Support MSFD implementation in the Black Sea through establishing a regional monitoring system of cetaceans (Descriptor 1, biological diversity) and noise monitoring (Descriptor 11, noise and energy) for achieving Good Environmental Status (GES), which supports the implementation of the ACCOBAMS Survey Initiative in the Black Sea,

Thanking also the Regional Activity Centre for Specially Protected Areas (SPA/RAC), the International Union for Conservation of Nature - Centre for Mediterranean Cooperation (IUCN-Med), the French Biodiversity Agency (OFB), the Italian Institute for Environmental Protection and Research (ISPRA) and the PELAGIS Observatory for their participation in the Steering Committee of the ACCOBAMS Survey Initiative project,

Recognizing the success of the ACCOBAMS Survey Initiative and ‘CeNoBS’ projects in providing baseline abundance summer estimates for cetaceans in the ACCOBAMS region that contributed to the assessment of IUCN conservation status for cetacean species in the region and to the publication “Conserving Whales, Dolphins and Porpoises in the Mediterranean Sea, Black Sea and adjacent areas: an ACCOBAMS Status Report 2021”,

Recognizing the significant value of the ASI dataset for the preparation of the Barcelona Convention Mediterranean Quality Status Report, in particular in regards to quantitative results on the distribution and abundance of cetaceans, other marine megafauna species and floating marine litter,

Stressing the need to explore new and alternative sources of data to assess cetaceans’ distribution and abundance, in particular through the use of existing marine monitoring programmes and innovative technologies,

I. ACCOBAMS Long-Term Monitoring Programme

1. *Endorses* the Recommendation 14.1 of the Scientific Committee on the ACCOBAMS Long-Term Monitoring Programme as annexed to the Report of the 14th Meeting of ACCOBAMS Scientific Committee (ACCOBAMS-SC14/2021/Doc40);
2. *Invites* Parties to facilitate the implementation of the ACCOBAMS LTMP reflected in the Annex which focuses primarily upon obtaining robust estimates of cetacean abundance and distribution and identifying respective changes over time, as well as other megafauna and human activities, in the context of providing advice on the achievement of conservation and management objectives;
3. *Tasks* the Scientific Committee and the Secretariat, in collaboration with the ASI Steering Committee and other relevant experts, to prepare, for the next synoptic basin wide survey, a detailed technical document in the form of a project proposal, with a description of the different work packages, time-frame, budget and a SWOT analysis;
4. *Urges* the Parties and the Secretariat, given the fundamental importance of the LTMP, to secure funding for its implementation, taking into consideration, as appropriate, the recommendations of the ACCOBAMS *ad hoc* Group LTMP (ACCOBAMS-MOP8/2022/27);
5. *Invites* the Parties to provide voluntary contributions in 2023 so to meet the expected internal funding in view of undertaking synoptic basin-wide surveys in the ACCOBAMS Area in 2024-2026;
6. *Mandates* the Secretariat to undertake fundraising efforts so to meet the expected external funding in view of undertaking synoptic basin-wide surveys in the ACCOBAMS Area in 2024-2026;

7. *Strongly encourages* the Parties to commit to providing in-kind support for the next synoptic basin-wide surveys in the ACCOBAMS Area in 2024-2026, and implementation of the whole programme cycle 2023-2027;
8. *Asks* the Secretariat to explore funding opportunities within the framework of the EU relevant financial mechanisms, inter alia European Maritime, Fisheries and Aquaculture Fund (EMFAF), LIFE and Interreg programmes;
9. *Mandates* the Secretariat to evaluate the feasibility of innovative targeted funding mechanisms to sustain the ACCOBAMS LTMP in line with the ACCOBAMS Funding Strategy adopted through Resolution 7.5 and to elaborate specific strategies and operational guidelines for their implementation, as well as to approach targeted donors in view to secure the LTMP budget in the nearest future;
10. *Invites* the ACCOBAMS Parties and range States to appoint a national contact person to participate in a LTMP Contact Group to define implementation conditions and protocol for logistics (research platform, human means, equipment, training, etc.) and administration (survey restrictions, permits, etc.) related to undertaking basin-wide synoptic surveys based upon the experience gained from ASI1, taking into account the guidance provided in Recommendation 14.1 of the Scientific Committee;
11. *Asks* the Scientific Committee to review, and update as necessary, the field and analytical protocols for basin-wide cetacean surveys, also including selected marine megafauna and human activity data, and to consider new developments of technology, survey design and methods to analyse data in accordance with guidance provided in Recommendation 14.1;
12. *Asks* the Secretariat, in conjunction with the Scientific Committee, given the huge long-term value of the ASI dataset and future data collected under the LTMP and the importance of properly archiving this data and making its availability widespread for the benefit of the conservation science community:
 - a. to work to optimize data archiving and sharing, including ensuring the interoperability of ASI data sets with other relevant databases, such as NETCCOBAMS, EMODnet, IMAP Info System, OBIS-SEAMAP and organisations for data exchange;
 - b. to ensure that the protocol for obtaining access to the ASI and future data includes a component that states that the outputs of any analyses using ASI and future data are made available to ACCOBAMS, with appropriate publication safeguards, so that:
 - the outputs can be used by the Scientific Committee to contribute to its ability to give the best scientific advice, and
 - the Secretariat can monitor the use and influence of the knowledge base to assist in illustrating the broader value of the ASI and to assist in improving the undertaking and data collection on future surveys as part of the ACCOBAMS LTMP;
13. *Invites* Parties to foster, with the support of the Secretariat, co-operation and partnerships between experts throughout the Agreement's range, including by:
 - a. increasing the visibility of ASI datasets, future datasets and related results, encouraging the widest use possible of existing analyses to contribute towards decision making on conservation matters, as well as encouraging further analyses of ASI and future data to meet conservation and management needs at cetacean and ecosystem levels;
 - b. providing sufficient resources to make best use of ASI data throughout the ACCOBAMS Area, including through financial support for mentorship schemes, training and joint publications.

II – Improving cetaceans’ distribution and abundance monitoring efforts in the Agreement area

14. *Recommends* that Parties and Range States ensure that any proposed national programmes on the study of abundance and distribution of cetaceans are compatible with the guidelines annexed to Resolution 6.13;
15. *Recommends* that Parties ensure that the relevant authorities share plans for their long-term national and sub-regional cetacean monitoring programmes, including ongoing activities under the European Union relevant legal frameworks, inter alia the Habitats and Marine Strategy Framework Directives, EcAp/IMAP and other programs such as Action Plan for the Conservation of cetaceans in the Mediterranean Sea;
16. *Asks* the Scientific Committee and the Sub-Regional Coordination Units to assist in identifying synergies and potential collaborations in existing or proposed programmes;
17. *Recommends* that Parties, Range States and ACCOBAMS Partners, where relevant, coordinate the implementation of national monitoring programmes, in particular by synchronizing their survey campaigns, and consider joint survey efforts, whenever possible, assisted by the Scientific Committee and the Secretariat;
18. *Asks* the Scientific Committee to advice on methods and protocols for smaller-scale regional and national existing and new programmes for the monitoring of abundance, distribution and trends, in light of information that will be received from periodic basin-wide summer synoptic surveys;
19. *Asks* the Scientific Committee to work as expeditiously as possible with relevant modelling experts in order to develop a simulation framework to examine the ability of different survey strategies, including frequency and geographical extent, to obtain robust abundance estimates, to detect trends in abundance and distribution and to determine whether ACCOBAMS conservation objectives are being met, mindful that the same framework should be used to examine how and where vessels of opportunity and multidisciplinary surveys can contribute to the LTMP;
20. *Invites* the Scientific Committee to assist in the following:
 - a. investigating the use of vessels of opportunity and multidisciplinary cruises, as well as dedicated surveys, to provide information on:
 - areas that may not be able to be surveyed in basin-wide surveys and for which few data on presence or absence are available;
 - non-summer occurrence;
 - local trends in abundance and distribution; and
 - areas where those platforms are already used for the collection of data on cetaceans and their habitat components;
 - b. undertaking pilot studies when new techniques or vessels of opportunity are considered; and
 - c. further considering the use of passive and active acoustic monitoring for specific areas and species, such as sperm and Cuvier’s beaked whales, in line with the ongoing monitoring plans, such as those under the European Union relevant legal frameworks, inter alia the Habitats and Marine Strategy Framework Directives and EcAp/IMAP, including the Eastern Basin.
21. *Decides* that the present Resolution complements Resolution 6.13 and replaces Resolution 7.10.

ANNEX

**ACCOBAMS LONG-TERM MONITORING PROGRAMME FOR ESTIMATING TRENDS
IN ABUNDANCE AND DISTRIBUTION OF CETACEANS**

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Background

The main objective of ACCOBAMS being to achieve and maintain a favourable conservation status for cetaceans in the Black Sea, Mediterranean Sea and Contiguous Atlantic Area, the Agreement requests the Contracting Parties to undertake, individually and through collaboration, a series of conservation and management measures for the species and to develop cooperation for research and monitoring to fully implement them. The development of monitoring is clearly designated by the Agreement among the most recommended ways to enhance the knowledge about the biology, ecology, and population dynamics of cetaceans in order to identify and implement conservation measures.

In accordance with the ACCOBAMS strategic objective on improving the understanding of the conservation status of cetaceans at the macroregional level, the ACCOBAMS Survey Initiative (ASI) Project¹⁷², a collaborative initiative aimed at establishing an integrated and coordinated monitoring system for cetaceans, was launched in 2016 during the Sixth Meeting of the Parties to ACCOBAMS (Monaco, 22-25 November 2016).

After the successful implementation in 2018/2019 of the surveys over the Mediterranean Sea and Contiguous Atlantic Area within the framework of the ASI Project, a survey in a large part of the Black Sea was conducted during the summer of 2019 through the CeNoBS¹⁷³ and EMBLAS-Plus¹⁷⁴ Projects.

Building on the experience gained so far through the development and the implementation of the ASI, the Secretariat of ACCOBAMS initiated the elaboration of the ACCOBAMS Long Term Monitoring Programme (ACCOBAMS LTMP) for estimating abundance and distribution of cetaceans and assessing trends in space and time.

Objectives of the ACCOBAMS LTMP

The primary motivation of the ACCOBAMS LTMP is to collect reliable data allowing to obtain accurate estimates of abundance and distribution of cetacean species in the ACCOBAMS Area. It may also collect information on human activities at sea that could generate threats to cetacean (maritime traffic, leisure boating, fishing, marine litter, Chemical pollutants, etc.). This information may be used to identify hotspot zones of interaction between cetaceans and human activities in the ACCOBAMS Area. The ultimate objective being to provide a robust scientific base for the setting and the regular adjustment of conservation and management measures that allow achieving a favourable conservation status for cetaceans in the Agreement area. Through such an achievement, Parties will fulfil their obligations under ACCOBAMS, as well as their commitments towards other relevant Multilateral Agreements (CBD, CMS, Barcelona Convention, EU regulations, etc.).

The periodic implementation of the ACCOBAMS LTMP will allow to assess trends in species population size and distribution, and, also using information on human activities impacting cetaceans, to assess, and where necessary adapt, the conservation measures in place. The data collected by the ASI in the ACCOBAMS Area established a reliable baseline from which to measure future changes in the monitored parameters.

¹⁷² The ASI Project benefited, for its Mediterranean and Contiguous Atlantic Area component, from the financial support of France, Italy, Monaco, Slovenia, Spain, the MAVA Foundation, the Prince Albert II Foundation and IFAW.

¹⁷³ The CeNoBS Project "Support MSFD implementation in the Black Sea through establishing a regional monitoring system of cetaceans (D1) and noise monitoring (D11) for achieving GES" was implemented between 2018-2021 thanks to a financial support of the European Union (<https://www.cenobs.eu/>).

¹⁷⁴ The EMBLAS-Plus project "Improving Environmental Monitoring in the Black Sea – Selected Measures" (<http://emblasproject.org/>) is funded by the European Union.

The geographical scope of the ACCOBAMS LTMP

Given the mobile nature of cetacean species, the ACCOBAMS LTMP should cover the whole "Agreement area" as defined in Article I of the ACCOBAMS Agreement¹⁷⁵. This implies that it will cover within the Agreement area (i) the maritime waters under the jurisdiction of the Parties, (ii) the maritime waters of the non-Party States and (iii) the maritime waters located beyond national jurisdictions. Furthermore, it may also cover other maritime zones that could be included in the future in the Agreement area, such as the maritime zones of Portugal and Spain whose inclusion in the Agreement area was adopted by the Parties through Resolution A/4.1 amending the geographic scope of the Agreement, pending the entry into force of the amendment.

However, under certain circumstances it may not be possible to conduct monitoring surveys covering areas where administrative (permit-related) or political constraints do not allow monitoring teams to operate normally and safely. Furthermore, the geographical coverage of the monitoring may also depend on the availability of financial resources. Therefore, a synoptic survey may be limited to cover only part of the areas targeted by the ACCOBAMS LTMP. However, a maximum possible coverage should be aimed for.

Monitoring approach

The ACCOBAMS LTMP will be mainly based on periodic synoptic surveys covering the entire Agreement area. Each survey shall be a collaborative initiative involving all the ACCOBAMS Parties through their relevant national administrations, researchers and NGOs. It will be coordinated by the Secretariat of ACCOBAMS¹⁷⁶ and implemented by national teams supported, where necessary and appropriate, by observers and/or cruise team leaders designated by the Secretariat of ACCOBAMS in consultation with the relevant Focal Points and based on their scientific expertise.

The Scientific Committee of ACCOBAMS shall contribute to all phases of the ACCOBAMS LTMP by providing its advice to the Contracting Parties and the Secretariat on the scientific and technical matters, in particular in relation to the planning, development, implementation and assessment of synoptic surveys and other relevant monitoring activities.

Conducting the synoptic surveys of the ACCOBAMS LTMP according to a six-year frequency would provide the right balance between monitoring cost and regular updating of information on abundance and distribution of cetacean species in the ACCOBAMS Area. Ensuring such a frequency will be, however, a crucial challenge given the financial resources required for such monitoring effort.

For each synoptic survey, the Secretariat of ACCOBAMS will collaborate closely with the ACCOBAMS National Focal Points and a Contact Group whose members are designated by the National Focal Points. As demonstrated during the implementation of the ASI Project in 2018, the role of the Contact Group members is important, in particular for liaising

¹⁷⁵ the "Agreement area", is constituted by all the maritime waters of the Black Sea and the Mediterranean and their gulfs and seas, and the internal waters connected to or interconnecting these maritime waters, and of the Atlantic area contiguous to the Mediterranean Sea west of the Straits of Gibraltar. For the purpose of this Agreement:

- the Black Sea is bounded to the southwest by the line joining Capes Kelaga and Dalyan (Türkiye);
- the Mediterranean Sea is bounded to the east by the southern limits of the Straits of the Dardanelles between the lighthouses of Mehmetcik and Kumkale (Türkiye) and to the west by the meridian passing through Cape Spartel lighthouse, at the entrance to the Strait of Gibraltar; and
- the contiguous Atlantic area west of the Strait of Gibraltar is bounded to the east by the meridian passing through Cape Spartel lighthouse and to the west by the line joining the lighthouses of Cape St. Vicente (Portugal) and Casablanca (Morocco).

¹⁷⁶ Where needed, the coordination may be delegated to a partner organisation.

with the relevant national authorities, ensuring the following-up at national level of the authorization request processes for aerial and/or boat surveys and to provide support with logistical aspects during the survey implementation phase. In order to support the coordination at national level of the synoptic survey, the Secretariat, upon request by the National Focal Point, shall inform the relevant National Authorities of the country, such as the Foreign Affairs Services, about the synoptic survey and provide them with information on the general framework of the initiative and its expected results. The ACCOBAMS Parties and other involved countries shall facilitate the implementation of the surveys in their waters and where possible provide their support in relation to the necessary logistic requirements.

A Scientific Coordinator will assist the Secretariat in the development and implementation phases of the synoptic surveys, in liaison with the ACCOBAMS Scientific Committee.

The Parties to ACCOBAMS and the non-Party States are encouraged to adhere to the ACCOBAMS LTMP and to ensure the maximum level of harmonisation between their “routine” cetacean monitoring activities in the ACCOBAMS Area and the ACCOBAMS LTMP. In this context, given that several countries regularly conduct monitoring campaigns to assess the cetacean populations in their national waters included in the ACCOBAMS Area, it would be useful that the ACCOBAMS Secretariat, with the support of the Bureau, liaises with the relevant authorities in these countries and invite them to synchronize the realization of their cetacean monitoring campaigns with the surveys under the ACCOBAMS LTMP and to ensure a high level of harmonisation of the surveying protocols. This will allow a better use of the available resources and means to ensure the evaluation of the cetacean population status in the whole Agreement area.

Programmes aimed at monitoring parameters other than those covered by the ACCOBAMS LTMP (e.g. cetacean stranding monitoring programmes, long-term passive acoustic monitoring, monitoring of bycatch, etc.) should be encouraged since they provide additional data that complement the information gathered under the ACCOBAMS LTMP and are a crucial component to the conservation of cetaceans.

Monitoring protocols and platforms

The ACCOBAMS LTMP will use the multispecies monitoring protocols developed and used for the surveys carried out within the framework of the ASI Project in 2018¹⁷⁷ and 2019, during which the aerial surveys, using appropriate airplanes and skilled and/or trained observers, enabled to collect data for obtaining robust estimates of density and abundance for most cetacean species in the Agreement Area. The synoptic surveys of the ACCOBAMS LTMP will be mainly based on aerial surveys. However, shipboard surveys shall be used for species requiring passive acoustic monitoring techniques and/or in areas where flying permits cannot be obtained.

During the whole process of data collection and processing, special attention should be paid to ensure data quality. The parameters to be considered by the ACCOBAMS LTMP are those needed to estimate abundance and distribution of different cetacean populations in the Agreement Area and to provide information on human activities impacting them.

Periodic surveys of the ACCOBAMS LTMP shall be implemented during the same season¹⁷⁸ to ensure data comparability between surveys from different years. Their data will not inform therefore on the seasonal distribution

¹⁷⁷ Links to the field protocols for aerial surveys and boat-based surveys developed and used by the ASI Project to be added.

¹⁷⁸ The surveys shall be conducted preferably in summer season and their timing will take into account the weather specificities of each region.

of the species. This kind of information could be generated by other monitoring programmes undertaken at different temporal planning and smaller spatial scales or using opportunistic platforms (ferries, fishing boats, etc.).

To take advantage of possible future technological and/or methodological advances in the monitoring of cetaceans, the ACCOBAMS Scientific Committee will closely follow up the development in cetacean monitoring techniques in order to propose adaptations and/or improvements to the monitoring protocols under the ACCOBAMS LTMP.

Monitoring targets

The ACCOBAMS LTMP will primarily target cetacean species and threats having a direct impact on them. However, to maximize the benefit from involved surveying effort, observation data relating to other species of megafauna and/or other threatened species may be collected, if observation teams are sufficiently skilled to ensure data quality, particularly with regard to the identification of observed species. The following taxa could be covered, in addition to cetaceans: turtles, monk seal, large fish, including elasmobranch, species and birds.

The ACCOBAMS LTMP should also provide the framework for the collection of information about the presence, during the monitoring transects, if relevant, of commercial ships, fishing boats, aquaculture farms, leisure boats, acoustic survey ships, oil slicks, marine litter and any other elements related to human activities that may threaten cetaceans. The collection of data concerning these human activities should allow the identification of areas where there is a high risk of adverse interactions with cetaceans, for example via spatial modelling approaches.

Data management and use

The Secretariat of ACCOBAMS is the depository of the data sets collected under the ACCOBAMS LTMP. Each Focal Point may receive, upon request, a copy of the data sets collected.

ACCOBAMS being an Intergovernmental Agreement aimed at promoting conservation of cetaceans, it therefore appears appropriate and advisable that data collected under the ACCOBAMS LTMP be made available for the widest possible use for conservation related purposes. Therefore, raw data generated by the ACCOBAMS LTMP may be made available, upon request, to scientists and partner organisations for use in conservation related purposes. Their dissemination and use in scientific publications and awareness-raising material shall be subject to Terms of Use that take into account the ACCOBAMS objectives and possible requirements by Parties and donors. The Terms of Use will be available on the website of ACCOBAMS.

For each synoptic survey, the Secretariat of ACCOBAMS shall establish a data analysis process in close consultation with the Scientific Coordinator. The data analysis will be conducted *a minima* by one skilled expert with the review/guidance of the ACCOBAMS Scientific Committee. If funding allows, the analysis process may be conducted by a team made of an *ad hoc* group of experts and other skilled scientists that Parties might designate to contribute in the data analysis.

The expert / the data analysis team shall produce a report rendering the outcomes of its/their works, focusing on cetacean abundance and distribution estimates, as well as on trends when possible. The report shall be reviewed by the Scientific Committee of ACCOBAMS and published by the Secretariat.

At the ACCOBAMS level, the ultimate use of outcomes from synoptic surveys will be mainly for the development of conservation recommendations elaborated by the Scientific Committee that will serve as a basis of draft Resolutions

prepared by the Secretariat and reviewed by the Extended Bureau with the view of submitting them to the Parties for consideration. The outcomes of surveys conducted under the ACCOBAMS LTMP may also help in the decision-making process in relation to conservation at national level and within the framework of other multilateral agreements concerned by the conservation and sustainable use of marine resources.

Skills availability/Capacity building

The accuracy and reliability of data collected within the framework of the ACCOBAMS LTMP will largely depend on the availability of skilled and/or trained observers able to identify target species and to properly apply monitoring protocols. As part of the ASI project, training sessions were organized for observers to familiarize with the monitoring protocols and to train in safety procedures to be followed where necessary. These sessions made it possible to train several observers from countries of the ACCOBAMS Area who had also the opportunity to improve their monitoring skills during surveys carried out in 2018 and 2019. The future implementation of the LTMP can therefore count on these skills. However, considering that some trained observers would no longer be available for future periodic surveys, the Secretariat should ensure for each monitoring survey under the ACCOBAMS LTMP the availability of qualified observers and cruise/team leaders¹⁷⁹. To this end, the LTMP should include a training component targeting all actors of the field surveys (observers, team leaders, etc.) allowing the newly involved participants to qualify for their tasks and the skilled ones to brush up their skills and familiarise with new methodological updates. The trainings should include, in addition to issues directly related to data collection, other relevant aspects covering safety, logistics, administrative procedures, etc.

Funding

The financial needs for the implementation of the ACCOBAMS LTMP are relatively high, which requires a particular effort to mobilize necessary funds. Furthermore, the effective implementation of such a long-term monitoring programme will require that assistance be provided, in a spirit of solidarity, to some Range States for capacity building and to contribute in covering their field surveying costs under the ACCOBAMS LTMP.

It is therefore important to establish a long-term mechanism for financing programme actions that ensures the sustainability of the programme and contributes to rationalizing available resources from donors and national authorities.

The Secretariat in close collaboration with the Bureau of ACCOBAMS will investigate funding options and will liaise with possible donors, as well as with relevant national authorities and relevant multilateral organisations with the view of securing the needed funds for the synoptic surveys.

Links with relevant initiatives

Cetacean monitoring programmes aimed at evaluating populations and their distribution in the ACCOBAMS Area are implemented within the framework of several initiatives at national and also multilateral level.

At national level, member countries of the European Union need to regularly undertake cetacean monitoring programs to collect the information required for their reporting under Article 17 of the Habitats Directive as well as in relation

¹⁷⁹ Given the crucial role of cruise leaders in planning and conducting surveys as well as in overcoming difficulties faced during the different survey stages, their appointment is among the issues demanding a special attention.

to the assessment of the Environmental Status under Descriptor 1 (Biodiversity) of the EU Marine Strategy Framework Directive (MSFD). Such monitoring programmes could also be useful for other European Union relevant legal frameworks.

In the Mediterranean, other cetacean monitoring programmes are expected within the framework of the Integrated Monitoring and Assessment Programme (IMAP) of the EcAp process under the Barcelona Convention. A similar initiative is also expected for the Black Sea within the framework of the Bucharest Convention. Most of these monitoring programmes have similarities with the ACCOBAMS LTMP, in terms of monitoring targets and protocols. The estimates on abundance and distribution of cetacean species that will be generated on a regular basis by the ACCOBAMS LTMP will constitute very useful data to report on favourable Conservation Status under the EU Habitats Directive and to assess Good Environmental Status (GES), both under EU MSFD and IMAP of Barcelona Convention's EcAp process.

RESOLUTION 8.11 - Cetacean Population Genetics

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling ACCOBAMS Resolution 3.9 “Guidelines for the establishment of a system of tissue banks within the ACCOBAMS Area and ethical code”,

Recalling also that the Scientific Committee of ACCOBAMS has recognized the need for institutions dedicated to the preservation of body parts from marine mammals of the ACCOBAMS Area, and that such Institutions should: a) promote non-invasive or post-mortal collection of samples from cetaceans living in the ACCOBAMS Area and adjacent waters; b) prepare such samples for long term storage; and c) distribute them to the community of marine mammal researchers,

Taking into consideration Recommendations from the ACCOBAMS Workshop on Data Collection on Cetacean Population Genetics, organized on September 2022,

1. *Encourages* Parties to take note of the report of the ACCOBAMS Workshop on Data Collection on Cetacean Population Genetics, as well as the associated ACCOBAMS Best Practices on Cetacean Population Genetics;
2. *Invites* Partners conducting sample collection and research on population genetics to apply the ACCOBAMS Best Practices on Cetacean Population Genetics in their work and to regularly provide the Secretariat with relevant information to update the online cetacean sample database, as well as the list of suitable genetics laboratories and new scientific publications;
3. *Encourages* Parties to collect updated information regarding research results on population genetics and to include it in their National Report;
4. *Requests* the Scientific Committee and the Secretariat to:
 - a. review the process described in Resolution 4.18 on guidelines on the granting of exceptions to Article II, paragraph 1, for the purpose of non-lethal in situ research in the Agreement Area, especially regarding advices to be obtained from the Scientific Committee before the Party concerned decides whether to issue a research permit;
 - b. encourage research efforts on the gaps and priorities identified during the workshop, taking into account Appendix 1 of the ACCOBAMS Best Practices on Cetacean Population Genetics;
 - c. organize an online event to promote the diffusion of the databases and best practices to all interested stakeholders;
5. *Asks* the Scientific Committee to:
 - a. report on the work done on cetacean population genetics at the Ninth Meeting of the Parties;
 - b. provide urgent advice on recommended procedures for individual identification and the origin of captive individuals using forensic genetics, especially in the Black Sea for bottlenose dolphins.

TA6 - CONCERNING THE DEVELOPMENT OF CONSERVATION ACTIVITIES AND OF MANAGEMENT MEASURES

6.1 - Identify the pressures on cetaceans and propose measures to reduce the impacts on the species or their habitats

6.1.1 *Interaction with fisheries*

6.1.2 *Anthropogenic Noise*

6.1.3 *Ship Strikes*

6.1.4 *Cetacean Watching*

6.1.5 *Climate Change*

6.1.6 *Captivity and release*

6.1.7 *Functional Stranding Networks and Responses to Emergency Situations*

6.1.8 *Marine Litter*

6.1.1 Interaction with fisheries

Resolution 2.12	Guidelines for the Use of Acoustic Deterrent Devices
Resolution 2.13	Pelagic Gillnets
Resolution 2.21	Assessment and Mitigation of the Adverse Impacts of Interactions between Cetaceans and Fishing Activities in the ACCOBAMS Area
Resolution 2.25	Prey Depletion
Resolution A/3.1	Amendment of the Annex 2 to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area Related to the Use of Driftnets
Resolution 4.9	Fisheries Interactions with Cetaceans
Resolution 8.16	Interactions between Fisheries and Cetaceans

RESOLUTION 2.12 - Guidelines for the use of Acoustic Deterrent Devices

The Meeting to the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

On recommendation of the ACCOBAMS Scientific Committee,

Aware of the fact that cetaceans are particularly vulnerable to disturbance at certain stages of their life cycle,

Particularly conscious of the interaction of Cetaceans with some coastal and artisanal fisheries and the resulting conflicts,

Convinced that the importance of coastal and artisanal fisheries in the sustainable development of the ACCOBAMS range States implies the integration of conservation activities with socio-economic development,

Noting that acoustic deterrents represent a new technique for the remediation of by-catches in fishing gears effects of which on nature and on different components of biodiversity cannot be fully assessed or predicted at present as they may produce significant noise pollution and possibly exclude cetaceans from certain areas,

Noting also that widespread use of acoustic deterrents in fishery and aquaculture operations in the Mediterranean indicates that these could raise conservation concerns,

Recalling that:

- Article II.3 in which Parties shall apply the conservation, research and management measures, which shall address inter alia the assessment and management of human-cetacean interactions and in implementing these measures, they shall apply the precautionary principle,
- The Conservation Plan, which is fully part of the Agreement, requires the Parties to establish and implement legislative, regulatory or administrative measures:
 - To minimize adverse effects of fisheries on the conservation status of cetaceans,
 - For impact assessments to be carried out in order to provide a basis for either allowing or prohibiting the continuation or the future development of activities that may affect cetaceans or their habitat in the Agreement area as well as establishing the conditions under which such activities may be conducted,

Recalling also Resolution 2.16 on Man-made noise,

Taking into account the advice of the Scientific Committee on the ineffectiveness and harmful potential of AHDs¹ to alleviate conflicts between cetaceans and fisheries or mariculture operations in the Agreement and considering pingers² to be less invasive than AHD and their use is, in principle, oriented towards cetacean conservation,

¹ Acoustic devices used to avoid dolphin interaction with fishing activities and aquaculture have the potential to adversely impact cetacean and other animal populations. They may damage the hearing of cetaceans and, if used extensively, exclude them from significant portions of their habitat. These undesired effects are well documented for "acoustic harassment devices" (AHD) which are used, for example, to prevent animals from approaching aquaculture facilities; AHD produce high source levels (>185dB re 1 P at 1m) and operate primarily in the mid to high frequency range (c.5-30kHz).

² "Pingers" are used primarily to alert cetaceans to existence of fishing gear and thus avoid entanglement. These are low-intensity (generally <150dB re 1 P at 1m) sources that operate in the mid to high frequencies between about 2.5-109kHz, with harmonics to much higher frequencies (Reeves *et al.*, 2001). These devices are considered to be less invasive than AHD and their use is, in principle, oriented towards cetacean conservation.

Aware of the scarcity of controlled studies of the efficacy of pingers in reducing by-catches in the Agreement area,

1. *Adopts* the “Guidelines for technical measures to minimize cetacean-fishery conflicts in the Mediterranean and Black Seas” in Annex 1;
2. *Urges* the Parties:
 - To strictly regulate the use of AHDs to alleviate conflicts between cetaceans and fisheries or mariculture operations in the Agreement area;
 - To strongly recommend that the use of pingers, where authorized and appropriate, only be conducted with controlled studies to ensure that they are an effective mitigation measure;
 - To link any use of pingers with an observer scheme designed to monitor their effectiveness over time;
3. *Charges* the Scientific Committee to update technological information on this topic, with a view to developing common sets of guidelines for use in the ACCOBAMS area;
4. *Charges* the Secretariat, in relation the regional fisheries bodies and all financing agencies and donor Countries to consider helping developing Countries acquire and use relevant technology, and with appropriate education and training of fishermen.

ANNEX I
GUIDELINES FOR TECHNICAL MEASURES TO MINIMISE CETACEAN-FISHERY CONFLICTS IN THE MEDITERRANEAN AND BLACK SEAS

Edited by Simon Northridge, Caterina Fortuna and Andrew Read

Administrative introduction

These Guidelines have been developed in response to requests made by member states to the ACCOBAMS Secretariat for advice on how to minimise conflicts between small cetaceans and fisheries in the Mediterranean and Black Seas. Implicit in the Agreement between member states is the assertion that culling is an inappropriate and usually ineffective means of addressing such conflicts with unacceptable consequences for the conservation of small cetaceans.

There is still much uncertainty over many aspects of the mitigation tools that have been used in attempts to minimise cetacean fishery conflicts. In some cases, the efficacy of the methods used is still questionable. These Guidelines have been compiled with the knowledge that there are no certain solutions to any of these problems, and that much scientific work remains to be done to understand how they can be resolved in the long term. Governments are urged to support research efforts in this area.

Terminology

Conflicts between fisheries and cetaceans generally take one or both of two forms. These are: the accidental capture of cetaceans in fishing operations (**bycatch**) and the **depredation** of fishing gear by cetaceans, leading to loss of catch and damage to fishing gear. In many cases these two problems occur in the same fisheries and resolving the latter problem may help to resolve the former.

The 2001 ICRAM workshop (Reeves *et al* 2001) recognised a variety of potential mitigation methods to deal with cetacean bycatch and depredation of fish catches in static net fisheries in the Mediterranean. Perhaps the most widely used methods involve acoustic devices of one form or another. The ICRAM workshop recognised two major categories of acoustic mitigation devices: Acoustic Harassment Devices (AHDs) and Acoustic Deterrent Devices (ADD), including pingers.

Pingers are relatively low-intensity (generally <150dB re 1µP at 1m) battery-powered sound generators that operate in the mid to high sound frequencies (between about 10kHz to around 100 kHz). Pingers are usually designed to prevent small cetaceans from becoming entangled in gill nets, however a new generation of such devices has been designed to mitigate the depredation. At the other extreme, AHDs are designed to work by causing pain, discomfort or irritation to potential predators, and have been developed primarily with the aim of discouraging seals from approaching caged fish. Pingers are usually small (hand-sized) devices that run for weeks, months or years on small batteries. AHDs, in contrast, have relatively high sound source levels (typically >185dB re 1µP at 1m) and operate primarily in the low to mid frequency range (c. 5-30kHz). They are typically bulky pieces of equipment powered from mains electricity or large lead-acid vehicle batteries. As they have primarily been designed with seals in mind, AHDs produce sound within pinniped hearing sensitivities, which are typically lower than those of small odontocetes. Not all acoustic devices necessarily fall into one category or another and the difference between the two types of device, especially in terms of their acoustic output, is qualitative.

How do acoustic devices work?

It remains unclear how most of these devices work and a range of possible mechanisms has been postulated. These include in the case of AHDs discomfort; scaring; deterring; masking of the animals' acoustic detection senses; or simple confusion. However, in most cases the exact behavioural mechanism by which AHDs work is unclear.

In some cases, it appears that ADDs function in an aversive manner. For example, several studies have shown that harbour porpoises (*Phocoena phocoena*) and, to a lesser extent, bottlenose dolphins (*Tursiops truncatus*) avoid pingers (Koschinski & Culik 1997, Kastelein *et al.* 2000, Culik *et al.* 2001, Laake *et al.* 1998, Cox *et al.* 2003, Goodson *et al.* 1994,

Anonymous 2003b). Further details of this research are available on the ACCOBAMS website. Nevertheless, the scope of this research is limited. The response of small cetaceans to any acoustic stimulus is likely to be context-dependent and our understanding of their reaction to any such sound is limited at best.

Do they work?

Both practical experience and several experimental studies have shown that pingers are able to significantly reduce the bycatch of harbour porpoises in gillnets (Kraus *et al.* 1997, Gearin *et al.* 2000, SMRU *et al.* 2000, Larsen *et al.* 2000). Several other studies have shown a similar effect with other small cetacean species including the striped dolphin (*Stenella coeruleoalba*), common dolphin (*Delphinus delphis*) and franciscana (*Pontoporia blainvillei*) (Barlow and Cameron 1999, Imbert *et al.* 2001, Imbert *et al.* 2002, Bordino *et al.* 2002, Bordino *et al.* 2004). The exact reduction in by-catch depends on many factors including the behavioural response of the species in question and the degree to which devices are properly used and maintained.

Early types of AHD were shown to be ineffective in the medium to long term in several experimental studies in North America. Pinnipeds habituated to these devices and sometimes came to regard them as a dinner bell, resulting in *increased* depredation at salmon capture sites (Mate and Harvey 1980). Since these early studies, a new generation of AHDs has been designed for the salmon aquaculture industry. Unfortunately, there have been very few experimental studies to show whether or not these new generation AHDs are effective in reducing depredation. One study in Sweden, in which one model of 'seal scarer' AHD was used close to a salmon netting station was shown to be effective over a short period of several weeks (Westerberg *et al.* 1999).

Several studies in the Mediterranean have tested the effectiveness of acoustic deterrents in reducing damage to gear and depredation caused by bottlenose dolphins. The results of these studies, while promising in some cases, do not present a clear and straightforward answer to the question. Studies to date are summarised in Box 1 below.

Concerns about the use of acoustic devices

Several concerns have been raised about the use of acoustic devices. Louder devices, such as AHDs designed to keep pinnipeds away from fish farm sites, have been shown to exclude cetaceans from large areas (Olesiuk *et al.* 2002, Morton and Symonds 2002, Johnston 2002). Concerns have, therefore, been raised that the widespread use of such devices may significantly reduce the habitat available for cetaceans in an area. This concern has also been expressed with respect to the large-scale use of pingers, although the spatial scale of such exclusion is likely to be much smaller for each individual device. Small-scale exclusion has been reported for harbour porpoises around active pingers (Culik *et al.* 2001, Berggren *et al.* 2002), but intensive use of such devices over a large area may be a cause for concern if small cetaceans are likewise excluded from significant parts of their habitat. The potential exclusion effect of pingers may be ameliorated to some extent by the finding that continued exposure to such devices may lead to a diminution (though not a disappearance) of the behavioural response and, thus, the area of exclusion (Cox *et al.* 2001).

The possibility has also been raised that some of the AHDs in use around aquaculture sites may cause physical damage to animals nearby. It might be assumed that animals would choose to remain at a comfortable distance from a very loud sound source, but in situations in which aversive signals are only emitted sporadically it is possible that a cetacean or seal might get close enough to a sound source to suffer auditory damage if the device was activated. Theoretical studies suggest that auditory damage would be possible for cetaceans within 10m of a sound source. Pinnipeds, with less sensitive hearing, are less likely to be damaged unless they were even closer (Gordon and Northridge, 2002; Taylor *et al.* 1997).

In the Mediterranean, where small populations of the highly endangered Mediterranean monk seal still survive, there are important concerns about the possibility of both habitat exclusion and hearing damage to seals as a result of the use of AHDs (Reeves *et al.* 2001).

Depredation – approaches to minimising the problem

There are numerous accounts of dolphins depredating fisheries in the Mediterranean, and more details of these can be found on the ACCOBAMS website (http://www.accobams.org/index_science.htm). Fisheries involved include hook and line fisheries, purse seine or *lampara* fisheries and gillnet fisheries. While not the only species involved, bottlenose dolphins appear to be the most frequently implicated.

Member States in the ACCOBAMS area have committed themselves to protecting cetaceans, and thus have a duty to assist fishermen in finding appropriate means of minimising these conflicts. Experience in many areas shows that if fishermen are not given appropriate assistance and guidance that they may resort to inappropriate measures to deal with the problem. Appropriate mitigation measures should therefore be sought and encouraged by Member States.

At present there does not appear to be any one simple panacea that will solve the problem of depredation. It is likely that solutions will be case-specific, and the national authorities of member states will need to determine which are the most likely routes to resolve the problem. These guidelines are intended to summarise information at present and assist national or regional authorities to find the most promising avenues. It should be stressed that at present there has been no demonstration of long-term effectiveness of any solution.

Acoustic mitigation measures represent a potential avenue that may lead to a solution, but many other appropriate ideas should also be explored, including changes in fishing practices and behavioural conditioning of animals (Reeves *et al.* 2001). Member states should be encouraged to explore such ideas.

Several acoustic deterrents are currently being marketed for use in the ACCOBAMS region to minimise dolphin depredation. It is important to note that no study of such devices has yet shown anything more than a short-term effect. Further trials are urgently required, particularly as there are concerns that animals may habituate to acoustic deterrent signals over time and resume depredation. A summary of the trials conducted so far is given in Box 1. At the present time, no acoustic device has been shown effective at reducing depredation over the medium to long-term.

The acoustic devices marketed to reduce depredation are all relatively quiet, none approaching the sound source levels achieved in the AHDs used at aquaculture sites. This is largely because AHDs are very expensive and require significant power inputs, whereas most of the lower power devices are less expensive and run on standard alkaline or lithium cells. Box 2 lists some of the available devices.

Not all trials done so far have involved battery-powered sound sources, and some have relied on physical sound production using bells, tubes or clangers (see Box 1). Although these sounds may reduce depredation over the very short term, their effects are not long-lasting.

As some of these devices may effectively limit cetacean habitat availability, member states should be aware of where and how they are being used and should consider ways to monitor their use. If certain devices are shown to be effective at reducing depredation over the long-term, it may be advisable to certify them for use as mitigation tools. Member States should determine the number of users, the number and type of devices, their output levels, the exposure schedule, the gear type on which they are being used, the area and season of use and the number of 'target' and 'non-target' species present (notably monk seals). ACCOBAMS can provide a central registry to maintain these data. Further details of the number of units that have been sold to certain areas could usefully be obtained from manufacturers.

The main species involved in depredation is the bottlenose dolphin *Tursiops truncatus*. This species, like other cetaceans, may show an obvious **startle** reaction to novel stimuli that could lead to excessively optimistic expectations by the fishermen. In fact, this species learns rapidly, is extremely adaptable and likely to habituate in the long run to almost any noise. Therefore, alternative mitigation strategies or "combined approaches" - such as changes in fishing practices or behavioural conditioning should be favoured.

Overall, acoustic tools to minimise dolphin predation should be used only in an experimental manner. Government agencies should continue to learn how and if they work, and in what circumstances, and also the nature and extent of any ill-effects that they might have, including habituation to the signal. With adequate co-operation and transfer of experience, much may be learned with little expenditure.

Member states should also be aware that other approaches, such as changes in fishing practice or behavioural conditioning, may also prove useful avenues for further research.

Bycatch –unintentional capture in fishing operations

There are numerous records of bycatch of cetaceans in the ACCOBAMS area. Almost all species of cetaceans that are present in any number in the ACCOBAMS area have been recorded taken in some fishing operation or other. In the Black Sea the largest number of animals taken are harbour porpoises. In the Mediterranean and Contiguous Atlantic areas common and striped dolphins are the species most often recorded. A summary of information on bycatches is presented in Box 3.

European Council regulation 812/2004 will require the use of pingers in many northern European gill and entangling net fisheries from 2005 – 2006. The intention of this regulation is primarily to minimise bycatch of harbour porpoises in EU waters. As noted above, pingers have been shown to be effective in reducing porpoise bycatch in a number of fisheries in Europe and North America, and there is no evidence yet that their effectiveness is diminished through time. It should be noted that there have been at least two studies in which bycatch of delphinid species in driftnets has been demonstrably reduced through the use of pingers. Box 2 summarises the types of pinger that are currently available to reduce bycatch, and the tests that have been carried out to show that they work.

It must also be recognised that bycatch of cetaceans cannot ever be completely eliminated by the use of acoustic devices. Pingers have been shown to reduce porpoise bycatch by 90% or more in carefully controlled field experiments. Similar studies have shown a reduction of dolphin bycatch by 80% or more.

Where pinger use has been mandated in other areas, including northern Europe, accompanying observer/monitoring programmes have been mandated to ensure that the efficacy of these devices is maintained. This is even more important where delphinids are concerned, as they may be less easily deterred from entanglement than porpoises.

Any intention to deploy pingers should be preceded by a practicability trial in which selected vessels are equipped with the devices so that deployment issues can be addressed. Experience elsewhere shows that while one pinger may work in one fishery, unexpected problems may arise in another fishery. Issues of concern include how the devices are attached to the net, how they affect fishing efficiency and whether they lead to net fouling. Specific expertise to address these issues can be made available through the ACCOBAMS Secretariat.

Other issues, including spacing, costs, battery replacement, and enforcement (where this is needed) need to be considered in advance of any deployment programme. Again, expertise in these areas is available and can be contacted through the ACCOBAMS secretariat.

As with measures to reduce depredation, acoustic approaches are not the only possible solution. Other approaches may include, on a case by case basis, time or area closures for fisheries, or switching to other gear types.

Final remarks

The possible adverse impacts of acoustic devices on cetaceans, at both individual and population level, remain poorly known. Furthermore, their effectiveness in reducing depredation is still in the process of being assessed. There is scientific evidence that pingers may reduce the by-catch of harbour porpoises and other small cetaceans in some fisheries. It is still too early to say whether acoustic devices will be effective in reducing depredation over the long term. More focused, long-term research on these topics is urgently needed.

Further information can also be accessed at the following websites:

ACCOBAMS:

<http://accobams.org>

Cetacean Bycatch Resource Center:

<http://www.cetaceanbycatch.org/>

International Dolphin Conservation Programme:

<http://europa.eu.int/scadplus/printversion/en/lvb/l28083.htm>

Summary of current legislation for the conservation of cetaceans:

http://europa.eu.int/comm/fisheries/doc_et_publ/liste_publi/studies/bycatch/07_10legislation.htm

National Marine Fisheries Service:

<http://www.nmfs.noaa.gov/bycatch.htm>

Other information:

http://europa.eu.int/comm/fisheries/doc_et_publ/liste_publi/studies/bycatch/contents.htm

BOX 1: Studies examining effectiveness of acoustic deterrents

Species	Type of interaction	Fishery	Author	Country	Device/Manufacturer
Harbour porpoise (<i>Phocoena phocoena</i>)	Bycatch	Bottom set nets	Larsen 1999, Larsen <i>et al.</i> 2002	Denmark	Pinger/AQUAtec Sub Sea Ltd.
Harbour porpoise	Bycatch	Bottom set nets	Kraus <i>et al.</i> 1997, Trippel <i>et al.</i> 1999, Gearin <i>et al.</i> 2000	Canada, and USA	Pinger/Dukane Corporation
Common dolphin (<i>Delphinus delphis</i>)	Bycatch	Drift nets	Barlow and Cameron 2003	USA	Pinger/Dukane Corporation
Striped dolphins (<i>Stenella coeruleoalba</i>)	Bycatch	Drift nets	Imbert <i>et al.</i> 2002	France	Pinger/AQUAtec Sub Sea Ltd.
Bottlenose dolphins (<i>Tursiops truncatus</i>)	Depredation	Set nets	Goodson <i>et al.</i> 2001	Italy	Pinger/AQUAtec Sub Sea Ltd.
Bottlenose dolphins	Depredation	Set nets	Gazo <i>et al.</i> 2002 also as IWC paper in Shimonoseki	Spain	Pinger/AQUAtec Sub Sea Ltd.
Bottlenose dolphins	Depredation	Set nets	Northridge <i>et al.</i> 2003, Vernicos <i>et al.</i> 2003	Greece	Pinger/SaveWave BV
Bottlenose dolphins	Depredation	Set nets	Anonymous 2003a	Italy	Pinger/STM Dolphin Deterrent Device
Bottlenose dolphins	Depredation	Set nets, Purse seine	Ben Naceur 1994, Zahri <i>et al.</i> 2004	Morocco, Tunisia	Dolphin scaring tube/handmade
Franciscana (<i>Pontoporia blainvillei</i>)	Bycatch	Set nets	Bordino 2003 and Bordino <i>et al.</i> 2004	Argentina	Pinger/AIRMAR

BOX 2: Available deterrent devices

Produced by	Dukane (dismissed)	Aquatec			Savewave		Airmar	Fumunda	STM
Model	Netmark 1000	Aquamark 100 Porpoise deterrent	Aquamark 200 Acoustic Cetacean Deterrent	Aquamark 300 Pinger	Endurance	White Saver & Black Saver	Gillnet pinger	FMDP2000	DDD Dolphin Dissuasive Device
Gear	Gillnets and drifnets	Gillnets	Gill, drift and trammel nets	Gillnets	Gill and trammel nets	Gill, trammel and trawling nets	Gillnets	Driftnet	Trammel nets
Mitigation use		bycatch	Depredation and bycatch	bycatch	depredation	depredation	bycatch	bycatch	depredation
Frequency (kHz)	10	20-160	5-160	10 (tonal)		5-90 & 30- 160	10	10	1-500
Source level (dB re 1µPa at 1m)	130	145	145	132	155	155	132	130-134	NA
High- frequency harmonics	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Pulse duration (ms)	3	2-3		3		2-9	3	3	NA
Inter-pulse period (s)	4	4-30	4-30	4		4-16	4	4	NA
Wet switch	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Battery	4 Alkaline AA cells	1 D-Cell Alkaline	1 D-Cell Alkaline	1 D-Cell Alkaline	Sealed 9 v unit		1 D-Cell Alkaline	1 lithium	4 alkaline 1,5V
Life	800 hours	1.5-2 years	1.5-2 years	1.5-4 years	8000 hours	2000 hours	> 1 year	15 months	3 months

Battery change	Yes	No	No	No	Yes	Yes	Yes	Yes	?
# of emitters	1	1	1	1	1	1	1		NA
Maximum depth	200	200	200	200	200	200	275	200	300
Distance between pingers	100	200	200	200				100	200
Dimensions	168 x 55mm (Ø)	164mm x 58mm (Ø)	164mm x 58mm (Ø)	164mm x 58mm (Ø)	200mm x 60mm		156mm x 53mm (Ø)	152mm x 46mm (Ø)	185mm x 61mm (Ø)
Weight (g)	400	410	410	370	400	Trawls: 6 units per net	408	230	740
Price (Euro)	Discontinued	100	100	100	55-70	55-70	44.72	74.80	223
Web site	NA	www.netPinger.net			www.savewave.net		www.airmair.com	www.fumunda.com	www.stm-products.com

Box 3: Bycatch summary of information for the ACCOBAMS area

Gear Type	Nation	Season	Location	Target species	Bycatch species	Known or suspected	Monitored/ Estimated
Drift nets ("spadara" and other types) (mesh size 18 to 42 cm)	Morocco, Turkey, France, Italy, a few vessels are also present in Albania, Algeria, Greece, Monaco	April-August	Mediterranean	<i>Xiphias gladius</i> , <i>T. alalunga</i>	<i>S. coeruleoalba</i> , <i>Ziphius cavirostris</i> (<i>Globicephala</i> spp.), <i>D. delphis</i> , <i>Grampus griseus</i> , <i>Physeter macrocephalus</i> , <i>Balaenoptera physalus</i> , <i>B. acutorostrata</i>	Known	Monitored and extrapolated: Di Natale <i>et al.</i> , 1999; Di Natale <i>et al.</i> , 1992; Silvani <i>et al.</i> 1999; Di Natale <i>et al.</i> 1993
Drift nets ("Thonaille") (mesh size 18 to 24 cm)	France, Monaco	May-September	Mediterranean	<i>T. thynnus</i>	<i>S. coeruleoalba</i>	Known	Monitored and extrapolated: Imbert <i>et al.</i> 2001, 2002
Drift nets (mesh size 8 to 16 cm)	Italy	Spring-Autumn	Mediterranean	<i>Sarda sarda</i> , <i>Auxis rochei</i> , other small tuna species.	<i>T. truncatus</i> , <i>Grampus griseus</i>	Known	Estimated total: Di Natale & Notarbartolo di Sciara, 1994
Drift nets (mesh size 4 to 7 cm)	Many coastal areas	Spring	Mediterranean	<i>Scomber</i> spp., <i>Boops boops</i> , and other small pelagic species	<i>S. coeruleoalba</i> , <i>Tursiops truncatus</i>	Suspected: many interactions with fishing gear	
Bottom set gillnets (including coastal trammels)	Many coastal areas	All	Mediterranean	<i>Mullus</i> spp., <i>Sepia</i> spp. Sparidae, <i>Scorpaena</i> spp. other demersal species	<i>Ziphius cavirostris</i> , <i>D. delphis</i> <i>S. coeruleoalba</i> , <i>Grampus griseus</i> , <i>T. truncatus</i> , <i>Physeter macrocephalus</i>	Known: also high level of gear interaction	Di Natale, 1989; Di Natale & Notarbartolo, 1994; Bradai, 2000; Centro Studi Cetacei, 1987-2000; Lauriano <i>et al.</i> , 2001.
Bottom set gillnets	Many deep coastal areas	All	Mediterranean	<i>Palinurus elephas</i> , <i>Merluccius merluccius</i>	<i>T. truncatus</i>	Gear interactions known	CORISA, 1992
Bottom set gillnets for	All range Countries	April-June	Black Sea	<i>P. maeotica</i> , <i>Sualus acanthias</i>	<i>Phocoena phocoena</i> , <i>T. truncatus</i>	Known: high impact	Birkun 2002

turbot and dogfish							
Bottom set gillnets for sturgeon	All range Countries	April-June	Black Sea	<i>Acipenser spp.</i> , <i>Huso huso</i>	<i>Phocoena phocoena</i> , <i>T. truncatus</i> , <i>D. delphis</i>	Known: low impact	Birkun 2002
Bottom set gillnets for turbot	Turkey	April-June	Black Sea	<i>P. maeotica</i> , <i>Squalus acanthias</i>	<i>Phocoena phocoena</i>	Known: high impact	Birkun 2002
Bottom set gillnets for turbot	Turkey	April-June	Black Sea	<i>P. maeotica</i> , <i>Squalus acanthias</i>	<i>T. truncatus</i>	Known: very low impact	Birkun 2002
Middle-water set gillnets	Many coastal areas	All	Mediterranean	<i>Boops boops</i> , <i>Oblada melanura</i> , <i>Trachurus sp.</i> , <i>Spicara spp.</i>	<i>T. truncatus</i>	Known	Di Natale pers comm.
Set gillnets for sprat and anchovy	Romania	March-May	Black Sea	<i>S.s. phalaericus</i> , <i>E .e. ponticus</i>	<i>Phocoena phocoena</i>	Known	Birkun 2002
Set gillnets for scad	Romania	July-September	Black Sea	<i>Trachurus spp.</i>	<i>D. delphis</i>	Known	Birkun 2002
Trap nets	Bulgaria, Georgia, Ukraine	May-June	Black Sea		<i>T. truncatus</i>	Very low impact	Birkun 2002
Purse seine	All	All	Mediterranean	<i>Sardina pilchardus</i> , <i>Engraulis encrasicolus</i> , other small pelagic species	<i>T. truncatus</i>	Known: occasional plus many gear interactions	Bradai, 2000
Purse seine (mullet and anchovy)	Kerch Strait, Crimea	November-December	Black Sea	<i>M. soiuy</i> , <i>E .e. ponticus</i>	<i>T. truncatus</i>	Low impact	Birkun 2002

Tuna purse seine	Spain, France, Italy, Greece, Tunisia, Turkey, Croatia, Algeria, Morocco	March-October	Mediterranean	<i>Thunnus thynnus</i>	<i>S. coeruleoalba.</i>	Known: rare	Magnaghi & Podesta, 1987; Podestà & Magnaghi, 1989
Tuna traps	Spain, Italy, Tunisia, Libya, Morocco, Croatia	April-July	Mediterranean	<i>Thunnus thynnus</i>	<i>T. truncatus B. acutorostrata, Orcinus orca</i>	Known: Interactions are sporadic	Di Natale, 1992; Bradai, 2000; Di Natale & Mangano, 1983
Bottom trawl	All areas	All	Mediterranean	A large range of demersal species	<i>T. truncatus.</i> A very high number of interactions is reported	Known.	Silvani et al., 1992
Harpoons	Italy, Turkey	April-August	Mediterranean	<i>Xiphias gladius, Thunnus thynnus, Tetrapturus belone</i>	<i>S. coeruleoalba, Grampus griseus, Physeter macrocephalus, Ziphius cavirostris, D. delphis.</i>	Known: reports of deliberate harpooning in the 1980s, no recent cases recorded;	Di Natale, 1992
Drifting long lines	Spain, Italy, Greece, Albania, Turkey, Cyprus, Lebanon, Egypt, Libya, Tunisia, Algeria, Morocco, Malta	March-December	Mediterranean	<i>Xiphias gladius, Thunnus thynnus</i>	<i>Stenella coeruleoalba, Grampus griseus, T. truncatus, Pseudorca crassidens, Globicephala melas, Ziphius cavirostris, Physeter macrocephalus, Balaenoptera physalus</i>	Known: probably low level	Duguy et al. 1983; Di Natale & Mangano, 1983; Di Natale, 1992 Di Natale et al., 1993
Drifting long lines	Spain, Italy, Greece, Albania	Spring-Autumn	Mediterranean	<i>Thunnus alalunga</i> and other small tunas	<i>S. coeruleoalba, T. truncatus..</i>	Frequent interactions are already reported	Di Natale et al., 1992
Pelagic pair trawl	Italy	All	Mediterranean	Pelagic schooling species	<i>T. truncatus</i>	Known	Vallini, pers.com
Pelagic trawl	France, Italy	All	Mediterranean	Demersal species	Delphinids	Suspected, by analogy	No
Pelagic trawl	Georgia, Ukraine	November-December	Black Sea	<i>E .e. ponticus</i>	<i>D. delphis</i>	Known	Birkun 2002

Encircling gillnets	Spain, Italy, Greece	Spring-Summer	Mediterranean	<i>Boops boops</i> , <i>Oblada melanura</i> , <i>Belone belone</i> , <i>Spicara spp.</i> other small and medium size pelagic species	<i>Tursiops truncatus</i>	Suspected	Goodson <i>et al.</i> , 2001
Bottom long lines	Spain, Italy, Greece, Albania,	All	Mediterranean	<i>Merluccius merluccius</i> , Sparidae spp., <i>Lepidopus caudatus</i>		Suspected: fishermen report sporadic interactions	
Rod and reel	Spain, France, Italy	Spring-Summer	Mediterranean	<i>Thunnus thynnus</i>		Suspected: fishermen report sporadic interactions	
Hand-line	Spain, Italy, Greece	Spring-Summer-Autumn	Mediterranean	<i>Thunnus thynnus</i>		Suspected: fishermen have reported a few interactions	
Jigging line	Spain, Italy, Greece	May-September	Mediterranean	<i>Todarodes sagittatus</i> , <i>Illex sp.</i>		Suspected: Very frequent interactions are reported by fishermen	

Based on:

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RESOLUTION 2.13 - Pelagic Gillnets

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

Aware that traditional or modified pelagic gillnets, whether drifting or not, are known to represent a major source of incidental mortality for cetaceans,

Recalling that the Conservation Plan, which is fully part of the Agreement, requires the Parties to develop and implement measures to minimize adverse effects of fisheries on the conservation status of cetaceans and, in particular, that no vessel shall be allowed to keep on board, or use for fishing, one or more drift nets whose individual or total length is more than 2.5 kilometers,

Concerned that such gear is still being widely used in the Agreement Area, in contrast to mainstream international and national legislation,

Noting that such gear is resulting in significant cetacean mortality in the Agreement Area, even in Marine Protected Areas especially established for cetaceans,

Considering the efforts ongoing on this topic of several Intergovernmental Organisations in particular FAO, ICCAT and the European Community,

Recalling:

- Resolution 1.9 on International Implementation priorities 2002-2006 and in particular actions 2 and 3,
- Resolution 1.8 on national reports,
- Resolution 2.7, adopting a working program for 2005-2007,
- Resolution 2.12, on the Guidelines for the use of acoustic deterrent devices,
- Resolution 2.21 on assessment and mitigation of man/cetacean interactions,

1. *Urges* Parties to:

- Ensure that their fishing operations are conducted in full accordance with the relevant existing regulations aimed at the mitigation of cetacean bycatch;
- Ensure that their fishing effort on pelagic drifting and non-drifting gillnets, be reported to the ACCOBAMS Secretariat;

1. *Invites* Riparian States to join the effort of the ACCOBAMS Parties in preventing further cetacean mortality in the Agreement Area, and to provide relevant information on fishing gear, particularly driftnets, and effort to FAO.

RESOLUTION 2.21 - Assessment and mitigation of the adverse impacts of interactions between cetaceans and fishing activities in the ACCOBAMS area

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

On recommendation of the ACCOBAMS Scientific Committee,

Recalling that the Conservation Plan, which is fully part of the Agreement, requires the Parties to develop and implement measures to minimize adverse effects of fisheries on the conservation status of cetaceans,

Aware that to be effectively assessed and mitigated, man/cetaceans' interactions should be handled not only with the ecological point of view but also with their socio-economical aspects,

Considering the efforts ongoing on this topic of several Countries and Intergovernmental Organisations,

Recalling

- Resolution 1.9 on International Implementation priorities 2002-2006 and in particular actions 2 and 3,
- Resolution 2.7, adopting a working program for 2005-2007,
- Resolution 2.12, on acoustic deterrent devices,

1. *Takes into account* the draft "Project for assessing and mitigating the adverse impacts of interactions between cetaceans and fishing activities in the ACCOBAMS Area " (MOP2/Inf 5) presented by the Secretariat;
2. *Agrees* to a special action program aimed to mitigate cetacean by-catches in the project area with the following objectives:
 - To collect historical data about the cetacean by-catch in the project area;
 - To provide assistance to national authorities at their request to enable independent observers to board fishing vessels;
 - To collect data about the present cetacean by-catch in the project area;
 - To test the most appropriate mitigation measures;
 - To help Countries undertaking information campaigns for fishermen with special focus on the handling procedures in case of incidental catch of cetaceans;
3. *Instructs* the Agreement Secretariat to establish and reinforce relations with relevant Organisations and in particular GFCM, Black Sea Commission, European Commission, COPEMED, ADRIAMED, MedSudMed, MEDISAMAK;
4. *Calls upon* Parties, Riparian States, Range States, the International Organisations, the International Scientific Institutions and others to participate and support the ACCOBAMS works on man/cetaceans' interactions;
5. *Urges* Parties to nominate one national organisation to serve as national vis-à-vis of the project and inform the Secretariat of this nomination;

6. *Calls upon* Multilateral and Bilateral sources of funding and in particular the European Commission to support ACCOBAMS activities on the base of the draft "Project for assessing and mitigating the adverse impacts of interactions between cetaceans and fishing activities in the ACCOBAMS Area".

RESOLUTION 2.25 - Prey Depletion

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

Recalling that:

- *Article II paragraph 3*, of the Agreement, invites the Parties, within the limits of their sovereignty and/or jurisdiction and in accordance with their international obligations, to assess and manage human-cetacean interactions and to protect the habitats in all waters under their sovereignty and/or jurisdiction and outside these waters in respect of any vessel under their flag or registered within their territory,
- *The Conservation Plan*, which is fully part of the Agreement, binds the Parties to evaluate the feeding requirements of the species covered by the Agreement and adapt fishing regulations and techniques accordingly,

Taking into account Decision VII.11 of the Parties to the Convention for the Biological Diversity to facilitate the implementation of the ecosystem approach as the primary framework for addressing the three objectives of the Convention in a balanced way and welcoming the implementation guidelines and annotations to rationale as outlined in annex I to the decision,

1. *Urges* the Contracting Parties to take in consideration the ecological role of the exploited marine living resources in their fisheries policies;
2. *Charges* the Scientific Committee:
 - to promote the collection of systematic information on the diet of different cetacean species throughout the Agreement area and its geographic, seasonal and ontogenetic variability, and investigate the possibility of applying trophodynamic models to data deriving from population surveys, feeding ecology, and fishery ecology;
 - to take into account the results of the CIESM Workshop "Investigating the roles of cetaceans in marine ecosystems" (Venice, 28-31 January 2004) and its recommendations;
3. *Charges* the Secretariat to collaborate closely with the relevant Fisheries Bodies in order to facilitate the implementation of the present Resolution.

RESOLUTION A/3.1 - amendment of the Annex 2 to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area, related to the use of drift nets

Recalling the conditions of the paragraph “a” of the subsections 1 and 4 of the article X, and connected to the amendment’s methods of the Agreement and of its appendices,

Recalling the conditions of the paragraph “a” of the subsection 1 of the conservation plan subject of the appendix 2 of the Agreement inviting Parties, to forbid to their fishing boats, to fish with one or many mesh and drift nets from which the individual or cumulative length exceeds 2.5 kilometres”,

Worried by the fact that this device is still under use in the agreement’s area on the contrary of the measures of conservation adopted to an international and regional level,

Reminding the Scientific Committee conclusions pointing out the ban on use of mesh and drift nets which represent serious threats for the cetacean population in the Agreement area,

Bearing in mind that the Scientific Committee recommends to forbid the use of mesh and drift nets whatever can be their size in the Agreement area,

1. The Parties agree on what follows:

The paragraph 1 of the conservation plan, object of the appendix 2 of the Agreement here above aimed is abrogated and replace by the following conditions:

Paragraph “a” (new one) work out and implement measures to minimize the fishing negative effects on the conservation of cetacean. Most particularly, no vessels will be authorized to keep on board or to use any drift nets.

RESOLUTION 4.9 - Fisheries Interactions with Cetaceans

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS):

Taking in consideration the Recommendations from the Scientific Committee,

Renewing its concern about the negative impacts on cetacean populations of fishing activities in the Agreement area,

Noting that the problem of cetacean by-catch affects the entire area where ACCOBAMS applies and involves a variety of types of fishing gear,

Greatly concerned that fishing nets with mesh size equal to or exceeding 100 mm are still widely used, either legally or illegally, for turbot, spiny dogfish and sturgeon fisheries in the Black Sea sub-region,

Seriously concerned that other types of fishing gear commonly deployed even in accordance with the EU Regulations, in the Agreement area are known to cause significant mortality and can seriously affect cetacean populations,

Greatly appreciating the collaboration established between ACCOBAMS and the General Fisheries Commission for the Mediterranean (GFCM) to address the issue of by-catch of cetaceans and other endangered marine species,

Taking note of the work on bycatch done by the Scientific Council of the CMS lead by the Conference appointed councillor for bycatch, as well as of the activities undertaken in the framework of ASCOBANS towards mitigating bycatch and improving collaboration with fishing communities,

Recalling Resolution 8.22 on adverse human induced impacts on cetaceans and Resolution 9.18 on by-catch, adopted within the framework of the Convention on the Conservation of Migratory Species of Wild Animals,

Recalling also that the Agreement requires that Parties collect and analyze data on direct and indirect interactions between humans and cetaceans in relation to fishing and take appropriate remedial measures, applying, when necessary, the precautionary principle,

Taking in consideration the "Guidelines for technical measures to minimize cetacean-fishery conflicts in the Mediterranean and Black Seas" adopted in the Resolution 2.12,

1. *Encourages* Parties with respect to by-catches and depredation:

(a) To improve reporting by:

- establishing regular, representative onboard monitoring programmes related to the ByCBAMS project (Project for assessing and mitigating the adverse impacts of interactions between cetaceans and fishing activities in the ACCOBAMS area - (give some reference as to where this is specified)) to quantify cetacean by-catch and reporting on the methods used to the ACCOBAMS Scientific Committee;
- reporting cetacean by-catch for different types of fisheries and ghost nets in order to provide the GFCM Task 1 (give some reference as to where this is specified) with the required information concerning cetacean by-catch;
- obtaining and reporting on local information on the nature of the depredation and its effects on fisheries.

(b) To make every effort to reduce cetacean by-catch levels and/or incidences of depredation, in co-operation with affected fishing communities by:

- raising the awareness of fishermen about the need to mitigate the impact of fishing on cetacean populations;
- effectively enforcing existing bans on relevant fishing gear in the ACCOBAMS area and report measures to the Secretariat through the appropriate online system;
- developing and implementing specific national programmes, taking into consideration advice from the ACCOBAMS Scientific Committee, with (1) defined management objectives for reducing cetacean by-catches and/or alleviating conflicts between cetaceans and fisheries or mariculture operations, (2) methods for monitoring and evaluating the success of the measures implemented in national programmes and (3) mechanisms for modifying national programmes if necessary after evaluation;
- recognising that if use of acoustic mitigation devices for by-catch reduction (AMDb) or for depredation reduction (AMDd) are to form part of a national programme, great care must be given to undertaking and evaluating them using limited controlled in situ tests of effectiveness, in conjunction with the ACCOBAMS Scientific Committee, before widespread implementation is approved;
- enhancing the capacity of fishermen to properly handle and release live cetaceans caught incidentally in their fishing gear.

2. *Invites* the Parties to take into consideration with respect to the testing and use of acoustic mitigation measures the study on “Testing and use of AMD for depredation mitigation”, presented in document ACCOBAMS-MOP4/2010/Doc21 as well the study on “Guidelines for technical measures to minimise cetacean-fishery conflicts in the Mediterranean and Black Sea” presented in Document ACCOBAMS-MOP4/2010/Inf39 and the “Protocol for data collection on bycatch and depredation in the ACCOBAMS Region” as presented in document ACCOBAMS-MOP4/2010/Doc22;
3. *Also invites* non-Parties States to join the effort of the ACCOBAMS Parties in reducing cetacean mortality induced by fisheries activities in the Agreement area;
4. *Takes note* of the “Review on the effectiveness of acoustic devices and depredation mitigation measures”, presented in document ACCOBAMS-MOP4/2010/Doc23;
5. *Invites* the Agreement Secretariat and the Scientific Committee to pursue the collaboration with relevant Organizations and Bodies to consider further the relations between prey depletion and increasing interactions between cetaceans and fishing activities, proposing remedial solutions where possible;
6. *Takes note of* the “Technical specifications and conditions of use of acoustic deterrent devices” appearing in Annex to this Resolution;
7. *Decides* that the present Resolution replaces Resolution 3.12.

ANNEX

Technical specifications and conditions of use of acoustic deterrent devices

Only acoustic deterrent devices that conform one of the following sets of signal and implementation characteristics, could be authorised by the Parties to ACCOBAMS ¹⁸⁰

	Set 1	Set 2
Signal characteristics		
Signal synthesis	Digital	Analogue
Tonal/wide band	Wide band/tonal	Tonal
Source levels (max - min) re 1 mPa@1m	145 dB	130 -150 dB
Fundamental frequency	(a) 20 - 160 KHz wide band sweeps (b) 10 kHz tonal	10 kHz
High-frequency harmonics	Yes	Yes
Pulse duration (nominal)	300 ms	300 ms
Interpulse interval	(a) 4 - 30 seconds randomised; (b) 4 seconds	4 seconds
Implementation characteristics		
Maximum spacing between two Acoustic deterrent devices along nets	200 m, with one acoustic device fixed at each end of the net (or combination of nets attached together)	100 m, with one acoustic device fixed at each end of the net (or combination of nets attached together)

Table taken from the Annex II of the EU regulation No. 812/2004

¹⁸⁰ Parties may authorise the use of acoustic deterrent devices which do not conform these technical specifications only if their effect on the reduction of incidental catches of cetaceans has been sufficiently documented and evaluated positively by the Scientific Committee of ACCOBAMS.

RESOLUTION 8.16 - Interactions between Fisheries and Cetaceans

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling the provisions of Article II, paragraph 3, of the Agreement, inviting Parties to implement, within the limits of their sovereignty and/or jurisdiction and in accordance with their international obligations, appropriate measures for the assessment and management of human-cetacean interactions and stressing that measures concerning fisheries activities shall be applied in all waters under their sovereignty and/or jurisdiction and, outside these waters, in respect of any vessel under their flag or registered within their territory,

Recalling the following Resolutions:

- Resolution 2.12 on guidelines for the use of acoustic deterrent devices,
- Resolution 2.13 on pelagic gillnets,
- Resolution 2.21 on assessment and mitigation of the adverse impacts of interactions between cetaceans and fishing activities in the ACCOBAMS Area,
- Resolution A/3.1, amending Annex 2 to the ACCOBAMS, as regards the use of drift nets,
- Resolution 3.8 strengthening collaboration with the General Fisheries Commission for the Mediterranean (GFCM),
- Resolution 4.9 on fisheries interactions with cetaceans,
- Resolution 7.11 on interactions between fisheries and cetaceans,

Taking into consideration Recommendation 14.5 of the Scientific Committee on “Bycatch”,

Reiterating that bycatch in fishing gear is a widespread and significant threat to cetaceans across the Agreement area, although precise estimates are lacking for most areas and the region as a whole,

Recalling that it is essential that an improved understanding of bycatch levels is developed as soon as possible and that, together with the results of ACCOBAMS Survey Initiative, this will allow a better determination of bycatch rates and thus help determine the levels of bycatch reduction necessary to allow ACCOBAMS conservation objectives to be met,

Expressing great concern over the results of the project “Support MSFD implementation in the Black Sea through establishing a regional monitoring system of cetaceans (D1) and noise monitoring (D11) for achieving GES” (CeNoBS), as well as of other recent local surveys that have, even under conservative assumptions, highlighted the significant link between turbot fishery bycatch and high seasonal mortality of harbour porpoises in the Black Sea, which threatens the viability of this sub-species,

Fully aware of the complexity of the interactions between fisheries and cetaceans and their negative impacts on cetacean populations, as well as of their socio-economic implications in some zones of the ACCOBAMS Area, in particular the situation of conflicts generated between fishermen and dolphins due to the damages caused by the latter to fishing gear,

Conscious of the related work underway under the Convention on the Conservation of Migratory Species of Wild Animals (CMS), and *recalling* related decisions, in particular CMS Resolution 12.22 on “Bycatch”,

Conscious of the related work underway under the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS), and *recalling* relevant decisions, in particular ASCOBANS Resolution 8.5 (Rev.MOP9) on “Monitoring and Mitigation of Small Cetacean Bycatch”,

Endorsing the recommendations on monitoring and mitigation from the first Meeting of the ACCOBAMS-ASCOBANS Joint Bycatch Working Group, organized in February 2021, and *urging* the Parties to implement them as soon as possible,

Recognizing that Cetaceans Stranding Networks (CSNs) are an important source of data to determine cetacean causes of death, including bycatch events, and *taking note* of the results of the review of available data on cetacean bycatch in stranding databases from the ACCOBAMS Area,

Commending the collaboration established between the Secretariats of ACCOBAMS and the General Fisheries Commission for the Mediterranean (GFCM), in particular regarding the mitigation of the adverse impacts of interactions between cetaceans and fishing activities in the Agreement area,

Recalling with appreciation the recommendations adopted by the GFCM on the mitigation of incidental catches of cetaceans in the GFCM area (Recommendation GFCM/36/2012/2) and on the establishment of a set of minimum standards for bottom-set gillnet fisheries for turbot and conservation of cetaceans in the Black Sea (Recommendation GFCM/37/2013/2), as well as the guidelines included in the manual “Monitoring incidental catch of vulnerable species in the Mediterranean and Black Sea: Methodology for Data Collection”, developed by the GFCM in collaboration with other partners,

Noting with appreciation the recently adopted resolution on enhancing the conservation of cetaceans in the GFCM area of application (Resolution GFCM/43/2019/2), and the two recommendations recently adopted by the GFCM on the mitigation of fisheries impacts for the conservation of cetaceans (Recommendation GFCM/44/2021/15) and on abandoned, lost or otherwise discarded fishing gear (Recommendation GFCM/44/2021/14), and the FAO Voluntary Guidelines on the Marking of Fishing Gear (2019);

Noting with appreciation the translation into several languages of the ACCOBAMS Area of the FAO/ACCOBAMS good practice guides for the handling of vulnerable species caught incidentally in Mediterranean fisheries, developed in collaboration with SPA/RAC,

Greatly appreciating the financial support provided by MAVA Foundation for projects aimed at addressing the issues of interactions between fisheries and cetaceans,

Recalling the Action Plan for the Conservation of cetaceans in the Mediterranean Sea (IG25/13),

1. *Encourages Parties* to produce a realistic estimation of cetacean and other megafauna species bycaught in different types of legal fishing activities, taking into account the ongoing work of ECAP/IMAP, but also in result of illegal, unreported and unregulated (IUU) fishing, and ghost net fishing, and to align by catch thresholds with those developed by other ongoing processes;
2. *Encourages Parties* to assess the level of cetacean bycatch arising from their fisheries using a combination of methods, following the guidelines included in the manual “Monitoring incidental catch of vulnerable species in the

Mediterranean and Black Sea: Methodology for Data Collection”, developed by the GFCM in collaboration with other partners, such as:

- a. trained observers on board fishing vessels, where possible,
 - b. fishermen interview surveys,
 - c. self-sampling by fishermen, where possible,
 - d. strandings data collection,
 - e. remote electronic monitoring;
3. *Urges* that, despite the need for more precise estimates, mitigation efforts be immediately intensified by both Parties and non-Party Range States throughout the region and especially in areas hosting populations identified as Critically Endangered or Endangered in the IUCN Red List;
 4. *Requests* the Secretariat to share the results of the review of available data on cetacean bycatch in stranding databases from the ACCOBAMS Area with Parties and relevant organizations, and *encourages* further studies investigating the use of stranding data to assess bycatch mortality, including the use of carcass drifting models, whilst recognising that analyses of strandings data almost always underestimate bycatch to an unknown degree;
 5. *Urges* the Scientific Committee to review studies on the behavior of animals during interactions with fisheries, including on their mortality caused by the ingestion of fishing gear, with a view to developing effective mitigation measures;
 6. *Urges* the Parties to enhance fishing gear identification and traceability, as well as the retrieval of abandoned, lost or otherwise discarded fishing gears, to eliminate bycatch of cetaceans in ghost gears;
 7. *Invites* the Parties and the Secretariat to disseminate amongst relevant organizations, in particular fishery professional organizations, the FAO/ACCOBAMS good practice guides for the handling of vulnerable species caught incidentally in Mediterranean fisheries, developed in collaboration with SPA/RAC;
 8. *Encourages* the Parties that socio-economic studies be conducted on the extent of depredation caused by cetaceans, where appropriate at regional level, in order to elaborate possible mitigation measures;
 9. *Asks* the Secretariat to provide assistance to the Parties in addressing the issue of interactions between *cetaceans* and fisheries, including in the context of IUU fishing, ensuring that all activities are in line with the ACCOBAMS objectives, and considering the mutual benefits of mitigation measures;
 10. *Invites* the Secretariat to pursue its collaboration with the Secretariats of GFCM, Barcelona Convention / SPA-RAC and Bucharest Convention, and to strengthen its involvement in their relevant work and initiatives;
 11. *Further invites* the Secretariat to strengthen its collaboration with the Secretariats of the CMS and ASCOBANS, as well as with the International Whaling Commission (IWC) and other relevant organizations, with a view to investigating approaches for achieving a significant decrease in cetacean bycatch levels, using, as appropriate, the recommendations of the Scientific Committee;
 12. *Encourages* the Secretariat to provide technical assistance and support to Parties engaged in the assessment and reduction of depredation caused by cetaceans in fisheries;

The Black Sea

13. Asks that the relevant authorities implement, as a matter of urgency, continuous action to develop and apply measures to reduce bycatch levels, improve mandatory monitoring schemes, such as those run under the Data Collection Framework set out in the European Union Regulation 2017/1004 of 17 May 2017, and make available the official fishing effort data of turbot fishery, with a view to allow, *inter alia*, estimates of the fleet size and total length of nets involved, enabling the refinement of estimates of total bycatch in the Black Sea;
14. *Calls for* an enhanced cooperation of the relevant authorities with fishers and for an improved overall bycatch monitoring through the use of onboard observers, questionnaires to fishers, as well as available technical means, such as remote electronic monitoring (REM);
15. *Urges* the relevant authorities to enforce existing laws and regulations in the region to minimize IUU fishing;
16. Asks that the relevant authorities encourage the retrieval of bycaught animals from vessels, with a view to *obtaining* biological data, including tissue samples, for undertaking analyses to understand the status and demographic characteristics of the affected populations;
17. *Encourages* the further testing and development of bycatch mitigation measures, without delaying the implementation of immediate mitigation actions, including the use of pingers;
18. *Stresses* the need to carefully consider also any potential long-term negative effects of pingers, such as habituation and displacement of animals from their original habitats, as well as any ecological and economical costs and benefits of other mitigation measures, such as spatio-temporal closures of fishing where other mitigation measures are not possible, which should be identified in collaboration with fishers;
19. *Urges* the Parties in the Black Sea to facilitate the creation of an Emergency Task Force with the full participation of *the* European Commission, the ACCOBAMS Secretariat and the Scientific Committee, the GFCM and the Secretariat of the Black Sea Commission, to identify and implement the best fishery management measures;

The Mediterranean Sea

20. *Reiterates* its great concern for cetacean bycatch levels in some areas of the Mediterranean Sea;
21. *Requests* the Scientific Committee to review the results of the MedBycatch project, which has been implemented in five Mediterranean countries since 2017 and includes more than two years multi-taxa (including cetacean) bycatch data collection and science-based bycatch mitigation trials;
22. *Notes* that, to date, few models of pingers have been tested in some Countries and *stresses* that more research is needed on the effectiveness of such mitigation tool on both the short- and long-term basis;
23. *Recommends* the continuation of such studies in the Mediterranean Sea to monitor and assess bycatch and depredation and ensure that mitigation measures are effective;
24. *Decides* that the present Resolution replaces Resolution 7.11.

6.1.2 Anthropogenic Noise

- Resolution 2.16 Assessment and Impact Assessment of Man-Made Noise
- Resolution 3.10 Guidelines to Address the Impact of Anthropogenic Noise on Marine Mammals in the ACCOBAMS Area
- Resolution 5.15 Addressing the Impact of Anthropogenic Noise
- Resolution 6.17 Anthropogenic Noise
- Resolution 6.18 Implementation of an ACCOBAMS Certification for Highly Qualified Marine Mammals Observers
- Resolution 7.13 Anthropogenic Noise
- Resolution 8.17 Anthropogenic Noise

RESOLUTION 2.16 - Assessment and impact assessment of man-made noise

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

On recommendation of the ACCOBAMS Scientific Committee,

Aware of the fact that cetaceans are particularly vulnerable to disturbance,

Recognizing that anthropogenic ocean noise is a form of pollution, comprised of energy, that can have adverse effects on marine life ranging from disturbance to injury and mortality,

Aware that some types of anthropogenic noise can travel hundreds and even thousands of kilometers underwater and, more than other forms of pollution, are not restricted by national boundaries,

Concerned that, over the last century, noise levels in the world's oceans generally, and in the Agreement area in particular, have increased as a result of human activities such as, but not exclusively, commercial shipping, oceanographic and geophysical research, military testing and training, shoreline development, oil and gas exploration, and aquaculture,

Conscious that:

- The chronic effects of increased anthropogenic noise levels are generally unknown but may potentially include significant effects at the population level, that cannot be fully assessed or predicted at present,
- The awareness on the impact of man made noises is a raising concern at the level of the Intergovernmental community,

Aware of several incidents of mass strandings and deaths of cetaceans coincident with the use of high-intensity active sonar,

Recognising that some scientific experiments may entail some intentional harassment of cetaceans,

Recalling that:

- The definition of pollution adopted in main of the relevant intergovernmental Conventions covers inter alia direct and indirect introduction by man of energy in the maritime environment,
- Article II requires the Parties to apply conservation, research and management measures to the assessment and management of human-cetacean interactions, based on the precautionary principle,
- The Conservation Plan, which is fully part of the Agreement, requires the Parties to:
 - a) Carry out impact assessments in order to provide a basis for either allowing or prohibiting the continuation or the future development of activities that may affect cetaceans or their habitat in the Agreement area, as well as establishing the conditions under which such activities may be conducted, and
 - b) Regulate the discharge at sea of pollutants believed to have adverse effects on cetaceans, and adopt within the framework of other appropriate legal instruments stricter standards for such pollutants,
- Resolution 2.8 on the Guidelines for derogations from Article II.1 for the purpose of non-lethal *in situ* research is aimed at maintaining a favourable conservation status for cetaceans;

- Relevant Resolutions, Directives and other legal commitments the Parties could have accepted in others intergovernmental fora like UNCLOS, IMO, and IWC;
1. *Urges* Parties and non Parties to take a special care and, if appropriate, to avoid any use of man made noise in habitat of vulnerable species and in areas where marine mammals or endangered species may be concentrated, and undertake only with special caution and transparency any use of man made noise in or nearby areas believed to contain habitat of Cuvier's beaked whales (*Ziphius cavirostris*), within the ACCOBAMS area;
 2. *Urges* Parties to facilitate national and international researches on the following subjects:
 - A collaborative and co-ordinated temporal and geographic mapping of local ambient noise (both of anthropogenic and biological origin);
 - The compilation of a reference signature database, to be made publicly available, to assist in identifying the source of potentially damaging sounds;
 - An assessment of the potential acoustic risk for individual target species in consideration of their acoustic capabilities and characteristics;
 3. *Urges* Parties to provide the ACCOBAMS Scientific Committee with public, national or international, protocols/guidelines developed by military authorities with respect to use of sonar in the context of threats to cetaceans, and the information upon which they are based (including data and distribution models);
 4. *Urges* Parties to consult with any profession conducting activities known to produce underwater sound with the potential to cause adverse effects on cetaceans, such as the oil and gas industry, oceanographic and geophysical researchers, military authorities, shoreline developers, and the aquaculture industry, recommending that extreme caution be exercised in the ACCOBAMS area. The ideal being that the most harmful of these activities would not be conducted in the ACCOBAMS area until satisfactory guidelines are developed;
 5. *Encourages* the development of alternative technologies and require the use of best available control technologies and other mitigation measures in order to reduce the impacts of man-made noise sources in the Agreement area;
 6. *Charges* the Scientific Committee to review the technical bases of this Resolution and to develop by the next Meeting of Parties a common set of guidelines on conducting activities known to produce underwater sound with the potential to cause adverse effects on cetaceans;
 7. *Invites* Parties to report to the next Meeting of Parties about the progress made on this Resolution.

RESOLUTION 3.10 - Guidelines to address the impact of anthropogenic noise on marine mammals in the ACCOBAMS area

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recognizing that anthropogenic ocean noise is a form of pollution, caused by the introduction of energy into the marine environment, that can have adverse effects on marine life, ranging from disturbance to injury and death,

Aware that some types of anthropogenic noise can travel hundreds or even thousands of kilometres underwater and is not restricted by national boundaries,

Concerned that, over the last century, noise levels in the world's oceans generally, and in the Agreement area in particular, have increased as a result of human activities such as, but not exclusively, commercial shipping, oceanographic and geophysical research, military testing and training, fishing activities, shoreline development, oil and gas exploration and aquaculture,

Recalling that according to Art. 236 of the United Nations Convention on the Law of the Sea, the Convention's provisions regarding the protection and preservation of the marine environment do not apply to warship, naval auxiliary, other vessels or aircraft owned or operated by a State and used, for the time being, only on government non-commercial service. However, each State shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such vessels or aircraft owned or operated by it, that such vessels or aircraft act in a manner consistent, so far as is reasonable and practicable, with the said Convention,

Conscious that the Scientific Committee recommends that Parties and non-Parties carefully consider and act upon the recommendations and guidelines developed and endorsed by the Scientific Committee in order to address the issue of the impact of anthropogenic noise on marine mammals in the ACCOBAMS area,

Aware of the work on noise undertaken by *inter alia* the International Whaling Commission Scientific Committee, the European Union, the OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic, the NATO Undersea Research Center (NURC), the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas, the United States Marine Mammal Commission, the United States National Marine Fisheries Service and other governmental and nongovernmental organizations,

Recalling that

- Article II requires the Parties to apply conservation, research and management measures to the assessment and management of human–cetacean interactions, on the basis of the precautionary principle,
- the Conservation Plan, which is a full part of the Agreement, requires the Parties to:
 - (a) carry out impact assessments to provide a basis for allowing or prohibiting the continuation or the development of activities that might affect cetaceans or their habitats in the Agreement area and to establish the conditions under which such activities may be conducted, and
 - (b) regulate the discharge at sea of pollutants believed to have adverse effects on cetaceans, and to adopt within the framework of other appropriate legal instruments stricter standards for such pollutants,

Recalling also Resolution 2.16 on Assessment and impact assessment of man-made noise; Resolution 2.8 on Framework guidelines on the granting of exceptions for the purpose of non-lethal in situ research; Resolution 2.14 on Protected Areas and Cetacean Conservation; CMS (Bonn Convention) Resolution 8.22 of 2005 Adverse Human Induced Impacts on Cetaceans,

Taking note of the work done by the ACCOBAMS Scientific Committee;

Aware that further work is needed to finalise this particular issue:

1. *Urges* Parties to act in accordance with the following principles as soon as possible:
 - a) Noise should be considered a potentially significant threat to marine mammals and other marine wildlife; this threat can range from continuous noise (e.g. disturbance, masking, site avoidance) with long-term effects to acute exposure with potential short-term harmful and even lethal effects;
 - b) Particular attention should be given to the management of habitats that host sensitive species, such as beaked whales;
 - c) Priority should be assigned to high-quality research to map the range of doses of noise to which animals are exposed and to define the exposure doses that might affect the welfare and survival of marine mammals. Specific research is also required to characterize human activities that produce or might produce underwater noise;
 - d) Consideration of the effects of underwater noise should be included in Environmental Impact Assessments and in the consequent design of mitigation procedures for any activity that might introduce noise underwater;
 - e) Underwater noise levels should be considered a quality parameter in assessments of habitats, zoning and managing in specially protected areas of Mediterranean interest (SPAMI) under the Protocol concerning Specially Protected Areas and Biological Diversity of the Mediterranean to the Barcelona Convention on the Protection of the Marine Environment and the Coastal Region of the Mediterranean (hereinafter SPA & Biodiv. Protocol) and other marine protected areas and in other issues related to marine life. This parameter should be considered a priority for the protection of critical habitats and where noise might affect essential behaviour (e.g. feeding, reproduction, nursing);
 - f) Underwater noise should be reduced; specific guidelines will be required to set limits to the noise irradiated underwater by ships and motorboats, whatever their function, and by any other noise-producing activity. Especially high priority should be accorded to high-power sources and both offshore and coastal construction works.
2. *Encourages* Parties to sponsor research in the ACCOBAMS area to detect and localize beaked whales by passive methods.
3. *Being aware* that controlled exposure experiments on beaked whales can carry significant levels of risk, Parties contemplating such activities in the ACCOBAMS area should inform the ACCOBAMS Scientific Committee in advance of any commitment of resources and should permit them only when stringent criteria are met, including: (1) the exhaustion of all possible alternatives, such as the opportunistic study of beaked whales in established acoustic ranges; (2) the availability of monitoring methods with a high probability of detecting both target and non-target animals in real time, across the area of potential exposure; and (3) an experimental design that is sufficient to satisfy clear, specific management objectives and is part of a long-term study of population status and health;

4. *Further encourages* Parties to develop quieter and environmentally safer acoustic techniques and to use the best available control techniques and other mitigation measures to reduce the effect of man-made noise sources in the Agreement area;
5. *Urges* Parties and the management authorities of marine protected areas in the ACCOBAMS area to include consideration of high-power noise sources in their management plans;
6. *Further urges Parties* and the management authorities of marine protected areas in the ACCOBAMS area to work with the International Maritime Organization (IMO) in order to minimize exposure of cetaceans in these areas;
7. *Encourages* Parties that are also Parties to the SPA & Biodiv. Protocol to adopt the ocean noise management measures recommended in this Resolution when implementing their obligations under the Protocol to conserve biological diversity (Article 3), to adopt protection and management measures in specially protected areas and specially protected areas of Mediterranean interest (Articles 6 and 7), to protect and conserve threatened and endangered species (Articles 11 and 12), to adopt guidelines for the establishment and management of specially protected areas (Article 16), and to conduct environmental assessments in the planning of projects and activities that could significantly affect protected areas and species and their habitats (Article 17);
8. *Invites* the Secretariat and Scientific Committee to encourage, in coordination with RAC/SPA, the Meeting of the Parties to the SPA & Biodiv. Protocol to take actions consistent with this Resolution when considering the efficacy of measures adopted for the management and protection of areas and species and when examining the need for additional measures, as requested under Article 26 of the SPA & Biodiv. Protocol.
9. *Further invites* the Secretariat to coordinate efforts on this issue with other international bodies, in particular, the Secretariat of the Barcelona Convention on the Protection of the Marine Environment and the Coastal Region of the Mediterranean, the Commission on the Protection of the Black Sea Against Pollution and the Secretariat of the OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic;
10. *Urges* Parties and intergovernmental organizations to inform the Secretariat on current and reasonably foreseeable noise-producing activities occurring under their jurisdiction within the ACCOBAMS area, so far as is reasonable and practicable;
11. *Calls upon* Parties to request information on the possible impact of anthropogenic noise on marine mammals in existing procedures relating to EIA and where necessary, to develop specific measures, by the competent national authorities, for activities which produce anthropogenic noise having an impact on marine mammals.
12. *Invites* Parties to implement mitigation and monitoring measures for noise producing activities within the ACCOBAMS Area, including, avoiding key marine mammals habitats, areas of high marine mammals density and marine protected areas, and defining appropriate buffer zones around them; establish safe, precautionary and scientifically-based exclusion zones around the noise source; effectively monitoring for marine mammals in the vicinity of the source; and managing activities in the light of cumulative, seasonal, and historical impacts from multiple sources;
13. *Decides* to establish a Correspondence Working Group by the Secretariat, that will associate Parties, ACCOBAMS Partners and experts, to address anthropogenic noise deriving from activities such as seismic surveys and airgun uses, coastal and offshore construction works, the construction, the operation and the decommissioning of offshore platforms, playback and controlled exposure experiments, whale watching, blasting of residual war weapons, underwater acoustic devices, military sonar, civil high power sonar operations and shipping activities, in

order to develop appropriate tools to assess the impact of anthropogenic noise on cetaceans and to further elaborate measures to mitigate such impacts.

14. *Mandates* the Executive Secretary to convene the Working Group, which shall report to the next Meeting of the Parties.
15. *Invites* Parties to report to the next Meeting of Parties about progress made on implementing this Resolution.

RESOLUTION 5.15 - Addressing the impact of Anthropogenic Noise

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling that Article II of the Agreement requires the Parties to apply conservation, research and management measures to the assessment and management of human–cetacean interactions, on the basis of the precautionary principle,

Reaffirming that anthropogenic marine noise is a form of pollution, caused by the introduction of energy into the marine environment, that can have adverse effects on marine life, ranging from disturbance to injury and death,

Recalling Resolution 4.17 to which the Guidelines to Address the Impact of Anthropogenic Noise on Cetaceans in the ACCOBAMS Area are annexed,

Considering that Resolution 4.17, *inter alia*, directed the Working Group established in Resolution 3.10, in cooperation with the Secretariat, the Scientific Committee and Parties, to further develop the above mentioned Guidelines, with the aim of testing the application of the Guidelines in particular areas to make them implementable by the Parties and operators, and to report about progress made in implementing this Resolution to the next Meeting of Parties,

Considering UNEP/CMS Resolution 10.24 “Further steps to abate underwater noise pollution for the protection of cetaceans and other migratory species” adopted by the Conference of the Parties at its Tenth Meeting (Bergen, 20-25 November 2011),

Noting the 2013 Scientific Committee Report of the International Whaling Commission, and the emphasis it has placed on reducing the impacts of anthropogenic underwater noise, including by Marine Spatial Planning and the use of time-area closures and quieting technologies,

Mindful that the International Maritime Organization’s draft voluntary guidelines for reducing noise from commercial vessels have been forwarded to the Marine Environment Protection Committee for adoption at its March 2014 meeting in London,

Aware of the additional ongoing work on noise undertaken within, *inter alia*, the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS), the Convention of Biological Diversity (CBD) decision XI/18 on the impacts of anthropogenic underwater noise on marine and coastal biodiversity, the important scientific synthesis on the impacts of underwater noise on marine and coastal biodiversity and habitats (UNEP/CBD/SBSTTA/16/INF/12) that was prepared for the sixteenth meeting of the CBD Subsidiary Body on Scientific, Technical and Technological Advice (UNEP/CBD/SBSTTA/16/6), the International Maritime Organization (IMO), the International Whaling Commission, the OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic, the European Union, the Barcelona Convention Offshore Protocol (Pollution from Exploration and Exploitation), Pelagos, the NATO Centre for Maritime Research and Experimentation (CMRE), the United States Marine Mammal Commission, the United States National Marine Fisheries Service, the United States National Oceanic and Atmospheric Administration (NOAA), the International Council for the Exploration of the Sea (ICES) and other governmental and nongovernmental Organizations,

Also aware of the European Parliament's proposal to amend "Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment" that now includes research and exploration of mineral resources,

Appreciative of the organisations and bodies who have supported ACCOBAMS to address this issue including the Cluster Maritime Français, the European Cetacean Society, the joint ACCOBAMS/ASCOBANS Noise Working Group for the work done during the triennium 2011-2013 and for the preparation of documents presented to the Meeting of the Parties, and the scientists and experts who volunteer their expertise to the Noise Working Group,

Taking into consideration the Recommendations of the Scientific Committee and its decisions to appoint a consultant to provide a bibliographic synthesis and to consult with noise producers,

Aware that such documentation helps to clarify the guidelines and can provide a basis from which to develop a methodological guide that can facilitate their implementation,

1. *Invites* the ACCOBAMS Parties to take into consideration in their future work to implement the Guidelines to Address the Impact of Anthropogenic Noise on Cetaceans in the ACCOBAMS Area the documents:
 - ACCOBAMS-MOP5/2013/Doc.22 (Anthropogenic noise and marine mammals: review of the effort in addressing the impact of anthropogenic underwater noise in the ACCOBAMS and ASCOBANS areas), which includes Noise Working Group comments;
 - ACCOBAMS-MOP5/2013/Doc.23 (Implementation of underwater noise mitigation measures by industries: Operational and economical constraints), which includes Noise Working Group comments;
 - ACCOBAMS-MOP5/2013/Doc.24 (Methodological Guide: "Guidance on underwater noise mitigation measures"), which does not yet include Noise Working Group comments and will be further elaborated;
2. *Urges* relevant national and international bodies to develop norms and standards that define methodologies and protocols to measure noise and evaluate the impact of noise on marine life;
3. *Urges* relevant national and international bodies to require the application of best practice to eliminate or reduce anthropogenic noise;
4. *Calls* on ACCOBAMS to play a full part in the activities outlined in articles 2 and 3 above;
5. *Calls on* the Parties to consider in their national legislation the requirements of mitigation protocols articulated in ACCOBAMS Res.4.17 and in CMS Resolution 10.24, in particular by:
 - seeking to ensure that Environment Impact Assessments (EIAs) take full account of the effects of activities on cetaceans;
 - implementing the recommended use of Best Available Techniques (BAT) and Best Environmental Practice (BEP) in their efforts to reduce or mitigate marine noise pollution;
 - integrating the issue of anthropogenic noise into the management plans of marine protected areas;
6. *Underlines* that the information to be provided within EIAs should include specific details that mirror those articulated in the 'Guidelines to address the impact of anthropogenic noise on cetaceans in the ACCOBAMS area';
7. *Mandates* the Secretariat, in collaboration with the Scientific Committee, to continue coordinating with other international bodies in order to help Parties in implementing mitigation measures;

8. *Welcomes* the proposal to extend the Noise Working Group to the CMS, and agrees with the Term of Reference presented in Document ACCOBAMS-MOP5/2013/Doc29;
9. *Adds* to the Terms of Reference for the Noise Working Group, as presented in Document ACCOBAMS-MOP5/2013/29, the following activities:
 - continue the study on the extent and temporal variability of the habitat of species that are known to be particularly vulnerable to man-made noise (e.g., *Ziphius cavirostris*), in order to ensure that more data are made available, to increase the model's robustness and to compare different algorithms for best results;
 - further develop the documents referenced in paragraph 1 above according to available knowledge and to report about progress made to the next Meeting of Parties;
10. *Requests* the co-chairs to coordinate their work in order to optimize the outputs of the Working Group;
11. *Decides* that the present Resolution supplements the Resolution 4.17.

RESOLUTION 6.17 - Anthropogenic Noise

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Resolutions 4.17 on “Guidelines to address the impact of anthropogenic noise on cetaceans in the ACCOBAMS Area” and 5.15 on “Addressing the impact of anthropogenic noise”,

Taking into consideration Recommendation 10.5 of the ACCOBAMS Scientific Committee,

Conscious of the related work underway under the Convention on the Conservation of Migratory Species of Wild Animals (CMS), and *recalling* related decisions, in particular CMS Resolution 9.19 on Adverse Anthropogenic Marine/Ocean Noise Impacts on Cetaceans and other Biota, and Resolution 10.24 on Further Steps to Abate Underwater Noise Pollution for the Protection of Cetaceans and Other Migratory Species;

Recognizing that a large portion of the Mediterranean area is impacted by noise-producing human activities and that it is likely that such activities will increase,

Convinced that environmental impact assessment procedures should be carried out prior to projects that may affect cetaceans and especially those involving impulsive noise,

Aware of the need for the development of a comprehensive registry on anthropogenic noise in the Agreement Area to assist in identifying noise “hot spots” to elaborate mitigation measures,

Welcoming Directive 2014/52/EU of the European Parliament and of the Council (applicable as of 16 May 2017), amending Directive 2011/92/EU on the on the Assessment of the Effects of Certain Public and Private Projects on the Environment,

Also welcoming the progress on the “CMS Family Guidelines on Environmental Impact Assessments for Marine Noise-generating Activities” presented in ACCOBAMS/MOP6/Inf22 and the related ASCOBANS Resolution 8.11,

Further welcoming the study on “A basin-wide strategy for underwater noise monitoring in the Mediterranean” (ACCOBAMS-MOP6/2016/Doc27), prepared by experts from the Joint ACCOBAMS/ASCOBANS/CMS Working Group on Noise (JNWG), and the report “Overview of the noise hot spots in the ACCOBAMS area – Part I, Mediterranean Sea” (ACCOBAMS-MOP6/2016/Doc28),

Also welcoming Decision IG.22/7 on Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria, adopted during the 19th Conference of the Parties to the Barcelona Convention,

Concerned that, while recognizing the sensitivity surrounding military exercises, the safety of cetaceans is often not adequately addressed during such exercises,

Noting with appreciation that the United States Navy has recognised the importance of not using active sonar in areas and at times when marine mammals are vulnerable, but concerned that military exercises using active sonar are still conducted in the ACCOBAMS Area such as the Dynamic Manta NATO exercise in September 2015,

1. *Welcomes* the process established by CMS allowing Parties to CMS, ACCOBAMS and ASCOBANS and Signatories to relevant Memoranda of Understanding, to contribute further to the development of the “CMS Family Guidelines on Environmental Impact Assessments for Marine Noise-generating Activities”, and *invites* ACCOBAMS Parties and the Scientific Committee to participate actively;
2. *Recognizes* the broad scope of the guidelines and therefore invites CMS to consider the adoption of revised “CMS Family Guidelines on Environmental Impact Assessments for Marine Noise-generating Activities” at the 12th Meeting of the Conference of the Parties;
3. *Calls* on the Parties to undertake Strategic Impact Assessments (SIA), Environmental Impact Assessments (EIA) and other relevant assessments such as Appropriate Assessments (AA) under the EU Habitat Directive prior to plans, programmes and projects that may affect cetaceans and especially those involving impulsive noise, noting that, as a minimum standard, such assessments should:
 - provide adequate information on baseline biological and environmental information to describe the area being impacted;
 - fully characterise operations and their acoustic components – this should include professional modelling of the sound propagation features and the spatial region that will experience anthropogenic noise above natural ambient sound levels;
 - assess the impact on cetaceans within this area and consider the potential cumulative effects from other anthropogenic activities;
 - describe how the impacts are proposed to be mitigated and effectiveness monitored before, during and after the operation; and
 - provide an objective consideration of the risk posed by the proposed activity against alternatives;
4. *Requests* the Permanent Secretariat to develop an ACCOBAMS-hosted online depository of ACCOBAMS noise-related documents and decisions made by the Parties with respect to EIAs with a cetacean component, as well as documents evaluating the success, if any, of mitigation measures, and *calls on* Parties to provide relevant information, both in line with the recommendations contained in the CMS Family Guidelines on Environmental Impact Assessments for Marine Noise-generating Activities;
5. *Encourages* Parties, following consultation with national experts for the development of noise indicators, to provide comments to the Permanent Secretariat on the study on “A basin-wide strategy for underwater noise monitoring in the Mediterranean” (ACCOBAMS-MOP6/2016/Doc27), and on the report “Overview of the noise hot spots in the ACCOBAMS area – Part I, Mediterranean Sea” (ACCOBAMS-MOP6/2016/Doc28);
6. *Urges* Parties to implement Decision IG.22/7 on Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria adopted during the 19th Conference of the Parties to the Barcelona Convention, in order to assist in identifying noise “hotspots” and elaborate mitigation measures;
7. *Requests* the Permanent Secretariat in consultation with the Scientific Committee to enter into dialogue with NATO and national navies of non-NATO countries as appropriate, inviting them to provide information on past military exercises in the ACCOBAMS Area, for example the Dynamic Manta exercise in September 2015, in particular on:
 - a) active sonar use or other noise sources, including explosions (time, area, source levels);
 - b) sightings of cetaceans, if any, during the exercise;
 - c) approaches adopted, if any, to evaluate potential adverse effects on cetaceans (e.g. through sound modelling and examination of data on likely cetacean occurrence);

- d) mitigation measures taken, if any, and the basis for these;
8. *Further requests* the Permanent Secretariat to organize a workshop inviting NATO and national navies to show how the ACCOBAMS Scientific Committee can provide advice and assistance with respect to mitigating adverse effects on cetaceans for any future exercises;
 9. *Recommends* that the Scientific Committee and the JNWG further develop in the next triennium the concept of “quiet zones” as outlined in Recommendation 10.5 of the Scientific Committee with a focus on a quantitative elaboration and evaluation of the scientific evidence for establishing such areas both in space and time;
 10. *Encourages* the Parties to recommend to their research institutes and organizations that wish to undertake monitoring programmes on noise requiring official permits to submit such programmes to the Permanent Secretariat for advice and assistance;
 11. *Requests* the Scientific Committee to contribute to the further development of two candidate noise indicators with respect to the Ecosystems Approach (EcAp) Process of the Mediterranean Action Plan, in line with the Descriptor 11 of the Marine Strategy Framework Directive of the European Union (MSFD);
 12. *Further requests* the Scientific Committee to contribute to the development of a noise impact indicator on cetaceans for Descriptor 11 of the MSFD;
 13. *Requests* the Scientific Committee to develop a proposal for a regional project to implement a monitoring programme of underwater noise, particularly in critical habitats and in interactions hot spots, in line with Decision IG.22/7 on Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria adopted during the 19th Conference of the Parties to the Barcelona Convention;
 14. *Invites* the Permanent Secretariat to develop cooperation on noise issue with other international Organizations such as the CMS Family, the EC, OSPAR, ICES, the Barcelona Convention, the Black Sea Commission, CBD, IWC, NATO, IMO, IUCN and with other relevant international organizations;
 15. *Encourages* the CMS/ACCOBAMS/ASCOBANS Joint Noise Working Group and the Marine Mammals Observers Working Group to work in close collaboration.

RESOLUTION 6.18 - Implementation of an ACCOBAMS Certification for Highly Qualified Marine Mammals Observers

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recognizing that marine noise generated by humans is a form of pollution caused by the introduction of energy into the marine environment which may have an adverse impact on marine life, from disruption to injury and death,

Conscious of and concerned by the negative impact of anthropogenic underwater noise on cetaceans, particularly noise due to seismic activities, pile driving, dredging, explosions, drilling, etc.,

Conscious that several anthropogenic activities, in particular seismic activities, are increasingly common in the ACCOBAMS region,

Recognizing that According to the Guidelines of the Joint Nature Conservation Committee (JNCC) for minimizing the risk of injury and disturbance to marine mammals from seismic survey, a Marine Mammal Observer (MMO) is “an individual responsible for conducting visual watches for marine mammals, and that for some seismic surveys it may be requested that observers are trained, dedicated and / or experienced. The MMO may also be a Passive Acoustic Monitoring (PAM) operative if sufficiently trained”,

Taking into account Resolution 4.17 “Guidelines to address the impact of anthropogenic noise on cetaceans in the ACCOBAMS Area”, and more particularly the following specific points:

Guidelines for seismic surveys and airgun use

g) Continuous visual and passive acoustic monitoring with a specialized team of cetacean observers and bio-acousticians to ensure that cetaceans are not in the Exclusion Zone before turning on the acoustic sources and while sources are active,

General guidelines

l) Mitigation should include monitoring and reporting protocols to provide information on the implementation procedures and their effectiveness, and to provide datasets to be used for improving existing cetacean databases,

q) Trained and approved Cetacean Observers (visual observers and/or acoustic monitors where appropriate) should be employed for the monitoring and reporting programme, including overseeing the implementation of the mitigation rules,

r) Cetacean observers and bio-acousticians in charge of the monitoring programme must be qualified and experienced, with suitable equipment,

t) Marine mammal observers should report to the National Focal Point, who will inform the ACCOBAMS Secretariat using a standardized reporting protocol. Any unexpected condition and/or change in applied protocols should be discussed with the Secretariat in collaboration with the Scientific Committee,

Considering that Bureau Members, during the Ninth Meeting of the ACCOBAMS Bureau (Paris, 9-10 December 2014) confirmed to the Permanent Secretariat the need of working on the “Marine Mammals Observers” (MMOs) issue,

Recognizing the existence of different MMOs training centres, with different theoretical and practical courses levels, in the ACCOBAMS Area, and *aware* that there is a need to establish a standard of legitimacy and credibility for such training centers,

Aware that the implementation of an ACCOBAMS certification on this issue will:

- ensure the recognition of the ACCOBAMS Highly Qualified MMOs/PAM operators at the international level,
- improve the effectiveness of conservation measures to limit the impact of noise on cetaceans,

Welcoming the Report of the ACCOBAMS Workshop “Developing Tools to Ensure High Quality MMOs in the ACCOBAMS Area”, held during the 30th ECS Conference (13th March 2016, Funchal, Madeira, Portugal), and co-funded by the Regional Activity Centre for Specially Protected Areas (RAC/SPA -MAP-UNEP),

1. *Recognizes* that a certification for entities to train MMOs and PAM operators in the ACCOBAMS area will guarantee throughout the Agreement area:

- a high-quality training of MMOs/PAM;
- the standardization of training contents, regardless of the country;
- the standardization and quality of the data collected, which may also be made available to scientists;

2. *Adopts*:

- the Tools ensuring Highly Qualified MMOs/PAM operators in the ACCOBAMS area, as presented in Annex 1 of the present Resolution;
- the Rules and criteria for entities requesting the certification to become Trainers (including commitments) as presented in Annex 2 of the present Resolution;
- the Rules and criteria for candidates to integrate a training to become a Highly Qualified MMOs/PAM operators (including commitments, certificate and template for the mission report) as presented in Annex 3 of the present Resolution;
- the ACCOBAMS accredited training for MMO/PAM operators - Content and duration as presented in Annex 4 of the present Resolution;

3. *Requests* the Permanent Secretariat to inform all relevant international organizations, as well as entities generating noise in the ACCOBAMS area about the tools ensuring Highly Qualified MMOs/PAM operators in the ACCOBAMS Area;

4. *Encourages* Parties to:

- implement the tools ensuring Highly Qualified MMOs/PAM operators in the ACCOBAMS Area;
- give, in priority, permits for activities in their national area, to industrial companies employing Highly Qualified MMOs/PAM operators or at least other internationally agreed certifications;
- whenever possible provide the Permanent Secretariat with a copy of the MMO/PAM report and data

5. *Encourages* industrial companies and public entities engaged in noise-producing activities that may have negative impacts on cetaceans to use the “Tools ensuring Highly Qualified MMOs/PAM operators in the ACCOBAMS Area” in order to prove their commitment at reducing these impacts; further encourages international associations of oil and gas producers to promote such steps;

6. *Requests* the Scientific Committee, as well as the Working Group on MMOs, whose composition and Terms of Reference are presented in Annex 5 of the present Resolution, to:

- pursue collaboration with other relevant entities for the improvement of the implementation of the Tools ensuring Highly Qualified MMOs/PAM operators in the ACCOBAMS Area;
- revise accordingly, if necessary, the tools ensuring Highly Qualified MMOs/PAM operators in the ACCOBAMS area and report on this issue to the Seventh Meeting of the Parties.

ANNEXES**ANNEX 1: Tools ensuring highly qualified MMOs/PAM operators in the ACCOBAMS Area****ANNEX 2: Information on how to become an “ACCOBAMS Highly Qualified MMOs/PAM operators” trainer**

- a: Rules and criteria for entities requesting the accreditation to become an “ACCOBAMS Highly Qualified MMOs/PAM operators” Trainer
- b: Accreditation agreement between an “ACCOBAMS Highly Qualified MMOs/PAM operators” Trainer and the ACCOBAMS Permanent secretariat
- c: Activity report for renewal of the accreditation agreement between the “ACCOBAMS Highly Qualified MMOs/PAM operators” Trainer and the ACCOBAMS Permanent Secretariat

ANNEX 3: Information on how to become an ACCOBAMS highly qualified MMOs/PAM operators

- a: Rules and criteria for candidates to integrate a training to become an ACCOBAMS Highly Qualified MMO/PAM operator
- b: Commitment between an ACCOBAMS highly qualified MMO/PAM operator and the ACCOBAMS Permanent Secretariat
- c: Training certificate of an ACCOBAMS “Highly Qualified MMOs/PAM operators”
- d: Model of report for ACCOBAMS “Highly Qualified MMOs/PAM operators” after a mission at sea

ANNEX 4: ACCOBAMS Accredited training for MMO/PAM operators - content and duration**ANNEX 5: Composition and Terms of Reference of the Working Group on MMO/PAM**

ANNEX I – TOOLS ENSURING HIGHLY QUALIFIED MMO181/PAM182 OPERATORS IN THE ACCOBAMS AREA

Role and links of the different actors of the tool

The Permanent Secretariat will:

- Give the accreditation/renewal to organizations asking to become “trainer”, based on requirements set up by the Working group;
- Establish the commitment with the accredited MMO/PAM (receive the signed commitment of MMO from the trainer organizations or the ACCOBAMS school in the same time as the list of accredited MMO);
- Assist the MMO working group;
- Feed NETCCOBAMS with relevant information and moderate the dedicated works space;
- provide the Focal Point with an updated list of accredited MMO/PAMs operators in the country
- Set up and manage a repository for MMO/PAM mission reports;
- Receive sighting forms with data from the most appropriate national entity (when possible if there is a period of confidentiality).

The MMO Working group will:

- set the requirements that have to be fulfilled by organizations asking for trainer’s accreditation/renewal;
- set the requirements that has to be fulfilled by people to integrate a training to become a MMO/PAM;
- set the standards, content, duration, etc.... of the training module;
- set the updates, news, actualization that has to be integrated in the training;
- identify experts for the ACCOBAMS School;
- feed the NetCCOBAMS webpage on the MMO/PAM subject.

The ACCOBAMS School will:

- be composed by experts (e.g. from the research, academic sectors, and relevant stakeholders) operating in the ACCOBAMS Area in cetacean ecology, underwater acoustics and bioacoustics, impacts on marine mammals, mitigation measure in the ACCOBAMS regions, identified by the MMO working group;
- select the future MMO/PAM candidates in accordance to the terms of references;
- train and certificate MMO/PAM;
- provide the support for the standard training to all accredited “trainer” organizations under the directives and/or validation of the MMO working group;
- provide the support for the updates to be integrated in the training, following MMO working group directives;
- update regularly the list of certificated MMO/PAM and inform the Permanent Secretariat;
- Submit to MMO/PAM-trainees the commitment agreement between them and ACCOBAMS for signature;
- Send the commitment agreement to the Permanent Secretariat.

The “TRAINER” organizations will:

- ask for accreditation/renewal to the Permanent Secretariat;
- use standard support of training provided by the ACCOBAMS School;
- train and certificate MMO/PAM that fulfil the requirements to be candidate;
- update regularly the list of certificated MMO and inform the Permanent Secretariat;

¹⁸¹ MMO : Marine Mammals Observers

¹⁸² PAM operators: Passive Acoustic Monitoring operators

- Submit to MMO/PAM-trainees the commitment agreement between them and ACCOBAMS for signature;
- deliver the template report and a standard sighting form to be used in the field;
- participate in a working group or a group on NetCCOBAMS (<http://www.netccobams.com>) relating to MMOs or PAM operators.

The MMO/PAM operators will:

- have to fulfil requirements established by the MMO Working Group, to apply for the training;
- attend a standard training from an accredited organism or from the ACCOBAMS school;
- receive a certificate stating that they can act now as MMO/PAM;
- sign a commitment (through the trainer organism or through the ACCOBAMS school) with the Permanent Secretariat to engage themselves in using standards;
- elaborate a report after each mission at sea that will be forwarded to the relevant national authority;

ANNEX 2: INFORMATION ON HOW TO BECOME AN "ACCOBAMS HIGHLY QUALIFIED MMOs/PAM OPERATOR" TRAINER

a: Rules and criteria for entities requesting the accreditation to become an "ACCOBAMS Highly Qualified MMOs/PAM operators" Trainer

Entities or applicant organization requesting the accreditation to become "trainer" must be an ACCOBAMS' Partner and be involved in cetacean research or conservation and provide proof of experience in training operational staff and being a MMO and/or a PAM operator onboard a seismic vessel.

The applicant organization must submit a written application to the ACCOBAMS Permanent Secretariat explaining its reasons for applying and describing its experience of training operational staff.

b : Accreditation agreement between an "ACCOBAMS Highly Qualified MMOs/PAM Operators" Trainer and the ACCOBAMS Permanent Secretariat

<p><i>Between</i> ACCOBAMS</p> <p><i>on the one hand,</i> <i>and</i></p>	<p>The Recipient Name of organization: Legal status: Registration number:..... Address: Tel.: Website: Represented by: First name: Surname: Job title: duly authorized</p> <p style="text-align: right;"><i>on the other hand,</i></p>
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The following is hereby agreed:

The accredited organization commits itself:

- To comply with the specifications (see Article 1.2 below);
- To increase the standing of the accreditation and to issue communications about it;
- To participate in a working group or a group on NetCCOBAMS (<http://www.netccobams.com>) relating to MMOs or PAM operators;
- To implement the training according to the directives of the ACCOBAMS School and to use the tools of the ACCOBAMS School;
- To issue a training certificate accredited by ACCOBAMS to the successful MMO/PAM and send the list of certified MMO/PAM to the Permanent Secretariat of ACCOBAMS;

- To submit to certified MMOs and PAM operators a commitment agreement to be signed.;
- Send the commitment agreements to the ACCOBAMS Permanent Secretariat.

The coordinating organization (ACCOBAMS) commits itself:

- To increase the standing of organizations committed to the common quality system within the ACCOBAMS region;
- To keep accredited organizations informed of any changes to the specifications (protocols, standard forms, manual, etc.).

Article 1.1. Subject

Agreement on the accreditation designed to standardize and certify training for MMOs and PAM operators in the ACCOBAMS region and use the training kit tool given by the ACCOBAMS School.

Article 1.2. Conditions of access to accreditation

The applicant organization must be an ACCOBAMS' Partner and be involved in cetacean research or conservation and provide proof of experience in training operational staff and being a MMO and/or a PAM operator onboard a seismic vessel.

The applicant organization must submit a written application to the ACCOBAMS Permanent Secretariat explaining its reasons for applying and describing its experience of training operational staff.

Article 1.3. Identification



Article 1.4. Length of agreement and renewal of accreditation

The accreditation is valid for two years. Following the submission of a report summarizing activity at the end of the accreditation period to the coordinator (ACCOBAMS Permanent Secretariat), the coordinator shall assess compliance with the specifications. In the event that the specifications have been complied with, the coordinator shall renew the accreditation; if the specifications have not been complied with, the accreditation shall not be renewed.

Article 1.5. Procedures for assessing compliance with the accreditation specifications

The activity report shall describe the training carried out, provide evidence that the specifications have been properly complied with, list the names of the MMOs and/or PAM operators trained and include copies of the commitments signed by MMOs/PAM operators regarding the submission of field reports.

Template of the activity report in the ANNEX: Activity report for renewal of the accreditation agreement between the “ACCOBAMS Highly Qualified MMOs/PAM operators” Trainer and the ACCOBAMS Permanent secretariat

Prepared in two copies the (date):

Location (city, country):

Recipient: Signature and stamp, preceded by the words: <i>"I agree to fully comply with the provisions of the accreditation and these specifications"</i>	For ACCOBAMS: Signature and stamp, preceded by the note: <i>"MMO/PAM accreditation agreed"</i>

Initial each page of the specifications and annexes.

c: Activity report for renewal of the accreditation agreement between the "ACCOBAMS Highly Qualified MMOs/PAM Operators" Trainer and the ACCOBAMS Permanent secretariat

- Name of the organization:
 - Name of the responsible of the training:
 - First date of accreditation:
 - Date of the report:
- 1) Description of the training(s) carried out
 - i. Report the training location (for both theoretical and practical session);
 - ii. Report the training duration (for both theoretical and practical session);
 - iii. Report the trainers name and qualification;
 - iv. Specify a detail list of the training subjects/course work (for both theoretical and practical session);
 - v. Report the list of education material provided;
 - vi. Specify the overall number of attenders (within the 2 years).
 - 2) Report the overall list of the MMOs and/or PAM operators certified;
 - 3) Provide evidence of the specifications fulfilment including:
 - i. the use of NETCCOBAMS webpage;
 - ii. the active collaboration with the ACCOBAMS School as support of the training (adoption of any updates provided by the School);
 - iii. the utilization of the standardized material provided by the ACCOBAMS School (e.g. delivery to the certified MMO of the standard sighting forms, the manual and tool kit...);
 - iv. Accreditation request of renewal or Non-renewal for the accreditation (or not). In case of non-renewal specify the reason.

ANNEX 3: INFORMATION ON HOW TO BECOME AN ACCOBAMS HIGHLY QUALIFIED MMOS/PAM OPERATOR

a: Rules and criteria for candidates to integrate a training to become an ACCOBAMS Highly Qualified MMO/PAM operator

To integrate a training to become an ACCOBAMS highly qualified MMO/PAM operator, the candidate should, at least, be graduated in biology or ecology, **or** demonstrate a commitment to environment and its conservation. Personal path should demonstrate a minimum of 30 days-at-sea as observer (real spent in favourable condition at sea at work), and the candidate should be able to recognize the different species and understand the behaviour of animals at sea. Period could be continuous or cumulative.

The candidate should provide all necessary information to the trainer organism (dates, places, species encountered, type of work done at sea).

b: Commitment between an ACCOBAMS highly qualified MMO/PAM operator and the ACCOBAMS Permanent Secretariat

I, the undersigned, (full name).....
 in my role as an MMO/PAM* operator, having completed an ACCOBAMS accredited training course
 delivered by (organization)
 in (location)
 (dates) between and

Agree that:

- no later than one month after each mission relating to activities generating noise in the ACCOBAMS region on which I have embarked as an MMO/PAM operator, I will **submit a mission report** as stipulated in the standard documents.
- during these missions, I will **implement** the procedures explained in the manual and which I learned during the training course, and I will **use the standard forms** provided by ACCOBAMS.
- I will stay in **relation** through NETCCOBAMS on the MMO issue.

In case of noncompliance, I know that my accreditation will be withdraw.

**Delete where appropriate*

Location (city, country):

Date:

Signature:

c: Training certificate of an ACCOBAMS “Highly Qualified MMOs/PAM operators”

We certify that (surname, first name).....
completed an ACCOBAMS accredited training course as an:

- MMO*
- PAM operator*
- MMO and PAM operator*

(* Delete where appropriate)

Issued by (name of “trainer” organization):

In (location):

(Date) from:.....to.....

This certificate qualifies the holder to work as an MMO and/or PAM operator during activities generating noise at sea in order to minimize the impact on cetaceans, by applying the knowledge, expertise and skills taught during the training course and to use the standard procedures, forms and manual, in accordance with the ACCOBAMS principles.

Location

Date

Signature of certificate holder:

Signature of training manager:

d: Model of report for ACCOBAMS “Highly Qualified MMOs/PAM operators” after a mission at sea

(To be sent within one month after the mission)

Contact details: Name; email; phone number

Content

1. Area and characteristics of the survey
 - Date and location (including mapping*) of survey
 - Objectives of the survey
 - Number and types of vessels involved in the survey
 - Contact details of all MMO and PAM operators aboard the vessel(s)
 - Material and method used as MMO/PAM
 - Total number and volume of the airguns used
 - Nature of airgun array discharge frequency (in Hz), intensity (in dB re. 1µPa or bar metres) and firing interval (seconds), and / or details of any other acoustic energy used

2. Records

- A record of all occasions when the airguns were used (copy of the forms*)
- A record of the watches made for marine mammals, including details of any sightings and the seismic activity during the watches (copy of the forms and/or excel filled if possible*)

3. Details of any problems encountered during the seismic survey including instances of non-compliance with the ACCOBAMS guidelines (Resolution 4.17)

Annexes*:

The excel file filled* (example Marine Mammal Recording Form from the Joint Nature Conservation Committee) - Cover page, Operations, Effort and Sightings

Date

Signature

** in case of data confidentiality, please send a copy of the paragraph specifying the terms of confidentiality and the delay and send the data after the period of confidentiality.*

ANNEX 4 – ACCOBAMS ACCREDITED TRAINING FOR MMO/PAM OPERATORS - CONTENT AND DURATION

The training should comprise two parts: theoretical and practical.

The content of the *theoretical training* must cover the subjects listed below and should be drawn primarily from the ACCOBAMS manual based on the JNCC one.

1. Introduction to the “lifestyle” onboard

- 1.1. Offshore survival and safety
- 1.2. Tasks of a MMO/PAM
- 1.3. Ethics, conflicts of interest and standards of conduct
- 1.4. MMO medical condition requirements
- 1.5. Data confidentiality
- 1.6. Field communication/support; communication and support with appropriate personnel; and using communications devices (i.e., two-way radios, satellite phones, Internet, email, etc.)
- 1.7. Conflict resolution

2. Introduction to marine mammals and acoustics

- 2.1. Marine mammal biology and behaviour
- 2.2. Marine mammal identification
- 2.3. Marine mammal vocalizations
- 2.4. Marine mammal distribution and critical habitats

3. Introduction to regulations and ACCOBAMS guidelines

- 3.1 International regulations
- 3.2 National regulations
- 3.3 ACCOBAMS guidelines

4. Introduction to the different components of a survey

- 4.1 Transects
- 4.2 Observation periods
- 4.3 Sightings
- 4.4 Practical issues: equipment needed for observation

5. Introduction to seismic survey

Overview of types of seismic survey and sound source technology and equipment (e.g., site, two-dimensional, three-dimensional, four-dimensional, four components, ocean bottom cable, ocean bottom surveys, high resolution, electromagnetic, airguns, sparkers, boomers and echo-sounders).

- 5.1. Background on underwater sound
- 5.2. Overview of oil and gas industry use of sound-active exploration
- 5.3. Environmental impacts of seismic survey
 - 5.3.1. Masking
 - 5.3.2. Behavioural impact
 - 5.3.3. Auditory and physical impacts
 - 5.3.4. Stress

- 5.3.5. Cumulative and population-level impacts
- 5.3.6. Effects on fish and other marine life

6. General restrictions and data management

- 6.1. Pre-survey phase
 - 6.1.1. Regional restrictions
 - 6.1.2. Seasonal restrictions
 - 6.1.3. Gather information
 - 6.1.4. Survey design
 - 6.1.5. Array configuration
 - 6.1.6. Selection of visual observers
 - 6.1.7. Monitoring method

- 6.2. Survey phase
 - 6.2.1. Ramp-up
 - 6.2.2. Search method for marine mammals
 - 6.2.3. Safety zone

- 6.3. Post-survey phase
 - 6.3.1. Data entry and reporting
 - 6.3.2. Reporting violations, non-compliance, etc.

7. Elements specific to other activities generating noise and requiring MMO or PAM, such as pile driving for construction, dredging, explosives, drilling, etc.

The *practical training* (conducted on a boat out at sea) should enable future MMOs/PAM operators to test and gauge their skills and master the detection and identification of species and the use of the equipment (binoculars, stick, angleboard, acoustic software, completion of forms, etc.).

Duration: The training must be **at least three** full days in length for the theory section and cover all of the subjects listed above. This should be followed by **at least one** day session at sea where the theoretical protocols should be applied and also a simulation of real conditions onboard with a shutdown call and non-compliance with ramp up for example.

ANNEX 5 - COMPOSITION AND TERMS OF REFERENCE OF THE WORKING GROUP ON MMO/PAM

This WG will address these items:

- Examine possibilities for the promotion of mandatory involvement of MMO/PAMs in any impulsive noise-generating activities (e.g. seismic exploration, pile driving, training course of seismic acquisition and processing, testing of seismic instruments);
- Review of existing training schemes and best practice guidelines and participation to their actualization;
- Review of different ways of implementing MMO/PAM trainings and development of an ACCOBAMS MMO scheme (e.g. ACCOBAMS MMO label, ACCOBAMS school);
- Development of strategy to involve industrial stakeholder into the process;
- Assessment of MMO/PAM accreditation conditions;
- Presentation of a consolidated proposition to the SC of ACCOBAMS about the MMO/PAM training issue.

First members of the WG:

- Léa DAVID (EcoOcéan Institut) : lea.david2@wanadoo.fr (**Leader**)
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The composition of the Working Group will evolve by adding other experts to benefit of their skills.

RESOLUTION 7.13 - Anthropogenic Noise

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Resolutions 4.17 on “Guidelines to address the impact of anthropogenic noise on cetaceans in the ACCOBAMS Area”, 5.15 on “Addressing the impact of anthropogenic noise” and 6.17 on “Anthropogenic noise”,

Taking into consideration Recommendation 12.4 “Anthropogenic Noise” of the 12th ACCOBAMS Scientific Committee Meeting,

Recognizing that a large portion of the Mediterranean area is impacted by noise-producing human activities and that it is likely that such activities will increase,

Recognizing also that cetaceans and other marine mammals, reptiles and fish species, and their prey, are vulnerable to noise disturbance and subject to a range of human impacts,

Convinced that environmental impact assessment procedures should be carried out prior to projects that may affect cetaceans and especially those involving impulsive noise,

Recalling IMO Guidelines (MEPC.1/Circ.833) for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life and taking note of the need for a full implementation of the guidelines by governments and the shipping industry,

Welcoming Directive 2014/52/EU of the European Parliament and of the Council, amending Directive 2011/92/EU on the Assessment of the Effects of Certain Public and Private Projects on the Environment,

Noting that the Marine Strategy Framework Directive of the European Union (MSFD) and its implementing act, requires that Member States in European Union marine waters take necessary measures by 2020 to achieve or maintain the good environmental status, which is established by each of them and in coordination at the European Union, regional and sub-regional levels, and which include underwater noise among the descriptors of such environmental status (Descriptor 11),

Also welcoming the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP) of the Barcelona Convention, which includes candidate common indicators for underwater noise (Ecological Objective 11), with the intention for these candidate common indicators to be tested on an indicative basis as appropriate, prior to incorporating them into IMAP upon completion of its initial phase,

Further welcoming the work undertaken by ACCOBAMS during the triennium 2017-2019 regarding the management of noise-producing activities, more particularly:

- the QuietMed project, which aimed to improve the level of coherence and the comparability as regards Descriptor 11 (underwater noise) by enhancing cooperation among Mediterranean Sea Basin countries within the implementation of the second cycle of the EU Marine Strategy Framework Directive;
- the QuietMed2 project which aims to support the assessment of the extent to which Good Environmental Status has been achieved in the Mediterranean Region regarding underwater noise to get updated, improved and more complete regional assessments;

- the joint ACCOBAMS/ASCOBANS/CMS/ECS workshop entitled “Best Practice Workshop: Fostering inter-regional cooperation in underwater noise monitoring and impact assessment in waters around Europe, within the context of the European Marine Strategy Framework Directive”, which was held on 29th April 2017 in Middelfart, Denmark;
- the finalization of the ACCOBAMS MMO/PAM Courses for the standard MMO/PAMs training of all accredited “trainer” organizations, the accreditation of the three first “ACCOBAMS Highly Qualified MMOs/PAM operator” trainer organizations and the implementation of the first ACCOBAMS training for High Quality MMO/PAM Operator in Constanta, Romania, on 12-16 September 2018;
- the ACCOBAMS workshop on “sonars and cetaceans’ interactions” which aimed to improve dialogue and cooperation of national navies with ACCOBAMS, especially regarding military activities of navies (8 – 9 October 2019, Toulon, France);

Taking into consideration recommendations from the Second Meeting of the ACCOBAMS Follow-up Committee (Monaco, 5-6 March 2018) regarding underwater noise issue,

Conscious of the related work by the Convention on the Conservation of Migratory Species of Wild Animals (CMS), and *recalling* its related decisions, in particular [Resolution 12.14](#) on Adverse Impacts of Anthropogenic Noise on Cetaceans and Other Migratory Species with the attached CMS Family Guidelines on Environmental Impact Assessment for Marine Noise-generating Activities,

Taking note of the IWC Resolution 2018-4 on Anthropogenic underwater noise,

Considering the recommendations developed during the workshop hosted by OceanCare and NRDC, in collaboration and with the support of the Deutsche Bundesstiftung Umwelt, on 22-23 November 2017 in Split, Croatia, for mitigating the impact of underwater noise on marine biodiversity in the South Eastern European waters of the Mediterranean Sea,

Recalling Article 236 of the United Nations Convention on the Law of the Sea, which states: “The provisions of this Convention regarding the protection and preservation of the marine environment do not apply to any warship, naval auxiliary, other vessels or aircraft owned or operated by a State and used, for the time being, only on government non-commercial service. However, each State shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such vessels or aircraft owned or operated by it, that such vessels or aircraft act in a manner consistent, so far as is reasonable and practicable, with the said Convention,”

7. *Reaffirms* that there is a need for ongoing and further internationally coordinated efforts, including research, addressing the impact of underwater noise in order to provide adequate protection to cetaceans;
8. *Invites* Parties and non-Parties to implement CMS [Resolution 12.14](#) on Adverse Impacts of Anthropogenic Noise on Cetaceans and Other Migratory Species with the attached CMS Family Guidelines on Environmental Impact Assessment for Marine Noise-generating Activities;
9. *Invites* the ACCOBAMS Parties to take into consideration the revised Methodological Guide: “Guidance on underwater noise mitigation measures” (MOP7/2019/Doc31) in their future work in the ACCOBAMS Area;
10. *Requests* the Secretariat to implement the Action Plan resulting from the ACCOBAMS Workshop on "Sonars and Cetacean Interactions" (Annex 1) and to report on this issue during the Eighth Meeting of the ACCOBAMS Parties;

11. *Requests* Parties and non-Parties to ACCOBAMS to provide the Secretariat with a Point of Contact in their Navy in order to facilitate the implementation of the Action Plan from the ACCOBAMS workshop on " Sonars and Cetacean Interactions ";
12. *Adopts* the revised detailed Guidelines to address the impacts of anthropogenic noise on cetaceans in the ACCOBAMS Area that are presented in Annex 2 to the present Resolution, and which include recommendations for both impulsive and continuous noise;
13. *Mandates* the Secretariat to disseminate the guidelines annexed to this Resolution to the Parties and to operators who are likely to produce underwater noise (e.g., seismic exploration industry, offshore windfarms);
14. *Encourages* Parties and operators to take these guidelines as a reference in conducting noise-producing activities;
15. *Strongly encourages* Parties and other authorities to undertake as soon as possible mitigation actions, such as ship speed reduction in some specific sensitive areas, as described in the revised detailed Guidelines to address the impacts of anthropogenic noise on cetaceans in the ACCOBAMS Area;
16. *Welcomes* the establishment of the ACCOBAMS regional register for impulsive noise sources in the ACCOBAMS area and *agrees* to support its management;
17. *Strongly encourages* Parties to contribute to the ACCOBAMS regional register for impulsive noise sources, especially by sharing their data, and *calls* the Parties for the development of a co-operation mechanism to identify the source of long-distance underwater noise in order to address its long-distance effects;
18. *Strongly encourages* Parties to collect more data and develop capacity building programs about noise;
19. *Stresses* the importance of :
 - developing noise hotspot maps in the Black Sea during the 2020-2022 triennium;
 - further developing with the Joint CMS/ACCOBAMS/ASCOBANS Working Group on Noise (JNWG) the concept of "quiet zones" as outlined in Recommendation 10.5 of the ACCOBAMS Scientific Committee with a focus on a quantitative elaboration and evaluation of the scientific evidence for establishing such areas both in space and time;
20. *Requests* the Permanent Secretariat :
 - to inform Parties about the deliverables of the [QuietMed](#) and [QuietMed2](#) projects on guidance for underwater noise monitoring and assessment, and to encourage Parties to make relevant stakeholders of the private sector become aware of these developments;
 - to disseminate the results obtained from the establishment of an international register for impulsive noise sources in the ACCOBAMS area to Parties and relevant regional organisations, such as the RSC in the Agreement area;
 - to support the implementation of monitoring programmes of underwater noise;
 - to continue developing cooperation on noise issue, including capacity building, with other relevant international Organizations such as the CMS Family, the European Union, OSPAR, ICES, the Barcelona Convention, the Black Sea Commission, CBD, IWC, NATO, IMO, IUCN;

21. *Reiterates* the importance for Parties to grant, in priority, permits for industrial activities in their national area to industrial companies employing ACCOBAMS Highly Qualified MMOs/PAM operators;
22. *Encourages* Parties:
- to fully address the issue of anthropogenic noise in the marine environment, including cumulative effects, in the light of the best scientific information available and taking into consideration the applicable legislation of the Parties, particularly as regards the need for environmental impact assessments being undertaken before granting approval to proposed noise-producing activities;
 - to integrate the issue of anthropogenic noise in management plans for marine protected areas;
 - to avoid or minimize producing noise in marine protected areas, as well as in particular in areas containing critical habitat of cetaceans likely to be affected by man-made noise;
23. *Strongly urges* Parties to fully apply the precautionary approach and to envisage the appropriate mitigation measures, including a provision for expert review by specialists and a provision for the action to be taken if unusual events, such as atypical mass strandings, occur;
24. *Recommends* to the Permanent Secretariat and to the Scientific Committee to develop a project that overlays continuous noise mapping (including main shipping lanes and areas close to ports) and cetacean density mapping, to identify priority areas for mitigation, including consideration of the concept of 'quiet zones'. This effort should also include ongoing initiatives on impulsive noise (e.g. areas targeted by seismic surveys or military exercises);
25. *Encourages* the Permanent Secretariat and any stakeholder active in the ACCOBAMS region to promote the "Tools ensuring Highly Qualified MMOs/PAM operators in the ACCOBAMS Area" to the private sector;
26. *Recommends* the Permanent Secretariat :
- to promote the undertaking of a project aimed at building a central repository (such as NETCCOBAMS), at the regional scale, as a tool to have an overview of monitoring programs using PAM techniques in marine protected areas and other area designated as important for cetaceans. The objective of this repository would be to monitor the number of PAM-based programs, the location and periods of execution, the objectives of the programs and target species and/or other environmental elements;
 - to organise an expert workshop to examine the available PAM techniques and how they can be incorporated most effectively in the ACCOBAMS context with a view of fostering the implementation of PAM-based monitoring programs as a mean of contributing to conservation;
27. *Decides* that the present Resolution replaces the Resolution 4.17.

ANNEX 1

ACTION PLAN resulting from the ACCOBAMS Workshop on sonars and cetacean interactions

N°	Action	Pilot
Organisation		
1	Request the TG-Noise/MSCG ¹⁸³ chairs to share information on EU parties point of contact (POC)	ACCOBAMS Secretariat
2	Request MEDPOL Focal Points to share information on POC for non-EU Contracting Parties	ACCOBAMS Secretariat
3	Encourage Parties (Focal Points) to assign a POC in national navies by MOP7 using Resolution 6.17	ACCOBAMS Secretariat
4	Allow the ACCOBAMS secretariat to get in direct contact with navies' POC for the purpose of implementing the action plan	Parties
5	Allow the Secretariat to get into contact with NATO (working group)	Parties
6	Request the ACCOBAMS Secretariat, with the engagement of the Scientific Committee, to organize information/training/formation session of appropriate bodies in navies (planners and CO), also recalling final report of MOP6	Parties
Information Sharing		
7	Provide ACCOBAMS with clarification of the distinction between exercises and operations, for purposes of informing how impacts from naval sonar activities can be mitigated (consider more the activity rather than the area)	French Navy
8	Map/identify sonar exercise areas, including where major NATO exercises are carried out	ACCOBAMS Secretariat in coordination with navies
9	Produce an overview of sonar types	ACCOBAMS Secretariat in coordination with navies
10	Consider listing and prioritizing areas for avoiding or limiting active sonar use	ACCOBAMS SC
11	Provide navies with available practical information on cetacean distribution (map) and seasonality, in a way that is understandable by navy planners and crews	ACCOBAMS Secretariat
12	Improve knowledge on cetacean distribution and seasonality, particularly on beaked Whales and unsurveyed areas, and provide updated information to navy planners and crews	ACCOBAMS SC
13	Provide feedback to ACCOBAMS SC and Secretariat on how information on cetacean distribution and seasonality has been used in planning and mitigation of active sonar activities	Navies
14	Ask the appropriate scientific organisations in countries to establish cooperation (e.g., data collection) with ACCOBAMS SC	ACCOBAMS Secretariat
15	Collect data from appropriate bodies (e.g. CMRE ¹⁸⁴) on cetacean distribution	ACCOBAMS SC

¹⁸³ Marine Strategy Coordination Group

¹⁸⁴ Centre for Maritime Research and Experimentation

16	Analyse data gaps pertaining to marine mammal conservation and request the ACCOBAMS SC to fill these gaps; priority should be given to areas planned for exercises	ACCOBAMS SC
17	Hold follow-up workshop(s), inclusive of additional navies and NATO, to aid in implementing the elements of this action plan	ACCOBAMS Secretariat, in coordination with navies
Protocols/Procedures		
18	Prioritize areas of high risk to beaked whales for spatial avoidance (following Bernaldo de Quiros et al. 2019)	ACCOBAMS Secretariat and SC, in coordination with Navies
19	Ask the navies to provide standing protocols they use, then synthesize and propose a global protocol	ACCOBAMS Secretariat with ACCOBAMS SC
20	Propose a pilot project to perform scientific surveys of the exercise areas before and after the exercise	ACCOBAMS SC
21	Propose sending gliders (with hydrophones) to monitor a proposed exercise area ahead of exercises in suitable beaked whale habitat to avoid beaked whales	Navies
22	Support permanent monitoring of areas used recurrently	Parties
23	Investigate how to transpose to sonar the best practices used by Germany's Sound Protection Concept (StUk3) for pile driving	ACCOBAMS SC
24	Ask the relevant bodies to provide guidelines they have already published (e.g. TG Noise)	ACCOBAMS Secretariat
25	Encourage national navies to make use of relevant guidelines (ACCOBAMS/CMS)	ACCOBAMS Secretariat
26	Explore the possibility of replacing the notion of "moratorium area" with that of "sensitive zone"	ACCOBAMS SC
27	Use information on cetacean distribution and seasonality provided by ACCOBAMS in planning and mitigating active sonar activities, and provide feedback to ACCOBAMS on actions taken to reduce impact of sonar on cetaceans	Navies
28	Give available information relating to use of sonar before, during and after exercises	Navies
29	Include risk assessment for marine mammals in the planning of major exercises or of regular sonar activity in an exercise area	Navies

ANNEX 2

GUIDELINES TO ADDRESS THE IMPACT OF ANTHROPOGENIC NOISE ON CETACEANS IN THE ACCOBAMS AREA

*(Revisions highlighted in bold)*A. GENERAL GUIDELINES

Procedures should be practical in that they should use data that can be readily collected by cetacean observers, account for operating conditions and constraints, and, as far as possible, minimize disruption of operations while maximizing environmental protection.

Besides procedures for specific activities, the following guidelines and concepts should be taken into account for any activity:

- a) Consult databases of cetacean spatial and seasonal distribution and habitat databases so that activities can be planned and conducted to avoid critical habitats and when and where animals are unlikely to be encountered.
- b) Collect information and, if required, organize surveys (shipboard and/or aerial) or monitoring with fixed detectors (buoys, bottom recorders, etc.) to assess the population density in the areas chosen for operation.
- c) Avoid cetaceans' key habitats and marine protected areas, define appropriate buffer zones around them; consider the possible impact of long-range propagation.
- d) Closed areas should be avoided and surrounded by appropriate buffer zones.
- e) Consider cumulative impacts not just of noise but of all anthropogenic threats over time; consider effects modelling; include consideration of seasonal and historical impacts from other activities (shipping, military, industrial, other seismic) in the specific survey area and nearby region. For these purposes, databases/GIS that track the history of sonar/seismic and other industrial activities and anthropogenic threats **should be consulted: the best tool currently available meeting this need is the International Noise Register developed by ACCOBAMS which is aimed at centralising data on positions and periods of occurrence of human activities producing impulsive noise.**
- f) Model the generated sound field in relation with oceanographic features (depth/temperature profile, sound channels, water depth, seafloor characteristics) to assess the area possibly affected by relevant impacts.
- g) Determine safe / harmful exposure levels for various species, age classes, contexts, etc. This must be precautionary enough to handle large levels of uncertainty. When making extrapolations from other species, measures of uncertainty should quantify the chances of coming up with a wrong, and dangerous conclusion.
- h) There should be a scientific and precautionary basis for the exclusion zone (EZ) rather than an arbitrary and/or static designation; exclusion zones should be dynamically modelled based on the characteristic of the source (power and directionality), on the expected species, and on the local propagation features (cylindrical vs spherical spreading, depth and type of sea bottom, local propagation paths related to thermal stratification). These EZ should be verified in the field.
- i) In the case of multiple EZ choices, the safest, most precautionary option should be adopted.
- j) Consider establishment of an expanded exclusion zone aimed at reducing behavioural disruption. This should be based on received levels much lower than those supposed to produce physiological and physical damage.

Whenever possible, consider an expanded exclusion zone where exposure could be limited by reducing the emitted power (power-down) whilst maintaining acceptable operative capabilities.

- k) Cetacean mitigation guidelines should be adopted and publicized by all operators, whether military, industrial or academic.
- l) A system of automated logging of acoustic source use should be developed to document the amount of acoustic energy produced, and this information should be available to noise regulators and to the public.
- m) Mitigation should include monitoring and reporting protocols to provide information on the implemented procedures, on their effectiveness, and to provide datasets to be used for improving existing cetacean databases.
- n) During operations, existing stranding networks in the area should be alerted; if required, additional monitoring of the closest coasts and for deaths at sea should be organized.
- o) If required, organize post cruise survey to verify if changes in the population density or anomalous deaths occurred as a possible consequence of operations (this requires a knowledge of the area before any operation has occurred – see points a & b).
- p) In the case of strandings possibly related with the operations, any acoustic emission should be stopped, and maximum effort devoted to understanding the causes of the deaths.
- q) In the case of abnormal behaviours observed in animals close to the operations, any acoustic emission should be stopped, and maximum effort addressed at monitoring those animals.
- r) Trained and approved Cetaceans Observers (visual observers and/or acoustic operators where appropriate) should be employed for the monitoring and reporting program including overseeing implemented mitigation rules.
- s) Cetacean observers and bio-acousticians in charge of the monitoring program must be qualified, dedicated and experienced, with suitable equipment. **To this end, ACCOBAMS has developed a certification system for Highly Qualified MMO and PAM operators. The goal of this certification is to guarantee, throughout the Agreement area, a high-quality standardized training of MMOs and PAM operators thanks to:**
 - a. **The high-quality training of MMOs and PAM operators,**
 - b. **The standardization of training content,**
 - c. **The standardization and quality of the data collected,****More information on this certification system is available by the ACCOBAMS Permanent Secretariat.**
- t) Marine mammal observers should report to the National Focal Point **and** the ACCOBAMS Secretariat using a standardized reporting protocol. **This reporting protocol has been developed in the framework of the certification system for Highly Qualified MMO and PAM operators.** Any unexpected condition and/or change in applied protocols should be discussed with the Secretariat in collaboration with the Scientific Committee.
- u) Accurate reporting is required to verify the **Environmental Impact Assessment (EIA)** hypotheses and the effectiveness of mitigation.
- v) Procedures and protocols should be based on a conservative approach that reflects levels of uncertainty. They should include mechanisms that create an incentive for good practice.
- w) Take a precautionary approach every time uncertainties emerge; in the case of unexpected events or uncertainties refer to the National Focal Point.
- x) **Detailed data on the execution of the activities emitting impulsive noise should be reported to the International Noise Register developed by ACCOBAMS, especially the following: geographical position, start and end dates, source description, source level, frequency band.**
- y) **Procedures for reporting impulsive noise data to the International Noise Register developed by ACCOBAMS should follow national instructions related to Descriptor 11 of the Marine Strategy Framework Directive of the European Union, or Ecological Objective 11 of the Ecosystem-Approach being implemented by the Barcelona Convention.**

B. GUIDELINES FOR (MILITARY SONAR AND CIVIL) HIGH POWER SONAR

For sonar operations the following guidelines and key concepts should apply in addition to the general guidelines. **Guidelines concerning MMOs and PAM operators refer, as far as possible, to the high-quality standards defined in the certification system for Highly Qualified MMO and PAM operators developed by ACCOBAMS. Reporting of sonar activities to the International Noise Register should follow national instructions related to Descriptor 11 of the Marine Strategy Framework Directive of the European Union or to the corresponding Ecological Objective 11 of the Ecosystem-Approach process being implemented by the Barcelona Convention.**

- a) Sonar surveys should be planned so as to avoid key cetacean habitat and areas of cetacean density, so that entire habitats or migration paths are not blocked, so that cumulative sonar sound is limited within any particular area, and so that multiple vessels operating in the same or nearby areas at the same time are prohibited.
- b) Use of the lowest practicable source power.
- c) Adapt the sequencing of sonar lines to account for any predictable movements of animals across the survey area and avoid blocking escape routes.
- d) Continuous visual and passive acoustic monitoring (PAM) with a specialized team of cetaceans observers and bio-acousticians to ensure that cetaceans are not in the “exclusion zone” before turning on the acoustic sources and while sources are active.
- e) Equipment for visual monitoring should include suitable binoculars, including big eyes, to be used according to the monitoring protocol.
- f) High power sources should be restricted at night, during other periods of low visibility, and during significant surface-ducting conditions, since current mitigation techniques may be inadequate to detect and localize cetaceans. Because of the impact of adverse weather conditions on the visual detection of mammals, emission during unfavourable conditions should be restricted as well.
- g) Passive acoustic monitoring (PAM) (towed array technology or other suitable technologies with enough bandwidth to be sensitive to the whole frequency range of cetaceans expected in the area) should be used to improve detection capabilities. PAM should be mandatory for night operations or when visibility is poor. However, PAM may be inadequate mitigation for night operations if cetaceans in the area are not vocal or easily heard.
- h) At least two dedicated Cetacean Observers should be on watch at every time on every operative ship; organize shifts to allow enough rotation and resting periods to MMOs. In case of acoustic monitoring, at least one operator should be on watch and shifts should be organized to allow 24/24h operation, unless automatic detection/alerting systems with proven effectiveness are available.
- i) Before beginning any emission there should be a dedicated watch of at least 30 minutes to ensure no animals are within the EZ.
- j) Extra mitigation measures should be applied in deep water areas if beaked whales have been seen diving on the vessel trackline or if habitats suitable for beaked whales are approached: in such cases, the watch should be prolonged to 120 minutes to increase the probability that deep-diving species are detected (e.g. Cuvier’s beaked whales). Ideally, however, sonar exercises should not be done in areas that beaked whales are known to inhabit.
- k) Every time sources are turned on, there should be a slow increase of acoustic power (ramp-up or soft start) to allow cetaceans sufficient opportunity to leave the ensonified area in the event that visual and passive searches are unsuccessful. Ramp-up should be at least 30 minutes (the effectiveness of this procedure is still debatable).
- l) The beginning of emissions should be delayed if cetacean species are observed within the exclusion zone (EZ) or approaching it. Ramp-up may not begin until 30 minutes after the animals are seen to leave the EZ or 30 minutes after they are last seen (120 minutes in case of beaked whales).

- m) Avoid exposing animals to harmful acoustic levels by preventing them from entering into the EZ, by changing the ship course, if applicable, or by reducing (power-down) or ceasing (shut-down) the acoustic emissions.
- n) Shut-down of source(s) whenever a cetacean is seen to enter the EZ and whenever aggregations of vulnerable species (such as beaked whales and sperm whales) are detected anywhere within the monitoring area.

C. GUIDELINES FOR SEISMIC SURVEYS AND AIRGUN USES

Guidelines for mitigating the effects of seismic surveys have been **first** experimented in the context of academic seismic surveys conducted under NMFS permits. **Since then the diffusion of such guidelines and their adoption during commercial hydrocarbon exploration has not ceased to increase.** Most of the following guidelines are equivalent to those required for sonar operations and should apply in addition to general guidelines. **Guidelines concerning MMOs and PAM operators always refers to the high-quality standards defined in the certification system for Highly Qualified MMO and PAM operators developed by ACCOBAMS. Reporting of seismic surveys and airgun uses to the International Noise Register should follow national instructions related to Descriptor 11 of the Marine Strategy Framework Directive of the European Union or to the corresponding Ecological Objective 11 of the Ecosystem-Approach process being implemented by the Barcelona Convention.**

- a) Seismic surveys should be planned so as to avoid key cetacean habitat and areas of cetacean density, so that entire habitats or migration paths are not blocked, so that cumulative seismic noise is limited within any particular area, and so that multiple vessels operating in the same or nearby areas at the same time are specifically regulated or prohibited.
- b) Use of the lowest practicable source power.
- c) Limit horizontal propagation by adopting suitable array configurations and pulse synchronization and eliminating unnecessary high frequencies.
- d) Adapt the sequencing of seismic lines to account for any predictable movements of animals across the survey area and avoid blocking escape routes.
- e) Modelling of the generated sound field in relation with oceanographic features (depth/temperature profile, water depth, seafloor characteristics) to dynamically set the Exclusion Zone. Confirm models by EZ tests in the field.
- f) Mitigation procedures should be practical in that they should use data that can be readily collected by cetacean observers during offshore operations, account for operating conditions and constraints of seismic surveys and, as far as possible, minimize disruption of surveys while maximizing environmental protection.
- g) Continuous visual and passive acoustic monitoring (PAM) with a specialized team of cetacean observers and bio-acousticians to ensure that cetaceans are not in the Exclusion Zone before turning on the acoustic sources and while sources are active.
- h) Equipment for visual monitoring should include suitable binoculars and big eyes to be used according to the monitoring protocol.
- i) Ideally, high power airgun configurations should be prohibited at night, during other periods of low visibility, and during significant surface-ducting conditions, since current mitigation techniques may be inadequate to detect and localize cetaceans. Because of the impact of adverse weather conditions on the visual detection of mammals, emissions during unfavourable conditions should be restricted as well.
- j) Passive acoustic monitoring (PAM) (towed array technology or other suitable technologies with enough bandwidth to be sensitive to the whole frequency range of cetaceans expected in the area) should be used to improve

detection capabilities. PAM should be mandatory for night operations or when visibility is scarce. However, PAM may be inadequate mitigation for night operations if cetaceans in the area are not vocal or easily heard.

- k) At least two dedicated Cetacean Observers should be on watch at one time on every operative ship; shifts should be organized to allow enough rotation and resting periods to MMOs. In the case of acoustic monitoring, at least one operator should be on watch and shifts should be organized to allow 24/24h operation., unless automatic detection/alerting systems with proven effectiveness are available.
- l) Before beginning any emission there should be a dedicated watch of at least 30 minutes to ensure no animals are within the EZ.
- m) Extra mitigation measures should be applied in deep water areas if beaked whales have been seen diving on the vessel trackline or if habitats suitable for beaked whales are approached: in such a cases the watch should be at least 120 minutes to increase the probability that deep-diving species are detected (e.g. Cuvier’s beaked whales).
- n) Every time sources are turned on, there should be a slow increase of acoustic power (ramp-up or soft start) to allow cetaceans sufficient opportunity to leave the ensonified area in the event that visual and passive searches are unsuccessful (the effectiveness of this procedure is still debatable).
- o) The beginning of emissions should be delayed if cetacean species are observed within the exclusion zone (EZ) or approaching it. Ramp-up may not begin until 30 minutes after the animals are seen to leave the EZ or 30 minutes after they are last seen (120 minutes in case of beaked whales).
- p) Exposing animals to harmful acoustic levels should be avoided by preventing them from entering the EZ, by changing the ship course, if applicable, or by reducing (power-down) or ceasing (shut-down) the acoustic emissions.
- q) There should be a shut-down of source(s) whenever a cetacean is seen to enter the EZ and whenever aggregation of vulnerable species (such as beaked whales) are detected anywhere within the monitoring area.
- r) If more than one seismic survey vessel is operating in the same area, they should maintain a minimum separation distance to allow escape routes between sound fields.
- s) Data sharing among surveyors should be encouraged to minimize duplicate surveying. Also, if old seismic data can be usefully re-analysed using new signal processing or analysis techniques, this should be encouraged.

D. GUIDELINES FOR COASTAL AND OFFSHORE CONSTRUCTION WORKS

Coastal and offshore construction works, which may include demolition of existent structures, may produce high noise levels, even for prolonged periods, depending on the technologies used and on local propagation features that include propagation through the substrate.

Construction works on the coast or on the shoreline, including harbours, may propagate noise (e.g. from pile drivers and jack hammers) over wide areas in particular where the substrate is rocky. Traditional percussive pile-driving produces vibrations that propagate far and can ensonify large marine areas at distances of more than 100km; in such conditions alternative technologies should be used. **Updated information on the available mitigation technologies is maintained by the ACCOBAMS Secretariat.**

In the case of prolonged activities, such as construction works of large structures, a scheduling of the most noisy activities could be evaluated as a measure to avoid continuous exposures especially during critical periods for cetaceans living or transiting in the area; the concentration of noisy operations in short periods of time and alternative construction technologies should be also evaluated to minimize noise impacts.

Guidelines concerning MMOs and PAM operators always refers to the high-quality standards defined in the certification system for Highly Qualified MMO and PAM operators developed by ACCOBAMS. Reporting of coastal and offshore construction works to the International Noise Register should follow national instructions related to Descriptor 11 of the Marine Strategy Framework Directive of the European Union or to the corresponding Ecological Objective 11 of the Ecosystem-Approach process being implemented by the Barcelona Convention.

- a) Modelling of the generated sound field in relation to geological and oceanographic features (depth/temperature profile, water depth, coastal and seafloor characteristics) should occur, in addition to verification in the field; the area where animals could receive harmful noise levels (Exclusion Zone) should be defined.
- b) Noise producing activities should be scheduled according to the presence of cetaceans, if seasonal.
- c) Alternative technologies should be used or countermeasures to reduce noise diffusion, i.e. bubble curtains should be adopted.
- d) Noise monitoring stations at given distances from the source area should be set up to monitor for both local and long-range noise levels and verify if predicted levels are reached or not.
- e) Visual observation points/platforms to monitor for the presence and behaviour of cetaceans should be set up.
- f) Before beginning any noise producing action there should be a dedicated watch of at least 30 minutes to ensure no animals are within the EZ.
- g) In areas where water depths in the EZ exceed 200m the watch should be at least 120 minutes to increase the probability that deep-diving species are detected.

It is also important to consider the noise that will be generated by the structures once they are operative. Bridges propagate vibrations related to the traffic; offshore windfarms and oil extraction platforms produce their own noise and thus their environmental impact should be carefully evaluated and mitigated with dedicated rules.

E. GUIDELINES FOR OFFSHORE PLATFORMS

Offshore platforms may be used for a variety of different activities, such as seafloor drilling, oil/gas extraction, electricity production (windfarms), each one with its own particular impacts on the marine environment. Their placement should be carefully regulated; if their impacts include noise, they should be required to undergo a specific implementation of monitoring and mitigation procedures to be defined on a case by case basis and separately for the construction phase and for the operative life. The growing number of windfarms in coastal areas may have an impact on cetaceans, in particular because of the noise they make. They should be designed and operated to produce the lowest possible noise in all activity phases.

F. GUIDELINES FOR PLAYBACK & SOUND EXPOSURE EXPERIMENTS

Playback and Controlled Exposure Experiments (CEEs) are experiments in which animals in the wild are exposed to controlled doses of sound for the purposes of assessing their behavioural or physiological responses. CEEs are one of several methods that have historically been and are increasingly being applied to the study of cetacean behavioural responses to sound. These approaches can complement opportunistic observations or the tagging of animals around noise-producing activities. CEEs (which include some recent experiments under the generic heading of Behavioural

Response Studies (BRS)), are designed to introduce small amounts of additional sound into the ocean in order to scientifically determine responses and assess the potential risk from human activities. However, playbacks may carry some risks themselves to target individuals and potentially expose not only the target species and/or individuals to be studied, but also additional ones. These considerations need to be carefully addressed through precautionary protocols in the execution of CEEs and the possible risks should be balanced against the potential for these studies to provide answers to management and/or scientific questions on a case by case basis.

Given that some CEEs can be controversial, and because of the known underlying concerns, it is particularly important that they are carefully designed and carefully conducted and their limitations and risks acknowledged. In order to achieve optimal scientific and conservation value, those involved in conducting, funding and managing large-scale CEE experiments should strive for international cooperation, coordination and very transparent information exchange and where possible joint programmes of work. Avoidance of duplicative or overlapping research will also help to prevent any unnecessary introduction of noise into the marine environment.

Controlled Exposure Experiments typically strive to use, without exceeding harmful levels, sound exposures that are as realistic as possible (relative to known human sound sources), but with the capability of close control over the type and nature of exposures. Many CEEs are designed to minimize the exposure required to elicit a detectable response. Opportunistic studies, on the other hand, involve actual sound sources and, thus, more realistic exposures, though the lack of experimental control in some circumstances can limit the power of resulting observations.

Both kinds of studies must include (or be preceded) by baseline studies of behaviour and physiology so that the results of the experiments are meaningful and can be properly interpreted. To increase the utility of the results to regulatory decision-making, researchers conducting CEEs should openly communicate the design, procedures, and results of such studies to policymakers.

As with all biological research, methods that can yield conclusive results with less risk of harm to the animals should be preferred. Systematic observations using ongoing sound-producing activities should be used in place of CEEs if they can provide similar information with similar power to detect effects. It is noted, however, that the lack of experimental control over sources in opportunistic contexts, as well as the safety and/or national security considerations inherent in some situations can significantly limit their value in many real-world applications. Systematic studies of ongoing sound-producing activities can validate and strengthen monitoring efforts required as mitigation and have the benefit that such studies do not introduce additional sound directed at the mammals. The advantages of both observational and experimental studies are increased as more attention is given to optimizing measurement methods and study designs with the greatest power to detect real effects and provide convincing results. In practice, research investigating the impacts of large sound sources could be most successful when using a suite of approaches including observations of both controlled and uncontrolled sound exposures. Therefore, controlled experiments and opportunistic observations are usually best seen not as alternatives, but rather as complementary approaches that yield the most powerful results when both are conducted.

Sound exposure experiments require an explicit protocol to manage possible interactions among the sound source(s) and the target(s); in general, while designing and conducting such experiments, these guidelines should be taken into consideration:

- a) use sound exposures that are as realistic as possible (while minimizing exposure required to detect responses) and with the same or similar characteristics of sound that the mammals are likely to be exposed to.
- b) model sound propagation from the source to the targets based on local oceanographic features and background noise information.
- c) use available technologies to monitor both target and non-target animals; monitor other individuals and species – which may require different methods but may provide additional information.
- d) design experiments so that monitored animals are those exposed to highest levels.
- e) halt sound emission if adverse response or behavioural changes are observed on either target or non-target animals.
- f) limit repeated exposures on the same target(s) unless required by the research protocol.
- g) avoid enclosed areas, avoid blocking escape routes.
- h) avoid “chasing” animals during playbacks; if they move away -- don’t modify the course to follow them with the playback source.
- i) exposures that are expected to elicit particular behavioural responses (e.g., responses elicited by predator sounds, conspecific signals) may be particularly useful control stimuli in CEEs; however, such exposures should be used only as necessary as part of a careful experimental paradigm that includes specific mitigation and monitoring protocols. In such cases, it is important to consider that the response may not be related to the loudness of the exposure but to the behavioural significance of the signal used.

G. GUIDELINES FOR SHIPPING

The international community recognizes that underwater-radiated noise from commercial ships may have both short and long-term negative consequences on marine life, especially marine mammals. Guidelines for shipping, developed by IMO/ASCOBANS working group in 2014 and available online (*Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life*, IMO/ASCOBANS 2014 Circ.833), consider common technologies and measures that may be relevant for most sectors of the commercial shipping industry and can be applied to any commercial ship. A successful strategy to reduce radiated noise should consider interactions and contributions from measures provided to achieve other objectives such as reduction of onboard noise and improvements in energy efficiency. These Guidelines do not address the introduction of noise from naval and war ships and the deliberate introduction of noise for other purposes such as sonar or seismic activities.

For commercial shipping, the following guidelines and key concepts should apply in addition to the general guidelines:

- a) **Underwater noise computational models may be useful for both new and existing ships in understanding what reductions might be achievable for certain changes in design or operational behaviour.**
- b) **Underwater noise should be measured to an objective standard for any meaningful improvements: ISO/PAS 17208-1, ISO/DIS 16554. Several research ships have been designed using the noise specification, designed for fishery research ships, proposed by the International Council for the Exploration of the Sea (ICES)**

Cooperative Research Report No.209 (CRR 209). Other underwater noise rating criteria are available and may prove useful as guidance.

- c) The optimal underwater noise mitigation strategy for any ship should at least consider all relevant noise sources.
- d) The largest opportunities for reduction of underwater noise will be during the initial design of the ship. For existing ships, it is unlikely to be practical to meet the underwater noise performance achievable by new designs. For effective reduction of underwater noise, hull and propeller design should be adapted to each other. Propellers should be designed and selected in order to reduce cavitation, the ship hull form with its appendages should be designed such that the wake field is as homogeneous as possible. Consideration can be given to the investigation of structural optimization to reduce the excitation response and the transmission of structure-borne noise to the hull.
- e) Consideration should be given to the selection of onboard machinery along with appropriate vibration control measures, proper location of equipment in the hull, and optimization of foundation structures that may contribute to reducing underwater radiated and onboard noise.
- f) In addition to their use for new ships, the following technologies are known to contribute to noise reduction for existing ships: design and installation of new state-of-the-art propellers, installation of wake conditioning devices and installation of air injection to propeller (e.g. in ballast condition).
- g) Although the main components of underwater noise are generated from the ship design (i.e. hull form, propeller, the interaction of the hull and propeller, and machinery configuration), operational modifications and maintenance measures should be considered as ways of reducing noise for both new and existing ships. These include, among others: propeller cleaning, underwater hull surface, selection of ship speed, rerouting and operational decisions to reduce adverse impacts on marine life.
- h) When efforts have been made to mitigate underwater noise, as far as reasonable and practical, evaluation should be undertaken to determine the success or otherwise of ship noise reduction efforts and to guide and enhance future activities at noise reduction. Such evaluation can include forms of radiated-noise measurements, simulations or other ways of data gathering.
- i) Noise from ships should be evaluated both at close range for its direct possible effects on local marine life and at long-range for the contribute to background noise at low frequencies. It is still difficult to say how much the radiated noise should be reduced to get visible effects. However, noise reduction should be evaluated in order to reduce both local and long-range effects (see quieting technologies).
- j) **Designers, shipbuilders, and ship operators are encouraged to also consider technologies and operational measures not included in these Guidelines, which may be more appropriate for specific applications.**

H. GUIDELINES FOR OTHER MITIGATION CASES

Any activity that produces noise levels that may pose risks to cetaceans requires attention and the implementation of monitoring and mitigation procedures. Some of the cases reported in this chapter (touristic boats and whale watching) may not produce physical injuries; however, they contribute to the underwater noise and may have a significant impact on the behaviour and welfare of the animals, and, in the long term, a negative effect on the local population. At least in sensitive areas these should be taken under control and eventually limited.

Touristic boats

Tourist traffic in some areas is becoming a serious problem; noise irradiated by engines and propellers is an important component of the disturbance to animals.

Tourist boats should avoid approaching dolphins and dolphins' schools, as well as larger cetaceans, and especially if calves are present. Specific guidelines are already available (**please refer to code of conduct of the ACCOBAMS HQWW® Certificate**) and their distribution should be supported as much as possible.

In case of sensitive habitats and marine protected areas, the relevant authorities should severely restrict the use of tourist motorboats and eventually encourage the use quieter electric engine boats.

Boats should be as quiet as possible and noise controls should be made at the beginning of every field season. Noise limits should be set to reduce the behavioural disturbance to animals as much as possible.

Whale watching

Whale watching is a **commercial tourism activity through which people observe whales and dolphins in their natural environment from a boat. This activity** is increasing every year and that may have an impact on cetacean populations, stocks, and individuals. Rules and permits are already in force in many countries, but the noise issue is seldom taken into consideration. Noise irradiated by engines and propellers is an important component of the disturbance to animals. Beyond complying with national rules and restrictions, whale watching operators should also comply with noise emission restrictions.

Boats should be as quiet as possible and noise controls should be made at the beginning of every field season. Noise limits should be set to reduce the behavioural disturbance to animals as much as possible.

Created in 2014 to supervise an expanding tourism activity and guide volunteer operators, the High-Quality Whale-Watching® (HQWW) certificate is an ACCOBAMS trademark jointly developed with the Pelagos Sanctuary. This certification, created to frame and harmonize whale watching activity, have an international dimension with a naturalist approach: the label guarantees a whale and dolphin approach respectful of the code of good conduct for the observation of Mediterranean cetaceans. Any certified operator can provide educational information acquired during his formation. Finally, in the framework of responsible ethics certified operators commit to waste sorting on-board their vessels. Each of the member countries should mandate a private or public structure to animate the certification on its territory.

Explosive disposal of residual war weapons, use of explosives for testing or for decommissioning structures

In many areas of the Mediterranean Sea the detonation of residual war weapons is a recurrent activity that needs special care; also, explosives are used widely for offshore decommissioning of structures and for military trials, e.g. for testing ships and submarines.

In all such cases, the definition of an Exclusion Zone is required, based on the power of the expected explosion(s) and on the oceanographic features; consequently, the EZ area should be monitored to be sure no animals are inside. The watch before starting operations should be at least 30 min, it should be prolonged to 120 minutes in areas where deep divers could be present. Additional measures could include the use of absorbing materials, e.g. bubble curtains that

are proven to attenuate the shock wave or at least to dampen the shock wave onset. The use of aversive sound devices to remove animals from the danger area for the relatively short period of blasting holds great promise for mitigation. However, further studies to develop and test such devices with the range of species of interest would be required before these could be relied on for mitigation.

Underwater acoustically active devices

Underwater acoustics is an expanding field and new acoustic technologies are continuously developed, tested and applied for a variety of uses, e.g. for searching/monitoring/exploiting environmental resources, for conducting scientific research, and for military purposes.

Examples of activities that may require a permit include: oceanographic experiments based on the use of high power acoustic sources, including the use of acoustic positioning devices, the use of deterrent devices (Pingers, Acoustic Deterrent Devices, and Acoustic Harassment Devices, in particular if used in array configurations), e.g. to protect commercial fisheries or to protect industrial water intakes (cooling systems).

In all cases where high noise levels are expected in areas with the potential presence of cetaceans, at least the following guidelines should apply:

- a)** There should be modelling of the generated sound field in relation to oceanographic features (depth/temperature profile, water depth, coastal and seafloor characteristics) and verification in the field; the area where animals could receive harmful noise levels (Exclusion Zone) should be defined.
- b)** Activities should be planned for areas with low cetacean densities, avoiding wherever possible sensitive species, such as beaked whales, and sensitive habitats (e.g. breeding areas, nursing areas, etc.).
- c)** Noise producing activities should be scheduled according to the presence/absence of cetaceans, if seasonal.
- d)** Noise monitoring stations should be set up to monitor for both local and long-range noise levels and verify if predicted levels are reached or not.
- e)** Visual observation points or mobile platforms should be set up to monitor for the presence and behaviour of cetaceans.
- f)** PAM stations or mobile platforms should be setup to monitor for the presence and behaviour of cetaceans.
- g)** Before beginning any noise producing action there should be a dedicated watch of at least 30 minutes to ensure no animals are within the EZ.
- h)** In areas where water depths in the EZ exceed 200m the watch should be at least 120 minutes to increase the probability that deep-diving species are detected.

RESOLUTION 8.17 - Anthropogenic Noise

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Resolutions 7.13 on “Guidelines to address the impact of anthropogenic noise on cetaceans in the ACCOBAMS Area”, 5.15 on “Addressing the impact of anthropogenic noise” and 6.17 on “Anthropogenic noise”,

Taking into consideration Recommendation 14.6 on “Anthropogenic Noise” of the 14th ACCOBAMS Scientific Committee Meeting,

Recognizing that a large portion of the ACCOBAMS Area is impacted by noise-producing human activities and that it is likely that such activities will increase,

Recognizing also that cetaceans and other marine mammals, reptiles and fish species, and their prey, are vulnerable to noise disturbance and subject to a range of human impacts,

Convinced that environmental impact assessment procedures should be carried out prior to projects that may affect cetaceans and especially those involving impulsive noise,

Welcoming Directive 2014/52/EU of the European Parliament and of the Council, amending Directive 2011/92/EU on the Assessment of the Effects of Certain Public and Private Projects on the Environment,

Further welcoming the work undertaken by ACCOBAMS during the triennium regarding the management of noise activities, more particularly:

- the QuietSeas project which aims to enhance cooperation among Member States in implementing the third Cycle of the Marine Strategy Framework Directive and, in particular to support competent authorities and strengthen cooperation and collaboration in the Mediterranean Sea and Black Sea regions,
- the QuietMed2 project which aimed to support the assessment of the extent to which Good Environmental Status has been achieved in the Mediterranean Region regarding underwater noise, to get an updated, improved and more complete regional assessment,
- the online “ACCOBAMS MMO/PAM Courses for the standard MMO/PAMs training of all accredited trainers”,

Recognising that the NETCCOBAMS online platform provides new information about the propagation of shipping noise to cetacean habitats, using the best available science on cetacean distribution and continuous anthropogenic noise propagation to determine areas of risk of adverse effects caused by such anthropogenic pressure,

Conscious of the related work underway by the Convention on the Conservation of Migratory Species of Wild Animals (CMS), and *recalling* the related decisions, in particular Resolution 12.14 on Adverse Impacts of Anthropogenic Noise on Cetaceans and Other Migratory Species, and the attached CMS Family Guidelines on Environmental Impact Assessment for Marine Noise-generating Activities,

Noting the International Whaling Commission Resolution 2018-4 on Anthropogenic Underwater Noise,

Concerned over findings by the European Environment Agency (EEA) and the European Maritime Safety Agency (EMSA) in their 2021 European Maritime Transport Environmental Report (EMTER) that underwater noise levels have doubled within European Union waters between 2014 and 2019,

Noting that the military aggression in the BS results in intense noise-generating military activities which have devastating impacts on cetaceans, their prey and the wider Black Sea ecosystem

Recognizing that the effects of loud noises by military activities, or other unexpected events, including explosions and powerful active sonars, on cetaceans can range from displacing animals from their normal habitat, and lower reproductive rates, through to causing physical harm in certain situations

Recognising that the risk areas generated by ship noise are widely spread in respect to cetacean habitats and that this represents a major concern for cetacean conservation and that these risk areas should be taken into account also in designing mitigation measures for ship strikes with large cetaceans to ensure that such measures do not increase noise on areas already at risk for deep divers,

Noting the European Union Marine Strategy Framework Directive and its implementing act, whereby Member States in European Union marine waters shall take necessary measures to achieve or maintain their determined good environmental status, including on underwater noise, established by each of them and in coordination at Union, regional and sub-regional levels,

Welcoming Welcoming the outcome of the work carried out by the EU technical group on underwater noise, including their 2014 technical guidelines,

Also welcoming the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP) of the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, which includes candidate common indicators for underwater noise, intended to be further developed during the initial phase of IMAP based on pilot monitoring activities, additional expert knowledge, and scientific developments,

Reiterating the importance for Parties to grant permits, on a priority basis, for activities in their national waters to industrial companies employing ACCOBAMS Highly Qualified MMOs/PAM operators,

1. *Reaffirms* that there is a need for ongoing and further internationally coordinated efforts, including research addressing the impact of underwater noise in order to provide adequate protection to cetaceans;
2. *Invites* the Parties to take into consideration the following documents in their future work to implement the Guidelines to Address the Impact of Anthropogenic Noise on Cetaceans in the ACCOBAMS Area:
 - MOP8/2022/Inf43: Second Noise Hotspots Report: updated overview of the noise hotspots in the ACCOBAMS Area;
 - MOP8/2022/Inf44: Methodological Guide v3.1 - "Guidance on underwater noise mitigation measures";
3. *Encourages* Parties to avoid or minimize the effects of the introduction of potentially harmful impulsive noise, such as noise produced by airguns, sparkers, active sonars, within areas of importance for cetaceans, like Pelagos Sanctuary, Marine Protected Areas (MPAs) and Important Marine Mammal Areas (IMMAs), in compliance with the relevant legislation;

4. *Asks* the Secretariat, in conjunction with the Scientific Committee, to:
- a. remind the relevant stakeholders to implement Annex 1 “Action Plan resulting from the ACCOBAMS Workshop on sonars and cetacean interactions” of Resolution 7.13 on Anthropogenic Underwater Noise and approach the ASCOBANS Secretariat to explore the potential for joint outreach efforts to national navies and NATO to mitigate noise from military activities and exercises;
 - b. request a study subject to availability of funding, on the effects of underwater noise generated by the foreseeable increase of windfarms in the ACCOBAMS Area, addressing all the phases of windfarm, from siting surveys to decommissioning. The study should take into consideration relevant existing guidelines, such as the CMS document on Best Available Technology (BAT) and Best Environmental Practices (BET) for three noise sources: shipping, seismic airgun surveys, and pile driving;
 - c. develop joint projects and initiatives for simulating mitigation measures, such as speed reduction, and related benefits, with the aim of reducing the impact of noise on cetacean habitats;
 - d. inform Parties about the deliverables of QuietSeas and QuietMed2 projects on guidance for underwater noise monitoring and assessment, and to encourage Parties to make relevant private sector stakeholders aware of these developments;
 - e. organize trainings for national entities on noise monitoring, including analyses of PAM collected data, in some identified priority areas;
 - f. liaise with IMO Secretariat and their Working Group on noise in order to present NETCCOBAMS results about shipping noise impact on marine mammals aiming at proposing mitigation measures, such as speed reduction or re-routing;
5. *Encourages* Parties to:
- a. disseminate the ACCOBAMS noise Guidelines, as well as the CMS Family Guidelines on Environmental Impact Assessment for Marine Noise-generating Activities to all national departments involved in deciding on noise-generating activities;
 - b. improve enhanced training of regulators on the appropriate application of the CMS Environmental Impact Assessments (EIAs) and ACCOBAMS Noise Guidelines prior to the approval of projects, including informing them of the willingness of the CMS and ACCOBAMS Secretariats to provide advice;
 - c. engage in the ongoing process of “review of the 2014 IMO Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life (circular MEPC.1/Circ.833) (2014 Guidelines) and identification of next steps”, and to promote the evolution of the Guidelines status to foster improvement of their uptake by IMO Parties;
 - d. promote the application of vessel speed reductions (e.g., slow steaming) as an operational measure that results into multi-environmental benefits, including the reduction of underwater noise and greenhouse gases emissions, as well as of the risk of ships strikes, and to promote such measures in the context of the proposal of Particularly Sensitive Sea Area in the North-western Mediterranean;
 - e. note that the issue of underwater noise pollution from ships can only be effectively addressed through IMO measures and international cooperation, and that applying mandatory measures provides an equal playing field level for the private sector;
 - f. invite port authorities to develop incentive programmes that encourage the monitoring and reduction of underwater noise emissions, and to report regularly on all noise-generating activities to improve the mapping of Noise Hotspots Report (MOP8/2022/Inf43);
 - g. engage in trials measuring the impact of speed reduction and other operational measures aiming at reducing underwater noise in their waters;
 - h. mandate national responsible institutions to feed data on impulsive noise generating sources from the entire ACCOBAMS Area into the existing International Noise Registry managed by ACCOBAMS for publicly available data, without duplicating existing national marine noise registers;

- i. mandate national responsible institutions to provide the necessary data to update risk maps and generate maps for the Black Sea by considering relevant target species, especially recalling Resolution 7.13, which foresees that noise hotspot maps shall be developed for the Black Sea, reflecting impulsive and continuous noise generating activities;
 - j. to ask IMO to implement mitigation measures, such as speed reduction or re-routing in order to reduce shipping noise, especially in critical habitat or high-risk zones, considering the information available from NETCCOBAMS;
 - k. to consider implementing mitigation measures, such as speed reduction or re-routing, in order to reduce shipping noise in their exclusive economic zone or territorial sea, especially in critical habitats or high risk zones, considering the information available from NETCCOBAMS;
6. *Requests* the Joint CMS/ACCOBAMS/ASCOBANS Noise Working Group (JNWG) to:
- a. review a study on the effects of underwater noise generated by the foreseeable increase of windfarms in the ACCOBAMS Area, addressing all the phases of windfarm from siting surveys to decommissioning;
 - b. examine noise models available in NETCCOBAMS (ACCOBAMS Resolution 8.7 on NETCCOBAMS), also considering recent developments from European Union Marine Strategy Framework Directive-D11C2, in order to compare such noise model with available *in situ* anthropogenic noise recordings made in different locations throughout the ACCOBAMS Area, and taking account of the diverse sensitivities of different cetacean species;
 - c. further develop with the Secretariat and the Scientific Committee the concept of “quiet zones” as outlined in Recommendation 10.5 of the Scientific Committee, with a focus on a quantitative elaboration and evaluation of scientific evidence for establishing “quiet zones” both in space and time;
7. Asks the Scientific Committee to develop a post-war Plan for the Black Sea region towards the mitigation of warfare consequences on cetaceans, their habitat and their preys;
8. *Requests* the Secretariat and any stakeholder active in the ACCOBAMS region to promote “Tools ensuring Highly Qualified MMOs/PAM operators in the ACCOBAMS Area” within the private sector;
9. *Requests* the MMO/PAM WG to develop and update the ACCOBAMS HQMMO/PAM training tools.

6.1.3 Ship Strikes

Resolution 7.12 Ship Strikes

Resolution 8.18 Ship Strikes

RESOLUTION 7.12 - Ship Strikes

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling the ACCOBAMS Resolutions 5.11 and 6.19,

Taking into consideration Recommendation 12.5 “Ship strikes” of the 12th ACCOBAMS Scientific Committee Meeting,

Reiterating that the issue of ship strikes, particularly affecting large whales, such as fin and sperm whales, remains of concern within the ACCOBAMS Area,

Aware that the speed, rather than the shape or displacement, of vessels is the most significant factor in ship strikes,

Noting that the only effective measures to avoid serious injury and death of cetaceans from ship strikes at present are (a) avoidance by ships of areas or times with high density of whales, including the establishment of shipping lanes or non-shipping zones, and (b) speed reductions in such areas or times, slowing ships down to speeds below 10-12 knots,

Noting also that speed restrictions can also reduce underwater noise and greenhouse gas emissions that can assist with meeting other international targets,

Recalling IMO Guidelines (MEPC.1/Circ.833) for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life and, in particular, paragraph 10.5 “Rerouting and operational decisions to reduce adverse impacts on marine life”, recommending speed reductions or routing decisions to avoid sensitive marine areas, including well-known habitats or migratory pathways when in transit, that will help to reduce adverse impacts on marine life,

Aware that the volume of shipping traffic will continue to increase substantially in the near future,

Recalling the joint IWC (International Whaling Commission) - ACCOBAMS Workshop on Reducing Risk of Collisions between Vessels and Cetaceans, held in Beaulieu, France, in 2010,

Stressing that the highest priority is the collection and reporting of data, including near misses, to the Global Ship Strikes Database hosted by the IWC, which will both facilitate a proper evaluation, prioritisation and monitoring of ship strikes as a threat to various populations and regions, and assist in the development of mitigation measures,

Recognizing the present effective collaborative work with the IWC Scientific and Conservation Committees on the issue of ship strikes,

1. *Encourages* Parties to:
 - (a) consider the recommendations from the “joint IWC-IUCN-ACCOBAMS workshop on how the data and process used to identify Important Marine Mammal Areas (IMMAs) can assist in identifying areas of high risk for ship strikes” (6-7 April 2019, Messinia, Greece) as presented in [Annex](#) of the present Resolution, and more particularly regarding (i) the process for the designation of a PSSA by IMO at a scale that includes the North West Mediterranean Sea, Slope and Canyon IMMA, plus potentially the Spanish corridor, and (ii) risk reduction measures in the Hellenic Trench;
 - (b) take note of the recommendations and advices resulting from other initiatives, such as the drafting of a Conservation and Management Plan for Mediterranean fin whales, the project to “develop and evaluate mitigation strategies to reduce the risk of ship strikes to fin and sperm whales in the Pelagos Sanctuary” and any other relevant projects such as “SICOMAR plus” in the ACCOBAMS Area;
 - (c) begin to integrate speed reduction of vessels into port policy strategies, but also when approaching the port and within key areas (e.g. Marine Protected Areas, SPAMIs, Cetacean Critical Habitats, IMMAs, etc.) at times of the year when large whales might be present;
 - (d) develop incentive programmes to promote the application of speed and greenhouse gas emission reduction measures by ships / operators within the ACCOBAMS region;
 - (e) submit a proposal for Traffic Separation Schemes (TSS) in zones where there is scientific evidence regarding their effectiveness as mitigation measure, such as the Hellenic Trench, as recommended by the IWC Scientific Committee, by the ACCOBAMS Scientific Committee through Recommendation 10.6 and in Resolution 6.19 adopted by the Parties in 2016;
 - (f) support the undertaking of a project within the next triennium identifying areas of potential conflict (Cetacean Critical Habitats) where there are main shipping lanes / maritime traffic cross sensitive / important habitats (IMMAs) for large cetacean species (sperm and fin whales) in the Agreement area, following methods developed by the initiatives referred to under (a);
 - (g) consider other IMO measures to mitigate ship strikes through the ACCOBAMS area;
2. *Recommends* to the Parties that they continue to support projects that will improve knowledge of ship strikes and potential mitigation strategies, including telemetry and photo-identification studies;
3. *Strongly encourages* Parties to submit information on ship strikes to the Global Ship Strikes database hosted by the IWC, which has streamlined the data entry process with advice from members of the ACCOBAMS Scientific Committee and others;
4. *Encourages* the Scientific Committee and its relevant Working Group to facilitate reporting to, and feedback from, IWC Global Database;
5. *Asks* the ACCOBAMS Scientific Committee to:
 - investigate existing data to determine the efficacy of undertaking a spatial modelling exercise for fin whales in the Mediterranean for comparison with information on shipping traffic;
 - continue to monitor high risk areas for ship strikes in the Mediterranean Sea (the Strait of Gibraltar, the Pelagos Sanctuary, the area south west of the island of Crete, the area around the Balearic Islands, the area between Almeria and Nador at the eastern side of the Alborán Sea and the Strait of Sicily);
 - suggest and facilitate implementation of the IMO or national mitigation measures (PSSA, TSS, ATBA) in selected areas;
 - facilitate the scientific evaluation of the efficacy of tools to prevent and mitigate ship strikes, in the next triennium;

6. *Asks* the Scientific Committee and the Permanent Secretariat to continue to work with the IWC, the European Cetacean Society, ASCOBANS and other relevant Organisations in finalising necropsy protocols to identify causes of death, including those in relation with ship strikes;
7. *Charges* the Permanent Secretariat and the Scientific Committee to evaluate the feasibility and develop a “whale safe” certificate to be delivered to shipping companies adopting suggested mitigation measures to reduce ship strike risk;
8. *Recommends* that the collaborative work with the IWC Scientific and Conservation Committees continues, along with collaboration with CMS, IMO, ASCOBANS and other relevant International Organizations;
9. *Decides* that the present Resolution replaces Resolutions 5.11 and 6.19.

ANNEX

RECOMMENDATIONS FROM THE JOINT IWC-IUCN-ACCOBAMS WORKSHOP TO EVALUATE HOW THE DATA AND PROCESS USED TO IDENTIFY IMPORTANT MARINE MAMMAL AREAS (IMMAS) CAN ASSIST IN IDENTIFYING AREAS OF HIGH RISK FOR SHIP STRIKE

(6-7 April 2019: Messinia, Greece)

1- Best practice guidelines for future determination of high-risk ship strike areas for cetaceans

The workshop agreed that Important Marine Mammal Areas (IMMAs) represent a systematic and biocentric approach to identifying important habitats, and that as such they can be helpful in identifying potential high-risk areas for ship strikes. In particular, if an IMMA contains a species or population that is vulnerable to ship strikes, and it is transited by significant shipping, the area can be “flagged” for further investigation and potential mitigation.

Acknowledging that there is currently no universal technological solution to prevent ship strikes, the group recommended that the best overall, current mitigation measures, are to voyage plan to avoid high risk areas or, if they cannot be avoided, restrict speed to 10 knots, which has been shown to be an effective speed to reduce fatal collisions with most large whales (Vanderlan and Taggart, 2007; Conn and Silber, 2013; Laist *et al.*, 2014).

The workshop recommended the following steps are undertaken by the IWC Ship Strikes Working Group and the IWC Scientific Committee as part of a process to identify High Risk Areas for Ship Strikes based on IMMAs:

Traffic information (e.g. Types of vessel, size, speed, flag, etc.): plotting major ship routes and see if they cross IMMAs which host significant or high-density populations of species that are threatened and/or vulnerable to ship strikes.

- Recommend analysing spatial patterns of traffic levels in IMMAs to examine the potential for management of vessel traffic within an IMMA.
- Recommend working with relevant agencies (e.g. National Coast Guard offices) that hold this information, for access to shipping data including vessels that are not equipped with AIS.
- Recommend analyses to estimate the proportion of vessel traffic that is not equipped by AIS (e.g. using remote sensing data).

Species information (e.g. Relative abundance, status, Animal Behaviour/seasonality/key lifecycle use in and within IMMAs)

- Recommend presenting risk analysis in a way that allows comparisons between areas (e.g. Redfern *et al.* 2013; Bezamat *et al.* 2014; Priyadarshana *et al.* 2016; Rockwood *et al.* 2017).
- Recommend when an IMMA is “flagged” that modelling of data within IMMA is conducted for a more refined estimate of risk (e.g. correct for effort at a minimum, etc.).
- Recommend possible use of tracking and/or behavioural profiling data to further refine risk assessment in the IMMA.

If this cannot be done, the group recommends a review of documented behaviours, preferably within the IMMA (e.g. surface feed or deep, social, travel, etc.).

Where dive profile data exist, these should be used in an approach similar to (Silber *et al.* 2010) to estimate the proportion of time at depths of high risk for types of vessel operating in the area.

Investigate stranding data near “flagged” IMMA including drift modelling to estimate locations of strikes.

Investigate availability of distribution data of at-risk species within and around the IMMA, if shipping may be re-routed into other areas. Also, investigate other unintentional consequences of the move (e.g. other species, safety, human activities, etc.)

Management and Mitigation

Where a High-Risk Area has been identified as requiring management action, the workshop recommended the following steps in developing a mitigation strategy:

- Recommend identifying and engaging with shipping “nodes” (e.g. big company “command centers”, port meetings, etc.).
- Recommend a collaborative approach with stakeholders, prior to going to the IMO (if warranted).
- Recommend maintaining a feedback loop with shipping will help encourage and sustain success.

2- Recommendations to the IWC in relation to its ongoing scientific work on the topic, and the implementation of its Ship Strikes Strategic Plan.

The workshop recommended that, subject to funding, the IWC, working with the IUCN MMPA Task Force and the CMS and its daughter agreements, undertake an initial analysis of global IMMAs, overlaid with shipping data, to identify potential high risk areas, taking into consideration the outputs of the workshop (Ships Strikes Working Group; IWC Scientific Committee; IUCN MMPATF; ACCOBAMS; CMS). The group recommends that the IWC Secretariat develop a costed proposal and seek funds to accomplish this (IWC Secretariat)

The workshop recommended that the IWC Ship Strikes Working Group develop case studies to demonstrate the benefits, anticipated and actual costs of measures introduced to reduce ship strikes. The workshop recommended that the IWC Secretariat consider whether an intern could be recruited to support the development of these case studies.

3- Opportunities for engagement with other Organisations

The workshop suggested that Simone PANIGADA become the liaison between the IWC Scientific Committee and Conservation Committee, ACCOBAMS Scientific Committee, the CMS and the IUCN MMPA Task Force.

4- Other future work needed

The workshop agreed that IMMAs could potentially be used to identify high risk areas for other threats, including combined threats, e.g. bycatch and noise. The workshop noted that some measures may help address multiple threats (e.g. keeping vessels and whales apart and/or reduced vessel speed may reduce ship strikes and noise impacts). The workshop requested the IWC Scientific Committee consider this issue.

The workshop recommended that the IWC Scientific Committee and the IUCN MMPA Task Force review the potential uses of the IWC databases (e.g. historical catch, sightings, strandings etc) in helping to identify Areas of Interest (AOI) for future surveys, and for the verification of the longevity of IMMAs.

Reinforcing the IWC67b Scientific Committee recommendation which “recommends continued work to develop and evaluate mitigation measures, such as speed restrictions, that might be associated with the designation of a Particularly Sensitive Sea Area (PSSA) in the Pelagos Sanctuary area”, the workshop recommended to the ACCOBAMS Secretariat and ACCOBAMS Parties to further develop the process for the designation of a PSSA by IMO at a scale that includes the North West Mediterranean Sea, Slope and Canyon IMMA, plus potentially the Spanish corridor, to take into account whale population movement and distribution. Zoning within the area with ship strike mitigation tools such as speed reduction and routing measures could be proposed as part of Associated Protective Measures within the PSSA. The ACCOBAMS Permanent Secretariat welcomes this recommendation.

The workshop recommended that the Greek Ministry of Maritime Affairs and Insular Policy work with other Greek Ministries (e.g. Ministry of Environment and Energy) and relevant stakeholders including the shipping industry, the European Commission and other countries, NGOs, IGOs and scientists to put in place risk reduction measures in the Hellenic Trench and submit a formal proposal by 2020 to the IMO for approval. In order to facilitate this process, a short document providing specific risk reduction options could be prepared by relevant experts to provide the necessary information.

RESOLUTION 8.18 - Ship Strikes

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling ACCOBAMS Resolution 7.12 “Ship strikes”,

Taking into consideration Recommendation 14.7 “Ship strikes” from the 14th meeting of the Scientific Committee,

Reaffirming that ACCOBAMS and the International Whaling Commission (IWC) have long ago recognized the problem of ship strikes, particularly of large whales, such as fin and sperm whales, and have been working together to better understand the issue and to develop effective mitigation measures, *inter alia*, within the ACCOBAMS Area,

Noting that concerns relate to conservation issues, animal welfare and human safety,

Recalling that mitigation measures for ship strikes with fin whales have been discussed during dedicated IWC-ACCOBAMS workshops (Beaulieu sur Mer, France, 2010; Panama, Panama, 2014; Messinia, Greece, 2019), during which the following recommendations were suggested:

- the most effective measures are those that separate whales from vessels (or at least minimise co-occurrence) in space and time, where such measures are possible (using, *inter alia*, routing schemes),
- where routing to keep whales and vessels apart is not possible, the only demonstrated measure to reduce fatal collisions with most large whales is to reduce speed,

Recalling also that the IWC-IUCN-ACCOBAMS workshop (Messinia, Greece, 2019) recommends that the following steps be undertaken as part of a process to identify high-risk areas for ship strikes based on Important Marine Mammal Areas (IMMAs):

- traffic information (such as on types of vessels, size, speed, flag, etc.): plotting major ship routes to understand if they cross IMMAs, which host significant or high-density populations of species that are threatened by, or vulnerable to, ship strikes,
- species information (such as on relative abundance, status, animal behaviour, seasonality, key lifecycle use of and within IMMAs),
- management and mitigation,

Recalling the ACCOBAMS Cetacean Critical Habitat process,

Recognising the usefulness of data from the ACCOBAMS Survey Initiative and the available scientific information to support the process for the designation of a Particularly Sensitive Sea Area (PSSA) by the IMO in the North West Mediterranean Sea,

1. *Requests* the Secretariat, the Scientific Committee and its Ship Strikes Working Group to pursue their efforts in obtaining information on both cetaceans and vessel traffic, with a view to enable a better identification of areas where cetaceans, especially fin and sperm whales, are likely (or potentially likely) to suffer from ship strikes, based on risk models incorporating information on whale and vessel distribution, as well as prediction of collision rates, notably by:

- a. encouraging Parties to report and map vessel movements and shipping density at appropriate geographical scales, including estimates from vessels not required to transmit Automatic Identification System (AIS) signals;
 - b. collaborating with maritime administrations, companies and vessel operators, involving both bottom-up (i.e., awareness, involvement) and top-down (i.e., regulatory) approaches;
 - c. mapping the temporal and geographic distribution and abundance of cetaceans in relation to similar information on vessel traffic to identify potential higher risk areas;
 - d. estimating the number of ship strikes, including data:
 - from stranding networks (including detailed necropsies);
 - from photo-identification studies (photographs may contain evidence of non-lethal encounters with vessels);
 - collected by the IWC ship strike database;
 - collected during campaigns at sea;
 - e. modelling exercises to assess the level of risk and potential conservation implications;
2. *Requests* the Secretariat and the Scientific Committee to pursue communication and cooperation with all stakeholders, through the following means:
- a. promotion of the Cetacean Critical Habitat process, and of the importance of reporting via a number of *fora*, including media;
 - b. further evaluation, including cost/benefit analysis, and dissemination of information on mitigation approaches;
 - c. fostering the development of incentive systems to shipping companies for adopting suggested mitigation measures;
 - d. additional co-operation with the International Maritime Organization (IMO) and its Marine Environment Protection Committee (MEPC), via the IWC and the secretariats of agreements adopted within the framework of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), as well as through initiatives with IMO member States, as the most appropriate mechanism for IMO action;
 - e. improved cooperation with the Pelagos Agreement in regard to the organisation and implementation of initiatives carried out within the Pelagos Agreement area;
 - f. improved protocols for the identification of ship strikes through necropsies;
 - g. investigation of incidence with regard to the nature of ship strikes injuries within photo-identification studies (such as though the ship strikes project funded by the Pelagos Agreement);
 - h. encouraging studies that improve access to the temporal and spatial distribution of shipping, particularly vessels that do not transmit AIS information;
 - i. encouraging studies that improve the understanding of temporal and spatial distribution of cetaceans within the region, including telemetry studies;
 - j. encouraging studies to develop and evaluate mitigation measures, incorporating, *inter alia*, results from (g) and (h) above, recognizing that appropriate measures will need to be specific to an area, but that changes to shipping may also impact on other areas;
 - k. capitalization of results from ongoing and further projects addressing ship strikes, such as Sicomar plus and Life CONCEPTU Maris, with maps, collision risk assessments, webGIS implemented with AIS data, and collaboration with shipping companies;
3. *Recommends* Parties to implement, as a matter of urgency, mitigation measures in the following high-risk areas in the ACCOBAMS Area, where ship strikes with the following species are frequent:
- Strait of Gibraltar - fin and sperm whales;
 - Balearic Islands - fin and sperm whales; Balearic Basin and Catalan Coast – fin and sperm whales;
 - Eastern Alborán Sea - fin and sperm whales;

- Pelagos Sanctuary - fin and sperm whales;
 - Hellenic Trench, Greece - sperm whales;
4. *Encourages* researchers, scientific institutions and partner organizations engaged in the development of real time cetacean localization projects, which are designed to be used as complementary tools in avoiding ship strikes, to share and report their findings;
 5. *Strongly encourages* Parties to submit data to the IWC Global Ship Strikes Database, which will both: (i) facilitate a proper evaluation, prioritisation and monitoring of ship strikes as a threat posed to various populations and regions; and (ii) assist in the development of mitigation measures;
 6. *Recommends* Parties to support the designation process by IMO of a Particularly Sensitive Sea Area (PSSA) in the North West Mediterranean Sea so to mitigate the risk of collision between cetaceans and ships. This area includes 'North West Mediterranean Sea Slope and Canyon System' IMMA, the Pelagos Sanctuary, the Spanish Migration Cetacean Corridor Marine Protected Area, and the area between it and the coast;
 7. *Asks* the Scientific Committee to assist Spain, France, Italy and Monaco in developing prospective protection measures in the PSSA once adopted;
 8. *Recommends* that the Parties and the Secretariat pursue their cooperation efforts with IMO, as well as other intergovernmental organizations, national authorities, shipping industry, port authorities and the whale watching industry in order to implement effective mitigation measures, in particular through the Cetacean Critical Habitat (CCH) identification process launched by ACCOBAMS, which provides an overview resulting from overlapping information on known existing human threats and IMMAs.

6.1.4 Cetacean Watching

Resolution 3.23 Commercial Whale-Watching: Towards a Label

Resolution 4.7 Guidelines for Commercial Cetacean Watching Activities in the ACCOBAMS Area

Resolution 6.20 Commercial Cetacean Watching Activities in the ACCOBAMS Area

Resolution 8.19 Commercial cetacean watching activities in the ACCOBAMS Area

RESOLUTION 3.23 - Commercial Whale-Watching: Towards a Label

The Meeting of Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean and the Contiguous Atlantic Area:

Considering that whale-watching activities for commercial purposes are constantly increasing in the area under the Agreement,

Certain that tourist whale-watching is a remarkable awareness and education tool provided the activity is correctly carried on,

Recognizing the need to regulate this activity,

Hailing the initiative of the Spanish Government to publish their Royal Decree on creating a Mobile Protection Space for cetaceans, particularly concerning the regulating of whalewatching,

Aware of the importance of environmental labels at national and international level,

Recognizing that eco-labels aim at promoting products that comply with the principles of sustainable development,

Also *recognizing* that eco-labels are an attractive way of informing consumers about the environmental consequences of their choices,

Recalling Principle 8 of the Rio Declaration, according to which “in order to achieve sustainable development and a better quality of life for all peoples, the states should reduce and eliminate non-viable ways of producing and consuming and promote the appropriate demographic policies”,

Recalling:

- Article II 1 of the Agreement, according to which the Parties forbid and take all the steps necessary to eliminate any deliberate taking of cetaceans, including harassing them or trying to engage in any such activity
- Section 2 of Annex 2 to the Agreement, providing for the crafting of guidelines and/or codes of conduct to regulate or manage activities that create interactions between humans and cetaceans, such as tourist activities
- Recommendation 2.1 on the “identification and encouragement of economic activities that help to mitigate anthropic impacts on cetaceans” encouraging the Parties, the Riparian States and the European Commission, directly or through the appropriate Bodies, to identify means of encouraging economic activities that help mitigate human/cetacean interactions,

Recalling the Resolution 1.11 on “Guidelines for commercial cetacean-watching activities in the ACCOBAMS area”, adopted within the framework of ACCOBAMS

Appreciating the collaboration established in this field particularly between ACCOBAMS and PELAGOS,

1. *Encourages* the Secretariat to pursue its collaboration with PELAGOS.

2. *Encourages* the Parties to develop a label, in priority within the PELAGOS area, in the shape of a test, which will confer on whale-watching a sustainable development aspect.
3. *Adopts* guidelines to obtain a label for whale-watching operators in the PELAGOS and ACCOBAMS area, as presented in the Annex I of the present Resolution.
4. *Makes* the Scientific Committee, in collaboration with PELAGOS experts and the ACCOBAMS and PELAGOS Secretariats, responsible for defining:
 - the content of training for operators
 - measures to check the application of the label
 - a communication strategy
 - criteria for assessing the label.
5. *Makes* the Secretariat, in collaboration with the Agreement's Scientific Committee, responsible for presenting to the next Meeting of Parties a draft label based on the guidelines mentioned below.

ANNEX 1**PROPOSAL OF GUIDELINES FOR ACQUIRING A LABEL FOR WHALE-WHATCHING OPERATORS IN THE PELAGOS / ACCOBAMS AREA****Introduction****A. Operators' commitment**

- 1.Undergoing training
- 2.Applying the Code of Good Conduct
- 3.Contribution to research programmes
 - a. Observation sheets*
 - b. Working group on having a scientist on board in the context of specific research programmes*
- 4.Modes of whale-watching outings
- 5.Message to be delivered to passengers
- 6.Contribution to the Working group

B. Commitments of coordinator bodies

- 1.Communication
- 2.Making sure the contract specifications are respected
- 3.Advance towards an official status for controlling whale-watching
- 4.Consideration of the other categories of whale-watching
- 5.Revision

Works consulted to compose this document**Appendix 1 : Code of conduct****Appendix 2 : Observation sheet**

Introduction

Many works have shown that there has been a sizeable development of whale-watching activity in the Mediterranean. But in the absence of a management or regulation programme, this development is everywhere taking place in an uncontrolled manner and does not usually meet the ecological, sociological and economic stakes this activity underpins.

Thus, in accordance with their commitments, the PELAGOS Sanctuary and the ACCOBAMS Agreement have chosen to promote voluntary management of this activity in the form of a label for structures that are committed to a quality and ecological responsibility approach. Decided on in consultation with the operators, the guidelines of this system are presented in this document in two parts: operators' commitments, and the coordinating body's commitments.

These contract specifications can be modified as our knowledge advances, the activity of whale-watching changes, and the thoughts of the work groups suggested below develop. For this reason, this document must be revised every two years.

The label may be requested by all whale-watching operators who promote their whale-watching activities at sea to the public, whether this is for commercial, pedagogic, social or scientific ends.

A. Operators' commitments

1. Undergoing training

High-quality whale-watching requires a fairly great level of skill. This is why the training of staff on board is suggested, under the scientific responsibility of institutions. This training will aim at:

- a. giving added value to the outings of the concerned operators
- b. offering the public quality service and an ecologically controlled approach
- c. mitigating the activity's impacts on cetaceans and helping protect them
- d. and thus ensuring that whale-watching has a sustainable future.

This training, that will last at least one week, will concern the following fields:

- Presenting and identifying the main species of cetacean population in the Mediterranean
- Notions of settlements' and populations' physiology, biology and ecology
- Special ecological features of cetaceans in the Mediterranean (particularly the degree of endemism), threats and conservation status
- Presenting and identifying other species that can be watched at sea (avifauna and ichthyofauna)
- Special ecological features of the Mediterranean
- Roles and importance of cetaceans in the Mediterranean ecosystem
- Regulations specific to cetaceans that can be applied in the Mediterranean, and presentation of the ACCOBAMS Agreement and the PELAGOS Sanctuary
- Reminder of the stakes and values of whale-watching
- Code of Good Conduct for whale-watching and signs of disturbance to be taken into consideration when approaching them (notions of ethology)
- Environmental education for the public: information to be circulated
- Interest of research, databases on cetaceans and teaching of a scientific observation guide that can be applied by operators
- Practical part (sea outings as far as is possible)

To obtain the label, the operators' promise, firstly, that the person responsible for the structure has undergone this training and, also, that each outing will be accompanied by at least one trained person. The only valid training is that which is completed from start to finish, with a recognized final test. The training may be rendered null and void if the label's contract specifications are flouted (§B.2).

The captain of the boat or the helmsman will make sure that the recommendations of the trained person are respected, particularly as regards approaching the cetaceans.

The initial training is free. There will be a charge for training given after suspension for flouting the contract specifications.

2. Applying the Code of Good Conduct

To get a label, operators promise to apply the Code of Good Conduct that appears in Appendix 1.

3. Contribution to research programmes

Collaboration between researchers and whale-watching bodies is vital for designing high-quality activity. This contribution to research constitutes added value for operators, a rich supplement for passengers, a logistical aid for researchers and an asset for the conservation of cetaceans. It may take the shape of observation sheets filled in by the operators, intended to enrich databases. But it can also be seen as a more in-depth form of cooperation in the context of a precise research programme.

a) Observation sheets

Operators promise to participate in enriching the joint ACCOBAMS-CIESM-PELAGOS database. To this end, a cetacean observation sheet is provided to whale-watching structures (cf. Appendix 2). It contains elementary data such as the state of the sea, the GPS position, the species concerned and the number of individuals or the direction taken by the animals. This data is collected with an observation effort ('on the transect') according to the positions of the operators and in accordance with the teaching given in the above-mentioned training. The operators promise to fill in the sheets at each outing and to hand them in every month.

b) Working group on having a scientist on board in the context of specific research programmes

In the context of specific research programmes, this will involve analysing the possibility of putting a scientist on board units that hold a sizeable number of people (over 12 passengers). For such a step it is necessary to have a good grasp of the means made available (boat speed, height of observer's eyes, sectors prospected and regularity of outings, possibility of having acoustic devices at one's disposal, etc.). It must therefore automatically be the subject of consultation between the operators and scientists within a work group. This must determine:

- the means made available by the operators for research
- how the researchers make their contribution in return (e.g. the scientist participates in informing the passengers).

The results of this reflection must systematically be made available to the scientists who bring all new projects. Then they can study the logistical possibilities offered by the operators and see whether they are compatible with their programme, in order to reduce, if need be, the budgets set aside for the boats.

Label-holding operators with units that carry more than 12 passengers promise to participate in this work group.

4. Modes of whale-watching outings

Label-holding operators promise to organise outings that have a naturalist side rather than being strictly focused on cetaceans, in accordance with what is taught in the above-mentioned training. The aim is to mitigate the pressure on the animals while making sure the public are made aware and satisfied.

With a view to limiting the consumption of fuel and making the public really aware, excursions must last sufficiently long (at least half a day, on average a whole day, ideally several days).

Game fishing combined with whale-watching in a single package is not tolerated (the fishing techniques being incompatible with the Code of Good Conduct). To hold labels, structures which offer both activities must organise them in separate excursions.

Commercial swimming with cetaceans' is not tolerated at this stage within the framework of the label. This item will be assessed during the regular updates of the contract specifications (§B.5).

Spotting from the air is tolerated at this stage but is strongly advised against. This item will be assessed during the regular updates of the contract specifications.

Whale-watching in Corsica and on the island of Lampedusa could be subjected to particular recommendations and dispensations from the present contract specifications. If need be, when the time comes, these will be appended to them.

Label-holding operators must provide their passengers with packaging that enables waste to be selectively sorted. As far as is possible, the boats must have tanks to recuperate wastewater.

5. Message to be delivered to passengers

In accordance with the Code of Good Conduct, label-holding operators promise to deliver a quality message on board with a common base that includes:

- a description and identification of cetacean species and other species that can be observed
- notions of biology and ecology on Mediterranean ecosystems and cetaceans
- an introduction to the ACCOBAMS and PELAGOS Agreements
- existing threats generally and those linked in priority to any observation activity that does not respect the Code of Good Conduct.

The message must focus on a naturalist approach, not solely on cetaceans.

At the end of the day, a standard assessment sheet will be distributed to customers, who will be invited to transmit their observations to the PELAGOS and ACCOBAMS Executive Secretariats.

6. Contribution to work groups

Direct issues or those related to whale-watching will arise from the work groups in which operators will be invited to participate. These work groups will particularly handle the following topics:

- contribution to research programmes (cf. §3.2)
- research and development to limit the activity's dependence on fossil fuels
- the acoustic insulation of hulls, shafts and motors.

B. Commitments of 'coordinator bodies'

1. Communication

The coordinator bodies promise to deliver a label to registered operators supporting a quality, environment-friendly approach. To promote this label, three tools will be established:

- visual displays to be affixed to the boats and reception centres of the concerned operators
- the use of various means of communication for the public (web page about ACCOBAMS's and PELAGOS's internet sites, PELAGOS National Day, media, and awareness of the prescribers of the tourist offer involved in whale-watching, such as tourist information offices and booking centres, guiding the public towards label-holding operators, etc.)
- a regular (annual) reference work² made available to the public (available in tourist information offices, town halls or naturalist shops). It will present:
 - whale-watching activity in the Mediterranean and the stakes involved
 - the Code of Good Conduct

- the species that can be observed, their identification, and some basic knowledge about ecology
- the interest of calling on label-holding operators (pledge of an ecological approach and quality service regarding education)
- a complete list of label-holding operators, their rates and their address, phone number, etc.

The coordinator bodies will help develop a set of pedagogical tools for operators and their customers (posters, Code of Good Conduct, etc.). Like the Michelin Guide

2. Making sure the contract specifications are respected

The coordinator bodies promise to make regular assessments to check that the label-holding operators are respecting the contract specifications defined in this document. To make such assessments, boats will be boarded anonymously. All label-holding operators will be visited at least once a year, more often if necessary (if, for example, there is flouting of specifications, or frequent return of unsatisfactory assessment sheets, cf. §A.5). If the promises regarding the label are not kept, a penalty is imposed. This is done at two levels: that of the staff on board who have undergone the training (the training is then null and void and has to be retaken) and/or at that of the operator (his label may be suspended). The table below summarizes this assessment system.

Infringement	Level	Description of the penalty
1 st report	Staff who have undergone training	Recommendation associated with a reminder of the contract specifications
	Structure (operator)	Recommendation associated with a reminder of the contract specifications
2 nd report	Staff who have undergone training	Warning, possibly associated with invalidation of the training, depending on how serious the infringement is
	Structure (operator)	Warning, possibly associated with suspension of the label for a period of one to two years, depending on how serious the infringement is
3 rd report	Staff who have undergone training	Invalidation of the training
	Structure (operator)	<i>The label is cancelled and for a period of 3 to 5 years no request for renewal may be made. The person responsible for the structure must once again undergo training if he wishes to request that the label be granted again when the cancellation period is over</i>

If after a second infringement report is made a person (who has undergone the training) or a structure (a label-holder) does not commit an infringement for three consecutive years, he is once again considered as though he had never committed any infringement.

3. Advance towards an official status for controlling whale-watching

As well as this label, PELAGOS and ACCOBAMS agree on the need eventually to control whale-watching by a regulatory tool. To this end, this involves taking all the steps leading to whale-watching being granted official status (so far inexistent). This status will mean that the activity can in future be subjected to 'declaration' or even 'authorization' (delivery of licences). This regulatory approach can go hand in hand with the voluntary label approach, since:

- it will take more time to be enforceable
- and, in the future, it will replace the voluntary approach, which will then only concern regulating the number of operators in keeping with the reception capacity of the sites.

4. Consideration of the other categories of whale-watching

ACCOBAMS and PELAGOS agree on the need, eventually, to appraise and control the other categories of whale-watching (pleasure boating and indirectly commercial, such as game fishing and sea trips). The aim is to effectively and comprehensively protect cetaceans against everything that whale-watching encompasses and act so that the efforts of those working in the field are not wiped out by the possible bad behaviour of other bodies involved in whale-watching.

5. Revision

These contract specifications will be revised a year after they enter into force, and then every three years.

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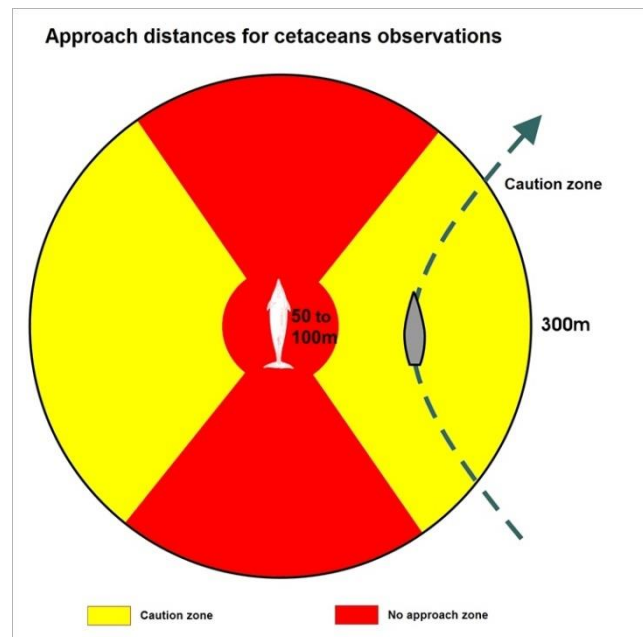
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Appendix 1

Code of Conduct for whale-watching in the Mediterranean

Whale-watching can be a source of serious disturbance if it is incorrectly done. The following rules enable us to limit our impacts on the vital behaviour of dolphins and whales (hunting, resting or inter-individual socialising). Whether one is a pleasure boater, a fisherman, a whale-watching operator or any other user of the marine environment, the rules set out below apply in the same way, in the PELAGOS Sanctuary and elsewhere.

The following illustration defines two essential zones for those approaching cetaceans – the vigilance zone (yellow) and the forbidden zone (red).



1. Vigilance zone (yellow)

The (300m) vigilance zone defines the sector in which the disturbance caused by your boat (presence, noise and exhaust) are strongly experienced by the animals. When you enter this zone, you must respect strict rules in your behaviour to mitigate this disturbance:

- The boat's speed must be constant, set by the slowest animal. It must not be greater than 5 knots
- The approach must be made according to a trajectory that gradually aligns itself parallel to the animals' path (green arrow in the illustration). The boat thus takes up its position abeam the animals, following their direction
- It is forbidden to make any sudden change of speed or direction
- To limit acoustic disturbance, sounders and sonars must be turned off
- Be even more vigilant and restrict your approach distance if you notice the presence of newborn animals
- You must instantly leave the vigilance zone if the animals show they are disturbed: for example, flight (speeding up, changing direction, trying to get away from the observer) must be seen as disturbance
- Observation time is restricted to half an hour
- If several boats are present, only one is tolerated within the vigilance zone. Observation time is then shortened to a quarter of an hour, and the other boats must wait outside the 300m zone. Radio contact between the different boats will enable coordination of observation
- When the observation ends, the boat must gradually leave the site, taking a route that unambiguously signals that it is departing. The speed will remain moderate up to a sufficient distance to avoid the risk of collision

2. Forbidden zone (red)

The forbidden zone defines the sector within which your boat must never go (except if the cetaceans spontaneously approach the boat). The distance is 100m for whales and sperm whales and 50m for dolphins. If you go nearer than this, the cetaceans will see your presence as a danger or an intrusion on their vital space, and their behaviour will be greatly disturbed by it.

Also, the boat must not get there before the animals (reduced field of vision). Nor must the boat approach from behind, for it will then be seen as a pursuer

When the boat reaches the edge of the forbidden zone, its relative speed must be cut to zero and its motor put out of gear, idling.

It is forbidden to go inside groups for this will cause social disturbance.

3. Special case when animals spontaneously approach the boat

When cetaceans come up to the boat of their own accord, passengers must not try to touch them, either directly or with an instrument, or swim near them, or feed them. Most of the above rules hold good, especially the ban on going inside groups and the respect for slow, regular movement.

4. Generally speaking...

The moment cetaceans are spotted, or at a distance of 1,000m, special vigilance is necessary and a speed of 10 knots only is essential: other animals may be present in the sector, and the risk of collision is not negligible. Moreover, a higher speed would be likely to disturb the animals, even at a great distance. Generally speaking, whale-watching is not recommended in the 5-mile coastal strip, for the cetaceans there are already very much disturbed by human activity.

An operator must accompany his outing with an educational address on cetaceans and the marine environment. This must be given by a qualified, trained guide. He must be able to identify the species encountered, determine their phases of activity, and notice possible disturbances.

5. In brief

- Keep a slow pace and calm, constant progress from the moment the cetaceans are spotted, particularly within the 300m zone
- No approach nearer than 50m for dolphins and 100m for whales and sperm whales
- Length of observation restricted to 30 minutes, 15 minutes if other boats are waiting
- Only one boat within the 300m zone
- Never try to touch, feed, or swim with a cetacean.

Appendix 2: Observation sheet



OBSERVER :
 Name: _____
 Tel: _____
 E-mail: _____
 Ship: _____

INSTRUCTIONS :
1-Important : The information gathered will be stored in a database and will be used for diverse studies on the conservation of cetaceans. Thank you for respecting the following rules, which are necessary for a good exploitation of the data. Two observation methods (obs.) are detailed. Choose one or the other depending on your availability.
2- "Random" Obs. : Choose this method to complete the sheet arbitrarily through random encounters. Fill in one line at each encounter. This method is not restrictive and allows us to know if animals have been spotted in a specific area. The "transsect" method (detailed here after) allows to determine abundances but it is more restrictive.
3- "Transsect" Obs. : Choose this method only if you're able to wait up on a definite route. As soon as you start fill in the first line (time, position, ...) and add "start of the observation" in the Remarks column. Fill in one line for each of the following case : obs. of cetacean, change of bearing or weather and every 1/2 hour. Finally, fill in one last line when you leave your position (or if the environment does not enable correct observations) by writing "end of obs" in the remarks column (random obs. can be then performed).
4- Weather : Estimations or real values. Indicate the direction et strength of the wind (in nods or km/h, thank you for writing it down). The visibility (vis) is function of the rain and the haze. The box "weather state" gives information on the type of weather. Use the scales detailed at the bottom of the sheet.
5- CETACEAN : Boxes to fill in for each observation of cetaceans (an individual or a group). In the column "Species", write down the whole name in english or in latin. In case of a doubt, write down NI (Not identified). Try to describe precisely the animal in the column "Remarks". In case of NI or rare species, photographs are recommended. The column "Nb of Ind" reflects the number of individuals observed. "Bearing" corresponds to the bearing of your observation (+ starboard and - port), and "Dist" corresponds to the precise distance (precise the unit: m, or NM).
6- BEHAVIOUR : The column "Course" should be filled in only if the animals show a precise routen. Write down in "Behaviour" all observable ethological elements and in "Remarks" all other observations (presence of calves, injured animal, pollution, fishing boats...). If your remarks need to be more detailed, do not hesitate to use more than one line for one observation.

DATE					LOCAL HOUR				LATITUDE				LONGITUDE				SHIP		WEATHER						CETACEAN				DIVERS
D	M	Y	H	MIN	°	'	"	N	°	'	"	E	Bearing (°)	Speed (kts)	Wind (dir+vg)	Sea	Sea temp (°C)	Air temp (°C)	Baro (hPa)	Weather state	Visi	Species	Nb Ind	Bearing (°)	Dist (UT?)	Course (°)	Behaviour	Remarks	
05	07	03	14	46	43	32	54	N	08	05	19	E	180	15	NNO 3nds	3	23	27	1019	1	8	<i>alaenoptera physalu</i>	2	+ 40°	1	MN	Blows 3 times, gets to 50m from the boat and dives	EXAMPLE	
							N				E																		
							N				E																		
							N				E																		
							N				E																		
							N				E																		
							N				E																		
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Codes : Weather state: 0- clear ; 1- partially cloudy ; 2- continuous layer of clouds ; 3- storm ; 4- haze ; 5- drizzle ; 6- rain ; 7- snow ; 8- showers - Visibility: 0- less than 50 m ; 1- 50 m ; 2- 200 m ; 3- 500 m ; 4- 1 km ; 5- 2 km ; 6- 4 km ; 7- 10 km ; 8- more than
 Sea : 1- Mirror ; 2- small ridules ; 3- small waves ; 4- foam ; 5- moderate waves, lots of foam ; 6- bilowe, some spindrift ; 7- spindrift blown ; 8- vortex of spindrift
 FOR THE CIEBM - SEND TO : Pierre BEAUBRUN, EPHÉ, équipe EBV [Bureau 119, alle A] Centre d'Ecologie Fonctionnelle et Evolutive/CNRS, UMR 5175, 1919 Route de Mende, F34293 MONTPELLIER Cedex 5 - Fax : 04 97 41 21 38 - e-mail : pierre-christian.beaubrun@cefe.cnrs.fr

RESOLUTION 4.7 - Guidelines for commercial cetacean-watching in the ACCOBAMS area¹⁸⁵

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS):

Considering

- that cetacean-watching activities for commercial purposes are increasingly being developed in the ACCOBAMS area and require to be regulated,
- that commercial cetacean-watching activities, where properly conducted, should be encouraged as they do contribute to the building of education and awareness on cetaceans and their habitat,

Noting

- that the International Whaling Commission (IWC), at its 48th annual meeting (1996), adopted the Scientific Committee's recommendations on the general principles for the management of whale-watching (Resolution 1996-2),
- that the Workshop on the Legal Aspects of Whale Watching, held in Punta Arenas, Chile, in 1997 and sponsored by IFAW (International Fund for Animal Welfare), drafted the Options for the Development of Legislation or Guidelines Related to Whale Watching,
- the code of conduct for cetacean watching drafted under the Agreement between France, Italy and Monaco on the Mediterranean Sanctuary for Marine Mammals,
- that legislation or guidelines applying to cetacean-watching activities has been adopted by a number of Countries,

Acknowledging

- that under Article II, paragraph 1, of ACCOBAMS, the Parties shall prohibit and take all necessary measures to eliminate any deliberate taking of cetaceans, including harassing or attempting to engage in any such conduct,
- that under Chapter 2 of Annex 2 to ACCOBAMS, when necessary, the Parties shall develop guidelines and/or codes of conduct to regulate or manage activities which create interactions between humans and cetaceans, such as touristic activities,
- that under Chapter 1.c) of Annex 2 to ACCOBAMS, the Parties shall require impact assessments to be carried out in order to provide a basis for either allowing or prohibiting the continuation or the future development of activities that may affect cetaceans or their habitat in the ACCOBAMS area, including tourism and cetacean-watching, as well as establishing the conditions under which such activities may be conducted,
- that under Article III.8.c) of ACCOBAMS, the Meeting of the Parties makes recommendations to the Parties as it deems necessary or appropriate and adopts specific actions to improve the effectiveness of ACCOBAMS,

Aware that the First Meeting of the Parties already adopted a set of Guidelines for commercial cetacean-watching activities in the ACCOBAMS area (Resolution 1.11) and that the Scientific Committee has proposed a revision of these Guidelines on the basis of the evolution of the scientific knowledge,

1. *Invites* the Parties where commercial cetacean watching activities are carried out:

¹⁸⁵ This Resolution is complemented by Resolution 7.16 (para.7).

- to adopt national legislation or regulations in conformity with the Guidelines for commercial cetacean-watching activities in the ACCOBAMS area as presented in Annex ;
 - to continue and expand the organisation of national or regional training for operators to inform them about the biology of animals, risks, boat behaviour around the animals, how to achieve accreditation, involvement in scientific research, and so forth;
2. *Asks* the Parties where legislation or regulations on commercial cetacean-watching activities have been adopted to provide the Secretariat with the relevant instruments;
 3. *Entrusts* the Scientific Committee with the task to revise, if appropriate, the Guidelines for commercial cetacean-watching activities in the ACCOBAMS area on the basis of the evolution of scientific knowledge and national legislation and regulations;
 4. *Decides* that the present Resolution replaces the Resolution 1.11

ANNEX
Guidelines for commercial cetacean-watching in the ACCOBAMS area

Point 1
Scope of the Guidelines

These Guidelines address cetacean-watching activities carried out for commercial purposes and subject to the jurisdiction of the Parties to ACCOBAMS.¹⁸⁶

Point 2
Impact assessment

1. Before allowing cetacean-watching activities, the Parties shall require an assessment on their impact on the favourable conservation status for cetaceans.
2. The impact assessment shall be based on the best available scientific information.
3. No cetacean-watching activities should be authorised if there are threats of significant adverse impact on the behavioural patterns or physiological well-being of cetaceans, having regard to the number and effect of existing cetacean-watching operations.
4. Based on the results of the impact assessment, the Parties should establish special conditions to carry out cetacean-watching activities.
5. The impact assessment shall be repeated at periodic intervals.
6. The impact assessment shall be carried out under a precise procedure established by the Parties.

Point 3
Permit

1. Any commercial cetacean-watching activity should be carried out under a permit granted by the competent authority.
2. Every applicant for a permit for a vessel or aircraft cetacean-watching operations should submit to the competent authority an application in writing setting out:
 - a) the type, number and speed of vessels or aircraft intended for use and the maximum number of vessels or aircraft the operator proposes to operate at any time;
 - b) information relating to the noise level of each vessel or aircraft both above and below the sea;
 - c) the area of operation;
 - d) the base of operation;
 - e) the duration and frequency of trips;

¹⁸⁶ These Guidelines are intended to be illustrative and used to inform the development of guidelines in the ACCOBAMS region. Local considerations may cause the development on national or regional basis of guidelines that differ from those presented here. However, it may be helpful if guideline developers explain why such differences exist. This information can be considered in the further development of these Guidelines.

- f) the species of cetaceans with which the operation will have contact and the kind of contact;
- g) the method of location of cetaceans;
- h) the maximum number of passengers to be taken on board;
- i) the experience with cetaceans demonstrated by the persons in command of the vessel or aircraft;
- j) the educational materials provided to the passengers;
- k) the altitude of the aircraft.

3. No permit should be granted if the competent national authority is not satisfied that:

- a) the operator and the staff who approach cetaceans have sufficient experience with cetaceans;
- b) the operator and the staff have sufficient knowledge of the local area and of sea and weather conditions;
- c) the operator and the staff who approach cetaceans have no convictions for offences involving the mistreatment of animals;
- d) the operation proposed has sufficient educational value to the public.

4. The competent national authority may at any time suspend or revoke a permit, or restrict the operation authorized by a permit, where:

- a) the holder contravenes or fails to comply with any statutory requirement relating to cetacean-watching or any condition specified in the permit;
- b) to suspend, revoke or amend a permit is necessary, on reasonable grounds, for maintaining the favourable conservation status for cetaceans.

Point 4

Behaviour around cetaceans

The following conditions should apply where cetacean-watching activities are being carried out:

- a) vessels and aircraft should be operated so as not to disrupt the normal movement or behaviour of cetaceans¹⁸⁷;
- b) contact with cetaceans should be abandoned at any stage if they show signs of becoming disturbed or alarmed;
- c) no cetacean should be separated from a group;
- d) no rubbish or food should be thrown near or around the cetaceans;
- e) no sudden or repeated change in the speed or direction of vessels or aircraft should be made except in the case of an emergency;
- f) where a vessel stops to enable the passengers to watch a cetacean, the engines should be placed in neutral;
- g) no aircraft should be flown below 183 metres (600 feet) above sea level;
- h) no vessel should approach intentionally within 100 metres of a cetacean;
- i) no vessel should cut off the path of a cetacean
- j) no cetacean should be prevented from leaving the vicinity of the vessel;
- k) a vessel less than 300 metres from cetaceans should move at a constant speed no faster than 5 knots and no faster than the slowest cetacean in the vicinity, and should stop when it approaches within 100 metres of a cetacean;
- l) a vessel departing from the vicinity of cetaceans should proceed slowly until the vessel is at least 300 metres from the nearest cetacean;

¹⁸⁷ How to recognize disturbance of whales and dolphins in general:

- Rapid changes in swimming direction or speed;
- Escape tactics such as prolonged diving, underwater course changes or rapid swimming away from the vessel;
- Forceful slapping of the tail against the surface of the water;
- Female attempting to shield a calf with her body or by her movements;
- Sudden stop in feeding or resting activities after the vessel's arrival.

- m) aircraft should be operated in such a manner that, without compromising safety, the aircraft's shadow is not imposed directly on cetaceans;
- n) only one vessel or aircraft at any one time should be allowed to stay in the watching area;
- o) the presence in the watching area should be limited to around 15 minutes for vessels or 2 minutes for aircraft, especially if other vessels or aircraft are waiting for their turn;
- p) vessels should approach a cetacean only diagonally from the side;
- q) activities such as swimming with cetaceans should be forbidden or strictly regulated;
- r) cetaceans should not in any other way be disturbed or harassed.

Point 5

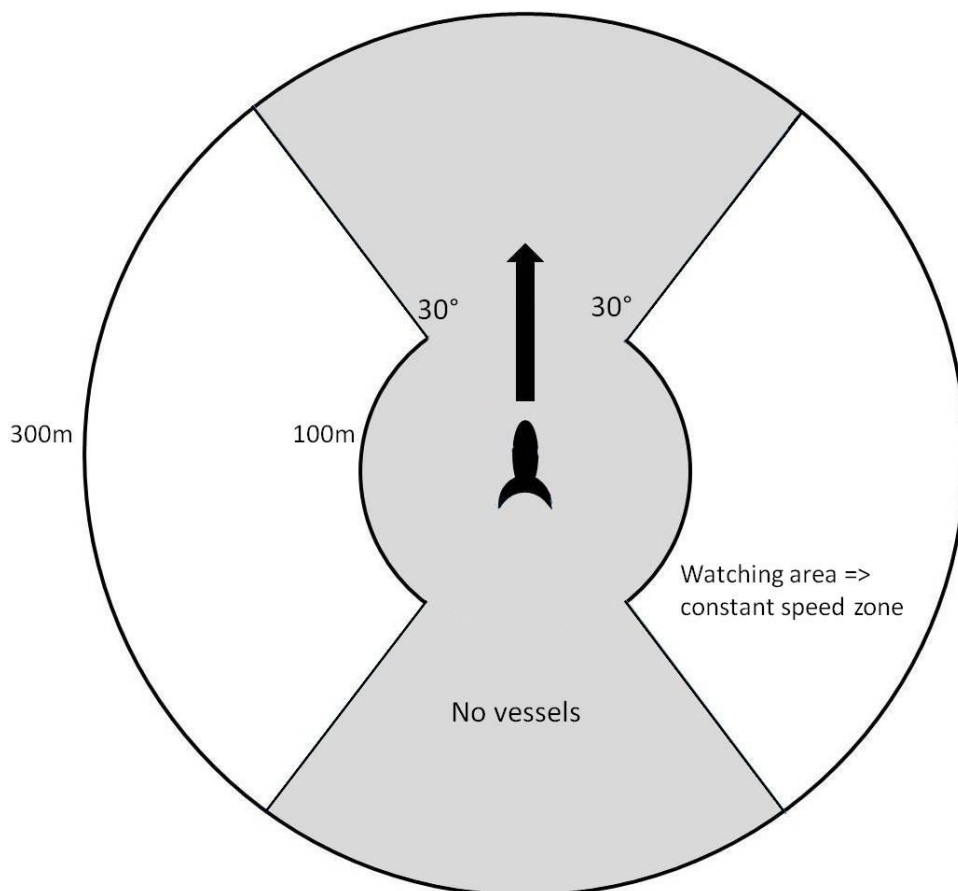
Training and special quality mark

1. The Parties should organise training courses for operators and staff and grant them a certificate.
2. The Parties should allow the use of [label] to the operators who have behaved in conformity with the applicable regulations or guidelines, have obtained a training certificate and have a qualified guide on board.

Point 6

Sanctions and remedies

1. The Parties should impose sanctions of sufficient gravity to deter violations of the present Guidelines, including the suspension or revocation of permits.



All distances taken from the animals

RESOLUTION 6.20 - Commercial cetacean watching activities in the ACCOBAMS area¹⁸⁸

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Resolution 4.7 regarding the Guidelines on Commercial Cetacean Watching in the ACCOBAMS Area,

Taking in consideration the Recommendations of the ACCOBAMS Scientific Committee,

Considering that under Article II, paragraph 1, of the Agreement, the Parties shall prohibit and take all necessary measures to eliminate any deliberate taking of cetaceans, including harassing or attempting to engage in any such conduct,

Considering also that under Chapter 1.c) of Annex 2 to ACCOBAMS, the Parties shall require impact assessments to be carried out in order to provide a basis for either allowing or prohibiting the continuation or the future development of activities that may affect cetaceans or their habitat in the ACCOBAMS area, including tourism and cetacean-watching, as well as for establishing the conditions under which such activities may be conducted,

Recalling paragraph 130 of "The Future We Want" that underlines the need to support sustainable tourism activities and relevant capacity-building that promote environmental awareness, conserve and protect the environment, respect wildlife, flora, biodiversity, ecosystems and cultural diversity, and improve the welfare and livelihoods of local communities by supporting their local economies and the human and natural environment as a whole,

Acknowledging that commercial cetacean-watching activities, where properly conducted, should be encouraged as they do contribute to the building of education and awareness on cetaceans and their habitat and present other potential benefits, including economic benefits,

Conscious, as outlined in Resolution 11.29 on sustainable boat based marine wildlife watching, adopted by the Conference of the Parties of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), that disturbance caused by excessive exposure to wildlife watching boats may lead to changes in the target species' behaviour and as a result, to negative consequences, such as emigration, reduced reproduction or reductions of the population,

Acknowledging the extensive work that has been undertaken in other international fora with respect to whale watching activities, in particular the CMS (Resolution 11.29), the International Whaling Commission (IWC), and the Pelagos Agreement,

Congratulating the Permanent Secretariat for having registered the logo "High Quality Whale Watching[®]" at the World Intellectual Property Organisation, and also thanking the Principality of Monaco for its financial support,

Congratulating France and the Principality of Monaco for having implemented the "High Quality Whale-Watching[®]" Certificate,

¹⁸⁸ This Resolution is complemented by Resolution 7.16 (para.7).

[®]The *High-Quality Whale Watching* [®] is a trademark registered by ACCOBAMS and developed in collaboration with the Pelagos Agreement.

Stressing that any expansion of cetacean watching activities in the Agreement area should be carefully managed in order to minimise potential adverse impacts on cetacean individuals and populations,

1. *Acknowledges* that the HQWW Certificate has been developed jointly by the Pelagos Agreement and ACCOBAMS;
2. *Adopts* the new logo of the “High Quality Whale-Watching®” Certificate as presented in Annex 1 of this Resolution;
3. *Mandates* the Permanent Secretariat, in cooperation with any relevant organisations, to continue the implementation of the “High Quality Whale-Watching®” Certificate in the ACCOBAMS Parties;
4. *Encourages Parties:*
 - to promote the implementation of the “High Quality Whale-Watching®” Certificate on their territory;
 - to support the continuation and expansion of national or regional training courses for operators, covering, inter alia, the biology of animals, risks, boat behaviour around the animals, involvement in scientific research;
5. *Takes note* of the Regulations Governing Use associated with the “High Quality Whale-Watching®” Certificate as presented in Annex 2 of this Resolution;
6. *Encourages* the Scientific Committee to continue consideration, including collation and review of scientific literature on potential adverse effects of cetacean watching on cetaceans and means to mitigate them, with an emphasis on population-level impacts, swim-with activities, use of aerial spotter aircraft and the concept of “carrying capacity”;
7. *Takes note of:*
 - a) the Guidelines for monitoring programs aimed at maximizing the chance of detecting potential adverse impacts of whale watching activities on individual cetaceans and on populations, as presented in Annex 3 of this Resolution,
 - b) the proposed common procedure (data collection system) for whale watching vessels to be implemented in the ACCOBAMS Area, as presented in Annex 4 of this Resolution;
8. *Asks* the Working Group on Whale Watching to:
 - a) provide a definition of the different types of whale watching operators (commercial, research, others)
 - b) test the proposed common procedure (data collection system) for whale watching vessels in pilot areas and a variety of operation types (e.g. the Liguro-Provençal Basin, Gibraltar Strait, and south Portugal);
 - c) revise accordingly, if necessary, the Guidelines mentioned in item 6. a) of the present Resolution and report on this issue to the Seventh Meeting of the Parties
9. *Encourages Parties to:*
 - a) monitor the activity of cetacean watching operators, in order to obtain information on their development and to identify potential problems;
 - b) use the Guidelines and data collection system referred to in paragraph 7. a) and b);
10. *Also encourages* the Permanent Secretariat to disseminate the gathered information through NETCCOBAMS;
11. *Asks Parties* to develop methods to better inform the general public, including yachtsmen and other boaters involved in opportunistic cetacean watching, about responsible boat behaviour around cetaceans;

12. *Encourages* the Permanent Secretariat to continue its collaboration with CBD, CMS, IWC (especially with respect to the online whale watching handbook) and any other relevant organisations on this issue;
13. *Decides* that the present Resolution replaces Resolution 5.10.

ANNEX 1

“HIGH QUALITY WHALE-WATCHING®” CERTIFICATE LOGOS



ANNEX 2

REGULATIONS GOVERNING USE OF THE COLLECTIVE CERTIFICATION MARK "HIGH QUALITY WHALE-WATCHING®"

Introduction

Whale-watching activities are increasing in the Mediterranean. If well managed, and within a substantial framework, they are a wonderful vector for environmental education, contribute to the local economy and can promote research on cetaceans and their conservation. However, in the absence of a framework, they can grow too fast, increasing pressure on the environment and disturbing animals, and give rise to serious repercussions for the populations concerned.

Since 2004, several studies have shown that such activities are increasing in the Mediterranean, particularly in north-western regions. Aware of these challenges, many whale-watching operators from the Pelagos Sanctuary have come together, at the initiative of the Pelagos Sanctuary and the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area (ACCOBAMS), with the support of several Non-Governmental Organizations (NGOs). This collaboration has led to the creation of a consultative and voluntary management tool to ensure the sustainability of these activities – a certification for whale-watching operators that are involved in initiatives fostering quality and environmental responsibility.

In addition, it is important to note:

- That ACCOBAMS Resolutions 4.7 and 5.10 set out Guidelines for the observation of cetaceans for commercial purposes in the ACCOBAMS area;
- That by virtue of Article II, paragraph 1 of ACCOBAMS, the Parties prohibit and take all necessary measures to eliminate any deliberate taking of cetaceans, including disturbing them or attempting to perform such activities;
- That pursuant to Section 1.c) of Annex 2 to ACCOBAMS, the Parties require that impact assessments be carried out in order to provide a basis for either allowing or prohibiting the continuation or the future development of activities that may affect cetaceans or their habitat in the Agreement area, including tourism and cetacean-watching, as well as establishing the conditions under which such activities may be conducted;
- That Resolution 4.5 of the Pelagos Agreement on the creation of a certification for marine mammal-watching activities for commercial purposes in the Pelagos Sanctuary has been adopted by the State Parties;
- That Article 8 of the Pelagos Agreement on the protection of marine mammals in the Mediterranean provides that "In the Sanctuary, the Parties regulate the watching of marine mammals for the purposes of tourism";
- That the Pelagos Sanctuary provides unique potential for tourists to watch marine mammals and for such watching to become an exceptional awareness-raising and educational tool;
- That cetacean-watching activities for commercial purposes, where properly conducted, should be encouraged since they contribute to educating the general public and raising awareness of cetaceans and their habitat, and also have other potential benefits including economic benefits;
- That such activities, if carried out in an inappropriate way, may lead to detrimental disturbance of marine mammals; and lastly
- That paragraph 130 of the document "The Future We Want", adopted in 2012 by the Rio Conference on sustainable development (Rio +20) highlights the necessity of supporting activities related to the sustainable development of tourism and capacity-building in this regard, which foster knowledge of the environment, preserve and protect the environment, respect wildlife, flora, biodiversity, ecosystems and cultural diversity, and improve living conditions

and sources of income for local populations by protecting their economy, as well as the natural environment overall.

Project objectives

In this context, and to meet the requirements of the State Parties to the Agreement, ACCOBAMS and the Pelagos Sanctuary wish to promote good practices for cetacean watching for commercial purposes.

The collective certification mark "High Quality Whale-Watching" is voluntary, individual and participative, and acts as an incentive to ensure that good practices and responsible methods are implemented by operators involved in whale watching at sea, as well as their crews. It also contributes to optimizing existing initiatives.

This initiative is based on these Regulations Governing Use that can be adapted to all professional operators organizing whale watching at sea for commercial purposes.

Regulatory framework

These Regulations Governing Use have been prepared using the Intellectual Property Code which defines the status of a collective mark.

Marine whale-watching operators applying to use the collective certification mark "High Quality Whale-Watching" first undertake to comply with the regulations in force.

The law to be applied to these Regulations Governing Use is Monegasque law. French is the official language of the Regulations Governing Use. Any translation of the Regulations Governing Use that has not been approved by ACCOBAMS has no legal value and may only be considered to be a working document.

Disputes relating to these Regulations Governing Use will be brought before the competent Monegasque Courts.

Article 1 - Owner

The basic collective certification mark represented by the "High Quality Whale-Watching" logo (designed by *Souffleurs d'Ecume* and gifted to ACCOBAMS in a copyright assignment agreement signed on 18/07/2014), reproduced below and described in Article 5.2 is owned by ACCOBAMS, located at Terrasses de Fontvieille, Jardin de l'UNESCO, 98000 MONACO:



The mark has been lodged with the Intellectual Property Department (Business Development Agency - 98000 MONACO). Once registered, it is protected for 10 years as from the date at which the application was filed.

Article 2 - Scope**Article 2.1 - Date of implementation**

These Regulations Governing Use enter into force as from their registration on the national brand register.

Article 2.2 - Users of the mark

The "High Quality Whale-Watching" project concerns any operator offering trips out of a harbour to watch cetaceans in their natural environment.

Article 3 - Obtaining the Regulations Governing Use

The Regulations Governing Use are available free of charge and can be downloaded from the ACCOBAMS website: <http://www.accobams.org>.

Article 4 - Conditions of use**Article 4.1 - Conditions for the use of the mark**

A general condition regarding the reproduction of the mark and applying to all users:

The following words should be added below the logo:



**"Collective certification mark for whale-watching operators
complying with the Code of Good Conduct"**

Article 4.2 - House style

Operators authorized to use the "High Quality Whale-Watching" certification mark may reproduce, affix or use the "High Quality Whale-Watching" logo on any media for advertising or institutional communication.

Use of the logo must comply with the following house style specifications:

- **Use of colour:**



Pantone colour reference:

Black = 426C

4-colour offset colour references:

Cyan = 100%	Cyan = 54%
Magenta = 100%	Magenta = 50%
Yellow = 100%	Yellow = 45%
Black = 100%	Black = 11%

- **Use of the logo in other colours**

In order to meet users' aesthetic requirements, the logo may be used in the following ways:



4-colour offset colour references:

Cyan = 100%	Cyan = 54%
Magenta = 100%	Magenta = 50%
Yellow = 100%	Yellow = 45%
Black = 100%	Black = 11%



4-colour offset colour references:

Cyan = 76%	Cyan = 36%
Magenta = 6%	Magenta = 3%
Yellow = 41%	Yellow = 20%
Black = 0%	Black = 11%

Article 4.3 - Penalties regarding the conditions for the use of the mark

ACCOBAMS reserves the right to take any necessary measure to guarantee the proper use of the "High Quality Whale-Watching" mark.

For whale-watching operators authorized to use the "High Quality Whale-Watching" mark, non-compliance with the conditions for use of the mark and the house style will lead to the withdrawal of the authorization to use the mark, once the user has been invited to submit his remarks. Withdrawal of authorization will lead, *ipso jure*, to the termination of the agreement authorizing use of the "High Quality Whale-Watching" mark.

As a reminder, any infringement or wrongful or fraudulent use of the "High Quality Whale-Watching" mark, whether the fault of the mark holder or a third party, will entitle ACCOBAMS to take any legal action deemed appropriate, including brand infringement action, without prejudice to criminal proceedings being initiated.

Article 5 - Procedures for obtaining authorization to use the mark

Article 5.1 - Conditions on access to the mark and identification

The "High Quality Whale-Watching" mark may be requested by any operator offering trips to watch cetaceans in their natural environment. In order to benefit from the mark, operators must first follow a training programme, in accordance with the terms of Article 5.2.

Operators also undertake to be up to date with payments of mandatory contributions, confirm that they hold the insurance policies required for their activities, and undertake to provide their services in full compliance with the regulations in force, particularly as regards passenger safety.

Article 5.2. - Undergoing training

High-quality whale-watching activities require a considerable level of skill. It is for this reason that the training of whale-watching operators' management and crew is an essential clause regarding the use of the mark. This training is aimed at:

- giving added value to the operators' trips;
- promoting high quality service and an ecologically sustainable approach as regards the general public;
- restricting the impacts of activities on cetaceans and helping to protect them;
- thus ensuring that whale watching has a sustainable future.

During the training programme, the following issues will be covered:

- Marine ecology: physico-chemical and biological aspects of the Mediterranean, presentation of species that can be observed (fish, turtles, birds);
- Cetology: palaeontology, physiology and adaptation, Mediterranean populations, identification of species, ecology and conservation;
- Disturbances of human origin and measures experimented;
- The challenges of whale watching;
- Approaching cetaceans at sea (Code of Good Conduct);

- Contribution to research and conservation of cetaceans;
- Presentation of the activities of ACCOBAMS and the Pelagos Sanctuary (for operators from the area);
- Information to be disseminated to the general public.

In order to complete the training programme, candidates must attend all sessions and must not make more than 5 errors during the final examination comprising 40 questions. Candidates will then receive a certificate.

In order to use the mark, an executive from the beneficiary entity must on the one hand complete the training programme and on the other must be accompanied on each trip by at least one person that has also completed the training.

Article 5.3. – Compliance with the Code of Good Conduct

In order to obtain the right to use the "High Quality Whale-Watching" mark, **operators undertake to comply with the Code of Good Conduct** of ACCOBAMS and the **Pelagos Sanctuary**, as presented in Appendice 1.

Article 5.4 - Procedure for trips at sea

Operators undertake to organise **nature-oriented trips** rather than excursions focusing solely on cetaceans. The aim is to restrict pressure on the animals whilst ensuring public awareness and satisfaction.

“Big-game” fishing combined with whale watching within a single package is not allowed (the fishing techniques are incompatible with the Code of Good Conduct). To qualify as a mark-holder, entities offering both activities must organise them separately, on different excursions.

Swimming with cetaceans is prohibited under the certification mark, both for safety reasons and so as not to disturb the animals.

Using airborne detection systems to find cetaceans is not recommended (airborne searches are one way to accelerate and facilitate the detection of animals, leading to an increase in pressure and an intensification of activities).

Article 5.5 - Raising passengers' awareness

In compliance with the Code of Good Conduct, the operator undertakes to disseminate a high-quality message on board ship using common content comprising:

- a description and identification of cetaceans and other species that can be watched;
- biological and ecological ideas on the cetaceans and ecosystems of the Mediterranean;
- A presentation of ACCOBAMS and the Pelagos Sanctuary;
- The main existing threats to cetaceans and in particular those related to whale watching that does not comply with the Code of Good Conduct.

Operators awarded the certification mark also undertake to make available to their passengers awareness-raising documents provided by ACCOBAMS and/or the Pelagos Sanctuary.

At the end of the trip, **assessment forms are to be distributed to passengers on every occasion** by the operator, in accordance with Article 6.a.

Article 5.6. - Participation in research and conservation programmes

Owing to their presence at sea and their knowledge of the marine environment, operators can make a significant contribution to research and conservation, thus helping to protect the environment and the species that are involved in their business. This collaboration may also be promoted to passengers.

The cooperation takes the form of observation sheets filled in by the operators and intended to enrich scientific databanks. It may also be extended, as part of specific research programmes (joining working groups, hosting scientists on board, etc.).

All forms completed during the year are to be sent, by December each year, by the operator to the national (public or private) entity that has granted them the right to use the «High Quality Whale-Watching" mark.

Article 6 - Monitoring and penalties

Compliance with these Regulations Governing Use by whale watching operators is a guarantee of credibility for the "High Quality Whale-Watching" mark. In order to assess such compliance, the following will be put in place:

- a) Assessment forms for tourists using the operator's service
- b) Visits on board during trips
- c) A Participative Assessment Committee

a) Assessment forms

Assessment forms, for which a model form will be provided, will enable passengers to express their feelings about their trip and compliance by the operator with the conditions of these Regulations Governing Use.

The assessment forms may be sent to the passengers by email, subject to the operator providing proof of having systematically collected their clients' email addresses and subject to the operator keeping, and making available to ACCOBAMS, proof of dispatch of assessment forms by email for a period of 3 years.

b) Assessment visits and reports

An official will be mandated to go on board operators' vessels during their trips out to sea, with the aim of assessing compliance with these Regulations Governing Use (assessment visit). A report will be produced after the visit.

The choice of operators to be visited each year will be made partly according to assessment forms returned, partly according to the recommendations of previous Participative Assessment Committees, and partly on a random basis. Each operator will be visited at least once every three years.

c) National Participative Assessment Committee

Each year, a National Participative Assessment Committee will meet to assess compliance with the Regulations Governing Use by operators. The Participative Assessment Committee will thus be the guarantor of the credibility of the "High Quality Whale-Watching" mark with the regard to the general public. In accordance with the participative spirit of the certification project, all stakeholders will attend committee meetings. Thus each assessment committee will be composed at least of:

- A representative from the Permanent Secretariat of ACCOBAMS,
- A representative from the Permanent Secretariat of the Pelagos Sanctuary,
- Relevant representatives from ACCOBAMS Partners,
- A certified operator, identified at random in the country concerned,
- A representative from any other (public or private) organization from the country in question.

In issuing its opinion, the National Participative Assessment Committee will examine each inspection report produced since the last Committee Meeting (the procedure is anonymized by blanking out the name of the operator concerned). The opinion of the Participative Assessment Committee, noted on said inspection report, will be issued in line with the provisions set out in Article 6.1., by consensus or, failing this, by show of hands.

The Participative Assessment Committee will also define a list of operators to be inspected for the next season, in accordance with the provisions of point b) of this Article. If necessary, the Committee may recommend an additional inspection visit for one or more operators during the current season, and, if applicable, decide to hold a further meeting.

Article 6.1 - Penalties applied for non-compliance with the Regulations Governing Use

If the undertakings set out in this document are breached, penalties are provided for. The following Table summarizes the procedure:

Infringement level	Description of penalty
1st report (moderate infringement)	Recommendation by letter, plus a reminder of the Regulations Governing Use.
1st report (serious infringement)	Warning by registered letter, possibly with a suspension from use of the High Quality Whale-Watching mark for a period of 1-2 years according to the seriousness of the infringement.
2nd report	Warning by registered letter, plus suspension from use of the High Quality Whale-Watching mark for a period of 1-2 years according to the seriousness of the infringement.
3rd report	Withdrawal of permission to use the "High Quality Whale-Watching" mark, possibly with a prohibition from re-applying for a period of from one to five years, depending on the seriousness of the breach. The person responsible for the entity must once again undergo training if they wish to apply for re-attribution of the "High Quality Whale-Watching" mark at the end of the period of withdrawal.

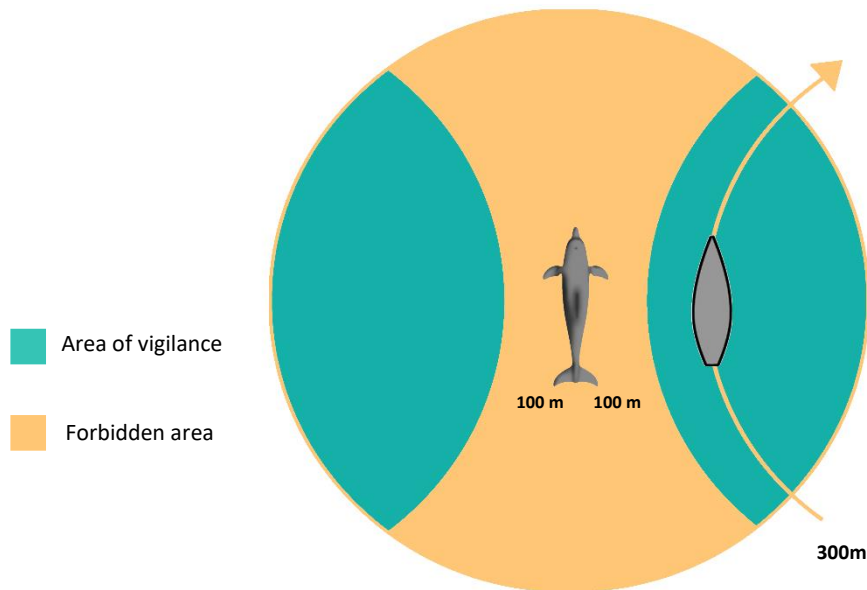
If, once a breach has been reported, the operator does not re-offend for five consecutive years, they will then be deemed never to have committed a breach.

Appendice 1

Code of Good Conduct for whale watching in the Mediterranean Sea

Whale-watching can be a source of serious disturbance if badly done. The following rules allow our impacts on the vital behaviour of dolphins and whales (hunting, repose or inter-individual socialization) to be mitigated. Whether one is an amateur sailor, fisherman, whale watching operator or other user of the marine domain, these rules, set out below, apply equally inside and outside the Pelagos Sanctuary.

The pie chart defines two areas that are essential when approaching cetaceans: the area of vigilance (green) and the forbidden area (yellow).



1. Area of vigilance (green)

The area of vigilance (**300 m**) defines the sector in which the disturbance caused by your boat (presence, noise and exhaust fumes) is strongly felt by the animals. When you enter this area, your behaviour must respect strict rules to limit this disturbance:

- ✓ the boat's speed must be constant and attuned to the speed of the slowest animal. It must not be more than 5 knots;
- ✓ any approach must be made according to a trajectory that gradually draws parallel to the animal's path (green arrow in the pie chart). The boat thus positions itself alongside the cetaceans, moving in the same direction;
- ✓ any sudden change of speed or direction is forbidden;
- ✓ to mitigate acoustic disturbance, sounders and sonar must be switched off;
- ✓ be even more careful, and limit your distance of approach if you remark the presence of new-born animals;
- ✓ you must immediately leave the area of vigilance if the animals are disturbed: for example, flight behaviour (acceleration, changing direction, trying to get away from the observer) must be considered as a sign of disturbance;
- ✓ observation time is limited to half an hour;
- ✓ if many boats are present, only one is tolerated within the area of vigilance. Observation time is then shortened to a quarter of an hour and the other boats have to wait patiently 300 m away. Radio contact between the various boats will enable the watching to be coordinated;
- ✓ when the observation is over, the boat must gradually leave the site, taking a path that clearly signals that it is leaving. The speed will remain moderate for a distance that is sufficient to avoid the risk of collision.

2. Forbidden area (yellow)

The forbidden area defines the sector which your boat must never enter (except when the cetaceans approach the boat of their own accord). This distance is **100 m**. Any nearer than this and the cetaceans will see your presence as a danger or an intrusion into their vital space, and their behaviour will become greatly disturbed by it.

Also, the boat must not enter the sector in front of the animals (reduced field of vision). Neither must it approach them from behind, since the boat may then be seen as a pursuer.

When the boat reaches the outside limit of the forbidden area, its relative speed must be reduced to zero and its engine put into neutral gear.

It is forbidden to enter groups, for this will cause social disturbance.

3. Special case when the animals come to the boat of their own accord

When cetaceans voluntarily approach the boat, the passengers must not try to touch them directly or with an instrument, bathe near them or feed them. Most of the above rules also remain in force, particularly the ban on entering groups, and keeping to a slow, regular pace.

4. Generally speaking...

Once the cetaceans are spotted, or at 1,000 m distance, particular vigilance and a speed limited to 10 knots are compulsory: other animals may be present in the sector and the risk of collision cannot be ruled out. Furthermore, a greater speed would be likely to disturb the animals, even at this greater distance.

Generally speaking, whale watching is not recommended within the 5-mile coastal strip, since the cetaceans there are already greatly disturbed by human activity.

An operator must accompany his trip with an educational talk on cetaceans and the marine environment. This must be given by a qualified, trained guide. He must be able to identify the species encountered, determine their activity phases and notice possible disturbance.

5. In short

- ✓ Slow pace and calm, constant advance the moment the cetaceans are spotted, especially within the 300 m area
- ✓ No approach closer than 100 m
- ✓ Length of observation limited to 30 minutes, 15 minutes if other boats are waiting
- ✓ Only one boat within the 300 m area
- ✓ Never try to touch, feed or swim with a cetacean.

ANNEX 3

PROPOSED GUIDELINES FOR MONITORING PROGRAMS AIMED AT MAXIMIZING THE CHANCE OF DETECTING POTENTIAL ADVERSE IMPACTS OF WHALE WATCHING ACTIVITIES ON INDIVIDUAL CETACEANS AND ON POPULATIONS

Introduction:

The ACCOBAMS region is an important area for a great number of cetacean species, whether as a permanent habitat, a breeding or feeding ground or a migratory corridor. The presence of such a diversity of cetaceans has led to the development of whale watching activities, both on a commercial and recreational basis, which until present still maintains a steady and regular growth within the region.

Whale watching is an important economic activity in many areas of the ACCOBAMS area. Although several countries in the region have already implemented specific codes of conduct and national legislation aimed at regulating and monitoring the activity, this particular tourism activity is not necessarily benign.

Management considerations:

In an effort to minimize the risk of adverse impacts of cetacean watching and to ensure the sustainable development of such activities, effective management strategies need to be implemented. Several tools and approaches should be considered:

- 1) National / regional licensing or permitting schemes to regulate:
 - i) the number, size, type and speed of vessels;
 - ii) standards of operation;
 - iii) capacity building;
 - iv) site specific and species-specific requirements;
 - v) permitted research and media;
 - vi) training of operators;
 - vii) sanctions for non-compliance.

- 2) National / regional measures to regulate approaches, frequency, length and type of exposure in encounters with cetaceans;

- 3) Development of management provisions through cooperation amongst stakeholders, such as government agencies, NGO's and operators wherever appropriate. Such provisions are subject to adaptive management (as new information becomes available regulations may change to incorporate this new information);

- 4) National / regional management measures to include closed seasons, exclusion zones, speed limits and "no approach times", to provide additional protection to habitats, populations and individuals;

- 5) Assessment of the numbers, distribution and other characteristics of the target population(s) before the implementation of tourism operations to establish the feasibility of the industry and a baseline for future monitoring;

- 6) Where new cetacean watching operations are evolving, start cautiously, moderating activity and adapting management until sufficient information on populations and species is available to guide further development;
- 7) Monitoring compliance with and the effectiveness of management provisions and modifying them as required to reflect new information and circumstances, with the consultation of stakeholders, such as operators and NGO's;
- 8) Establishment of an enforcement framework to ensure compliance with regulations;
- 9) Scientific and socio-economic research and monitoring of potential impacts on cetaceans, and collection and sharing of information by all stakeholders, such as scientists, operators and NGO's;
- 10) Dissemination of information on best practice and research to improve public awareness, including all stakeholders;
- 11) On-going operator, naturalist and industry training and accreditation programmes on the biology and behavior of target species, local ecosystems, navigation, culture, best practice of cetacean watching operations, and the management provisions in effect;
- 12) Development of on-board research protocols to collect data on sighting effort, sighting data and other relevant documentation (e.g. about injuries, entanglements, highly identifiable individuals, vessel-cetacean interactions...) (see SC10/2015/Doc15);
- 13) Supporting and empowering communities' participation and ownership of the cetacean watching industry;
- 14) Development of educational standards for the provision of accurate and informative material to cetacean watching participants, to:
 - i) develop an informed and environmentally responsible public (locals and tourists);
 - ii) encourage development of realistic expectations during encounters;
 - iii) encourage the provision of naturalist guides on all boats;
 - iv) encourage public participation in on-board research and education programmes (e.g. docent and intern training, opportunistic data collection, species identification...);
 - v) encourage awareness of species protection measures and enforcement;
 - vi) assess and evaluate on an on-going basis on-board education programmes.

Cetacean species may respond differently to sound frequencies, relative sound intensity or rapid changes in sound. Such responses may not only be species specific but also differ between individuals and / or age classes. Therefore:

- 1) Vessels, engines and other associated equipment should be designed, maintained and operated during cetacean watching to reduce as far as practicable adverse acoustic and physical impacts on the target species and their environment;
- 2) Vessel design and operation should minimize the risk of injury to cetaceans should contact occur (for example, shrouding of propellers can reduce the risk of injury);

- 3) In order to avoid ship strikes, operators should keep track of cetaceans during an encounter and not engage engines until all cetaceans being watched are on the surface and at safe distance from the vessel.

Swimming with cetaceans may increase the potential for disturbance and displacement and puts cetaceans at additional risk. There are existing swim-with-cetacean programmes but the further development of these programmes is discouraged. For those countries where swim-with activities are currently being undertaken, it is recommended that the following standards be applied to these operations:

1) Scientific studies should be initiated to assess:

- a) the associated risk to the safety of the people and the cetaceans involved in swim-with activities;
- b) the current and potential future impacts of these activities on the target species. Any accidents should be documented and reported to the relevant authorities;
- c) Particularly sensitive animals (e.g. mothers with calves) and sensitive habitats (e.g. calving and/or feeding areas) should be provided with additional protection (see “Management Considerations”);
- d) Sub-surface swimming by participants should not be allowed, including the use of underwater breathing apparatus and scooters;
- e) Underwater flash photography or lighted filming should not be allowed;
- f) A precautionary adaptive management approach should be taken when reviewing swim-with operating procedures. Consideration should be given to:
 - Regular review of operational standards as credible scientific information on the impacts of swim-with programmes becomes available;
 - All persons in the water with cetaceans should be accompanied by an appropriately trained naturalist or scientist;
 - Limiting the number of vessels permitted to undertake swim-with activities in a region;
 - Limiting the number of swimmers allowed in the water at any one time;
 - Limiting the maximum duration of in-water time allowed, including maximum swim time for each interaction, time required between successive swims with each cetacean and maximum cumulative interaction time with each cetacean per day;
 - Appropriate drop-off distance for swimmers and minimum swimmer distance from cetaceans;
 - Entering the water with cetaceans during behaviorally sensitive situations (e.g. feeding / foraging) should be discouraged;
 - Prohibit leapfrogging of cetaceans.

Relevant bibliography

- IWC 1996 – Guiding Principles for Whalewatching. (downloaded from <https://iwc.int/wwguidelines>).
- Mayol, P.; Beaubrun, P. 2005 – Le Whale Watching en Méditerranée française: État des lieux et perspectives: 101.pp.
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- Scarpaci, C.; Parsons, C.M. 2014 – Review – Recent advances in whale-watching research: 2013-2014. Paper presented at the IWC 2014 sub-committee meeting on Whalewatching (SC/65b/WW02): 7 pp.
- Carlson, C.; Kaufman, G.; Riter, F.; Rose, N. 2014 – Report on the intersessional working group on guiding principles development. Paper presented at the IWC 2014 sub-committee meeting on Whalewatching (SC/65b/WW04): 6 pp.

ANNEX 4

PROPOSED COMMON PROCEDURE (DATA COLLECTION SYSTEM) FOR WHALE WATCHING VESSELS TO BE IMPLEMENTED IN THE ACCOBAMS AREA

Introduction

At the last meeting of the IWC scientific committee (2014) the sub-committee on whale watching discussed a proposal for data collection from commercial whale watching vessels. Guiding principles for data collection from platforms of opportunity were proposed which would help ensure a higher standard of data collected from whale watching vessels. Although a final version of a data sheet could not be approved and the sub-committee agreed that the submitted proposal could be further refined, this could also be a working document upon which the ACCOBAMS Scientific Committee could work on, bearing in mind the specific characteristics of the agreement area.

Whale watching vessels constitute platforms of opportunity for the collection of data on target cetaceans and have been widely used in data deficient areas, particularly in developing countries. However, data collected from whale watching vessels are subject to several types of bias:

1. The purpose of whale watching vessels is to find cetaceans and focus on fulfilling the clients' expectations to encounter the animals. Collecting research data is not their primary purpose and they do not follow scientific line transects. The behavior of whale watching vessels influences the search effort, which is often restricted to localized high abundance areas, sometimes seasonally dependent and species specific. In order to correct for the spatial and seasonal effort of the whale watching vessels, it is crucial that spatial and sighting effort data are collected as well.
2. Because guides and skippers have to perform many tasks on the boat and registering data and taking photographs are sometimes least priority, the quality of acquisition of data is a potential source of bias. However, the use of qualified guides has great potential for improving collection of valuable but fairly inexpensive data, particularly in areas where funding is scarce.
3. The whale watching vessels will only spend time with a limited number of animals and not always approach and identify all individuals and groups in the area. There may also be a tendency to approach calm and easily approachable animals, which will lead to non-representative sampling.

Despite it being compulsory in many countries for whale watching vessels to register and report information to a central authority on the activity of the vessel, as well as observations and opportunistic sightings, such information is not collected according to international guidelines and it may be difficult to assess the significance of bias. To enable a reliable scientific outcome and support a high standard of data, the IWC sub-committee on whale watching has been working on a basic data collection protocol and data sheet that, ideally, would be applicable world-wide.

Proposed guidelines for data collection protocol and data sheet for whale watching vessels

From a research point of view, the data collected must be valid and consistent to be useful. Since the focus of whale watching vessels is on the passengers and not always on the data, it is important to simplify the data sheets as well as prioritize the required information.

Table 1 presents a proposal for a basic data collection sheet.

Content of the data sheet

The data sheet should at a minimum include the following parameters (see Table 1):

- Trip information:
 - 1) Date
 - 2) Trip number
 - 3) Departure time from harbor
 - 4) Return time to harbor
 - 5) GPS track of the route taken (if possible) or a tick box with the main "Areas visited"
 - 6) Name(s) of the person responsible for data collection
 - 7) Name of the skipper
 - 8) Weather information: wind direction and wind speed (No whitecaps, Some whitecaps or Many whitecaps or Beaufort scale)
 - 9) Sighting of animals: Yes / No

- Sighting information:
 - 10) Time of encounter
 - 11) Latitude position
 - 12) Longitude position
 - 13) Species
 - 14) Number of adults
 - 15) Number of calves
 - 16) Information about photo documentation
 - 17) Behavior comments
 - 18) Small comment box

Protocol

The protocol explains why the different data parameters are included in the data sheet.

1) Date

2) Trip number

Information about trip number and date is important when analyzing the data. Each trip will be given an ID-number before data can be analyzed and it is important to distinguish the different trips from each other. Some operators have more than 1 trip per day and the trips should have consecutive numbers reflecting the date and time they were conducted.

3) Departure time from harbor/ Start of searching effort

4) Return time to harbor / End of searching effort

The total time spent at sea is necessary to calculate sighting effort.

5) GPS track of route taken

It is crucial to be able to account for the effort spend at sea searching for cetaceans. Time and spatial effort is important reference data when calculating the spatial distribution of a species. Simple notation of start and end time of the trip can increase the quality and usefulness of the data collected. The optimal way to determine effort is to collect GPS tracks of the boat's location, which will also give precise data of the spatial route. Of crucial importance is the collection of information about trips where no cetaceans were sighted. The effort of the boat can be biased towards areas with cetaceans and where cetaceans would have been observed previously. On days with more than 1 trip, animals in the area have a high chance of being sighted consecutive times. If observers are experienced, they can make notes from trip to trip of individual re-sightings.

6) Name(s) of the person(s) responsible for data collection

The quality of the obtained data is dependent on an observer's skills. The quality of observations can be subject to bias when many different observers are involved in data collection.

7) Name of the skipper

8) Wind category (No whitecaps, Some whitecaps or Many whitecaps)

Sighting probability is reduced as weather becomes increasingly rough. To be able to adjust for this in data analysis, it is important for weather conditions to be noted. A suitable cut-off at, say Beaufort 2 (all data collected at or below sea state 2 are included in the analysis), can be applied to the dataset before conducting the analysis (Table 2).

9) Sightings of animals: Yes / No

To be able to account for effort, it is important to have a reference for the number of trips with no sightings, since even with no sightings, effort has been expended searching for animals. Weather data on trips where no animals are sighted are also important.

10) Time of encounter

It is important to distinguish between search and sighting time. By logging the time at each sighting, it will be possible to calculate search effort and sighting effort.

11) Latitude and Longitude positions

It is crucial to obtain location positions of the animals sighted to determine if animals have preferred habitat.

12) Water temperature (if possible)

13) Water depth (if possible)

Water temperature and depth are important factors to record, particularly in data deficient areas since bathymetric data often do not exist in such areas. In order to analyze data in relation to spatial and physical factors, it is important to record such parameters.

14) Species

Simple codes should be used for the relevant species (Table 3).

15) Number of adults

16) Number of calves

The number of adults and calves is important, as it may reveal whether there are specific areas used, for example, as nursery grounds.

17) Information about photo documentation

For photographic material to be useful it should be catalogued the same day and the frame of the photographs should be noted for each sighting where photographic evidence is collected. Setting date and time stamps on the camera is crucial as well. Photos of sightings should be divided with blanks between observations (e.g. a photo of the vessel). A GPS linked to the camera can be a great help during later analysis.

18) Behavioral categories

To enable an efficient and consistent analysis of behavioral data, the data sheet should consist of restricted and simple tick boxes with 4-5 main behavior types (e.g. matting, feeding, travelling and resting) and a comment box for further qualitative details (Table 4).

19) Small comment box

Comments should be minimized. Subjective comments can be very difficult to categorize and analyze.

The data sheet must be filled in at sea *in situ* and should ideally be digitized the same day by the observer. Photographs should be sorted the same day as well and linked to the relevant observations. The process of linking photos to specific observations is time consuming and almost impossible if done retrospectively by more than a few days.

Quality control

In order to ensure the quality of whale watching vessels data, a systematic control effort is necessary. Such a system should ideally be multi-layered, with the first layer being a well-structured data sheet that is easy to fill in.

The second layer should be an online submission system for data collected in the field, where each operator is assigned an ID-number and can log in to their account and enter the data and upload photos from each trip. Each operator's data should be then available to download either as an Excel sheet or Access database.

A third level is the systematic evaluation of the reported data by a qualified researcher with feedback to the reporting vessels.

Relevant bibliography

Vinding, K.; Christiansen, M.; Rose, N. 2014 – Data collection from commercial whale watching vessels: the need for international guidelines and systematic quality control. Paper presented at the IWC 2014 sub-committee meeting on Whalewatching (SC/65b/WW07): 6 pp

Table 1 – Proposed WW data sheet

Boat Based Whale Watching Trip Information

Operator:		Passenger nrs.:			Areas visited:						
Date:											
Trip nr.:		Trip time:	(start)	(end)							
Vessel:											
Skipper:		Wind:	(direction)	(knots)	Sea state:	no whitecaps					
Data collector:					(circle one)	some whitecaps					
						consistent whitecaps					
Were cetaceans sighted on this trip?	YES	NO									

OBSERVATIONS

Time	GPS Coord		Species	Nr of adults	Nr of calves	Behavior						Photos	Comments
	LAT	LONG		<i>min / best / max</i>		<i>T</i>	<i>R/L</i>	<i>S</i>	<i>F</i>	<i>M</i>	<i>O</i>		

Table 2 – Weather information

MPH	Beaufort	Knots	Km/h	Code
> 1 mph	0	> 1 kn	> 1 km/h	no whitecaps
1 - 3 mph	1	1 - 2 kn	1.1 - 5.5 km/h	
4 - 7 mph	2	3 - 6 kn	5.6 - 11 km/h	some whitecaps
8 - 12 mph	3	7 - 10 kn	12 - 19 km/h	
13 - 17 mph	4	11 - 15 kn	20 - 28 km/h	consistent whitecaps
18 - 24 mph	5	16 - 20 kn	29 - 38 km/h	
25 - 30 mph	6	21 - 26 kn	39 - 49 km/h	
31 - 38 mph	7	17 - 33 kn	50 - 61 km/h	
39 - 46 mph	8	14 - 40 kn	62 - 74 km/h	

Table 3 –Species codes

Scientific name	Code
<i>Eubalaena glacialis</i>	EGL
<i>Balaenoptera acutorostrata</i>	BAC
<i>Balaenoptera physalus</i>	BPH
<i>Balaenoptera borealis</i>	BBO
<i>Balaenoptera musculus</i>	BMU
<i>Megaptera novaeangliae</i>	MNO
<i>Physeter macrocephalus</i>	PMA
<i>Kogia sima</i>	KSI
<i>Kogia breviceps</i>	KBR
<i>Mesoplodon bidens</i>	MBI
<i>Mesoplodon densirostris</i>	MDE
<i>Mesoplodon europaeus</i>	MEU
<i>Mesoplodon mirus</i>	MMI
<i>Ziphius cavirostris</i>	ZCV
<i>Delphinus delphis</i>	DDE
<i>Tursiops truncatus</i>	TTR
<i>Stenella coeruleoalba</i>	SCO
<i>Globicephala melas</i>	GME
<i>Globicephala macrohynchus</i>	GMA
<i>Grampus griseus</i>	GGR
<i>Steno bredanensis</i>	SBR
<i>Orcinus orca</i>	OOR
<i>Phocoena phocoena</i>	PPH

Table 4 – Behavioral categories

Behavior	Description	Code
Travelling	Swimming in one direction for an extended period of time. Moving more quickly than idle speed of the vessel.	T
Resting / Logging	Motionless in same spot except to breath. If moving, then moving more slowly than the idle speed of the vessel.	R
Socializing	Diverse interactive behavior such a body contact, flipper caressing, tail swipes, genital inspections. Dive intervals may vary.	S
Feeding	May be surface apparent in some species (mouth open, baleen rattle). Otherwise indicated by long-term group synchronous diving. Arched backs may indicate deep dives.	F
Milling	Non-directional swimming. Individuals are surfacing in different directions. No net movement.	M
Other	Make a note in the Comments. Examples include spy hopping, breaching, pectoral slapping, tail, slapping and sailing.	O

RESOLUTION 8.19 - Commercial Cetacean-Watching Activities in the ACCOBAMS Area

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article II of the Agreement, according to which the Parties shall prohibit and take all necessary measures to eliminate any deliberate taking of cetaceans, including harassing or attempting to engage in such conduct,

Recalling Section 2 of Annex 2 to the Agreement, according to which Parties shall develop guidelines and/or codes of conduct to regulate or manage activities that create direct and indirect interactions between humans and cetaceans, such as tourist activities,

Aware that ACCOBAMS Resolution 4.7 sets forth Guidelines for Commercial Cetacean Watching Activities in the ACCOBAMS Area and Annex 2 to Resolution 6.20 provides regulations governing use of the collective certification mark "High Quality Whale-Watching®" and the Guidelines for acquiring a label for whale-watching operators in the Pelagos / ACCOBAMS Area,

Taking in consideration the Recommendation 14.8 of the Scientific Committee,

Recalling paragraph 130 of outcome document of the Rio+20 Conference, "The Future We Want", which underlines the need to support sustainable tourism activities and relevant capacity-building that promote environmental awareness, conserve and protect the environment, respect wildlife, flora, biodiversity, ecosystems and cultural diversity, and improve the welfare and livelihoods of local communities by supporting their local economies and the human and natural environment as a whole,

Recalling that the ACCOBAMS Area is an important area for a great number of cetacean species, whether as a permanent habitat, a breeding or feeding ground or a migratory corridor, and that the presence of such a diversity of cetaceans has led, over the past decade, to the development of a high number of commercial cetacean-watching activities that need to be regulated,

Acknowledging that commercial cetacean-watching activities, if conducted within a suitable management framework, can foster a valuable educational tool, create direct and indirect economic benefits for many communities and can promote research on cetaceans and their conservation,

Concerned that, if cetacean-watching is carried out in an irresponsible way, it has the potential to become a serious threat to cetaceans that may already be affected by population declines from bycatch, habitat degradation, climate change, and other threats,

Concerned about other potential negative impacts of commercial cetacean-watching activities that have been documented, such as changes in cetaceans swimming behaviour, fast changes in direction, displacement of cetaceans from the area targeted for tourism,

Concerned also about the emergence of dolphin-feeding practices, mainly carried out during cetacean-watching activities, which could change the behaviour of the animals, favouring confidence and proximity,

Stressing that any expansion of cetacean-watching activities in the Agreement area should be carefully managed in order to minimise potential adverse impacts on cetacean individuals and populations,

Desirous of minimizing the risk of negative impacts on cetaceans and of ensuring the sustainable development of cetacean-watching commercial activities through effective management strategies,

Recalling Resolution 11.29 on “Sustainable Boat Based Marine Wildlife Watching”, Resolution 12.16 on “Recreational In-Water Interaction with Aquatic Mammals” and Resolution 12.23 on “Sustainable tourism and migratory species”, adopted by the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS),

Recalling the online whale-watching handbook developed by the International Whaling Commission with the CMS Secretariat,

1. *Urges* the Parties to ensure the effective implementation of the existing ACCOBAMS Resolutions on cetacean-watching;
2. *Recommends* the Parties to consider that the harassment risk also begins when a vessel is voluntarily closer than the minimum distance identified in rules for commercial cetacean-watching and that, consequently, swim-with-dolphin activities, which imply proximity of the boat to the animals, should be considered as harassment and as presenting risks of animal violent behaviour and transmission of diseases;
3. *Recommends* the Parties not to authorise or grant any exception for direct interactions with cetaceans, such as feeding and swim-with-dolphins, including in the proximity of fish farm activities;
4. *Encourages* the Scientific Committee to continue their consideration, including collation and review of scientific literature, on potential adverse effects of cetacean-watching on cetaceans and means to mitigate them, with an emphasis on population-level impacts, swim-with activities, feeding and use of aerial spotter aircraft, and also on the concept of “carrying capacity”;
5. *Stresses* the need for legally enforceable cetacean-watching regulations to be in place and fully implemented by all the Parties, in line with ACCOBAMS Resolutions 4.7, 6.20 and 7.16;
6. *Acknowledges* the new Guidelines for the Management of Cetacean Watching Activities in the ACCOBAMS Area, shown in the Annex to this Resolution;
7. *Invites* the Scientific Committee to review and update the ‘Common procedure (data collection system) for whale watching vessels to be implemented in the ACCOBAMS Area’, included in Annex 4 to Resolution 6.20;
8. *Recommends* that the Whale Watching Working Group established in 2014 during the Ninth Meeting of the Scientific Committee continue its work and test the revised ‘Common procedure (data collection system) for whale watching vessels to be implemented in the ACCOBAMS Area’ in previously identified pilot areas (Ligurian-Provençal Basin, including Pelagos Sanctuary, Gibraltar Strait, and south of Portugal);
9. *Endorses* the results of the study ‘Identifying Whale Watching Hotspots in the ACCOBAMS Area’ (ACCOBAMS-MOP8/2022/Inf48);

10. *Encourages* Parties to implement specific legislation, in accordance with the ‘Guidelines for Commercial Cetacean Watching Activities in the ACCOBAMS Area’, to mitigate current and potential pressure put on cetacean populations in the identified cetacean-watching hotspots;
11. *Recommends* to the Scientific Committee that the results of the work to be conducted on the hotspots is used to complement the Cetacean Critical Habitats (CCH) process;
12. Further *encourages* the Parties to promote the objectives of ‘The European Green Deal’ (Communication of the Commission of 11 December 2019, COM (2019) 640 final), and especially the transition to reduce vessels’ CO2 emissions and noise, in particular, amongst cetacean-watching operators;
13. *Recommends* that the Parties implement and continue to promote and enhance the status of the “High Quality Whale-Watching[®]” Certificate in collaboration with the Secretariat of the Pelagos Agreement and other relevant intergovernmental organisations and secretariats of multilateral environmental agreements within the ACCOBAMS Area, such as the Barcelona Convention, the Bucharest Convention and the International Convention for the Regulation of Whaling;
14. Also *encourages* the Secretariat to disseminate through NETCCOBAMS the information collected;
15. *Asks* the Parties to develop methods to fully inform the general public, including yachtsmen and other boaters involved in opportunistic cetacean watching, about responsible boat behaviour around cetaceans;
16. *Recommends* that the Secretariat continues co-operation with the Secretariats of the International Convention for the Regulation of Whaling and the Convention on the Conservation of Migratory Species of Wild Animals on the evaluation of effects of cetacean-watching and on the review and update of the guidelines for sustainable cetacean-watching;
17. *Decides* that the present Resolution amends Resolution 6.20 and replaces Resolution 7.16.

ANNEX

Guidelines for the management of cetacean¹⁸⁹ watching activities in the ACCOBAMS Area

Author: Gianna Minton

Reviewed by: The ACCOBAMS Whale Watching Working Group

1. Introduction

Background and context

When conducted responsibly, whale watching activities have the potential to generate income and livelihoods for coastal communities, as well as contribute to public awareness and scientific understanding of whales, dolphins and porpoises and their conservation needs¹. However, when the industry develops too fast, or operators engage in irresponsible practices, whale watching also has the potential to become another source of pressure on wild cetacean populations that may already be suffering decreased fitness or population declines from bycatch, habitat degradation, climate change, and other pervasive threats^{e.g. 2,3}.

Aware of this risk, ACCOBAMS has demonstrated a proactive stance on the promotion of responsible whale watching activities from its inception. In Section 1.c) of Annex 2 to ACCOBAMS, the Parties require that 'impact assessments be carried out in order to provide a basis for either allowing or prohibiting the continuation or the future development of activities that may affect cetaceans or their habitat in the Agreement area, *including tourism and cetacean-watching*, as well as establishing the conditions under which such activities may be conducted'. ACCOBAMS Resolution 4.7 sets forth clear guidelines for commercial cetacean watching in the ACCOBAMS Area, and Resolution 6.20, Annex 2, expands this advice by providing a detailed description of the standards associated with the High Quality Whale Watching (HQWW)[®] Certificate, and the code of conduct operators must follow to achieve that label. Through these resolutions, ACCOBAMS provides very clear guidance for tour operators on how to handle vessels and run their tours in a manner that minimises impacts to cetaceans and maximises the potential conservation benefits of their tours.

To complement these guidelines for operators, this document is intended to support managers and other stakeholders responsible for designing, implementing, and enforcing management measures to ensure that whale watching activities are conducted in a manner that minimises potentially negative impacts on the cetaceans that are the focus of tourism activities. As such, it takes a higher-level approach and considers multiple aspects of effective management and regulation of whale watching in the ACCOBAMS Area, with a focus on recommendations to those stakeholders who may be acting at local, national or regional levels. Technically, this document is an update to Annex 3 of Resolution 6.20. Although that annex is titled 'Proposed guidelines for monitoring programs aimed at maximising the chance of detecting potential adverse impacts of whale watching activities on individual cetaceans and on populations', it also deals with broader aspects of management of whale watching. As such, the title of this new document has been changed to reflect a broader remit.

Definitions

For the purpose of this document a few core terms are defined as follows:

- **Whale watching:** We use the definition of whale watching used for the landmark study by Hoyt, 2001¹: 'tours by boat, air or from land, formal or informal, with at least some commercial aspect, to see, swim with, and/or listen to any of the some 83 species of whales, dolphins and porpoises.' Recreational whale watch tourism conducted by individuals with private recreational vessels is NOT included in the scope of this study.
- **Managers:** Managers can include representatives of government bodies responsible for regulating tourism, wildlife, protected areas, or law enforcement. However, management teams responsible for designing,

¹⁸⁹ In the Guidelines, the term whale watching is used as a term that includes all cetaceans – whales, dolphins and porpoises.

implementing and enforcing whale watching management frameworks can include a much wider range of stakeholders, including local communities, NGOs, tour operators and research organisations among others.

- **Target species:** These are the cetacean species that are most often the focus of whale watching activities in a particular area.

A note on voluntary versus legally enforceable regulations

Although some studies show that voluntary guidelines, especially if industry-led and self-enforced can be an effective means of promoting responsible whale watching^{e.g. 4,5}, in many cases researchers and managers alike have concluded that voluntary measures can be associated with low rates of compliance, especially if some operators feel that they are potentially losing business by adhering to voluntary guidelines when unscrupulous ‘competitors’ are getting their customers closer to whales^{6,7}. Legally enforceable management measures create a level playing field by ensuring that all operators are held to the same standard. While many of the measures below can be implemented in either voluntary or legally enforceable frameworks, some will require some level of legal underpinning to be truly effective. In 2021 a review of whale watching regulations within the ACCOBAMS Area found that out of 26 countries replying to the survey, only ten had legal definitions for whale watching, only two had implemented licensing systems specifically for whale watching activities, and only five had legally enforceable whale watching regulations in place.

Structure of the document

This document has been structured to include sections that focus on nine different aspects that may be considered when designing a whale watching management framework. Each section begins with a brief summary of the rationale for addressing this aspect of whale watching management. This is followed by a ‘menu’ of tools and strategies available with some references to peer-reviewed publications and case studies. Each section is concluded with a bullet-point summary of recommendations for managers.

2. Measures to assess target populations and the potential impacts of tourism, including the concept of ‘carrying capacity’

Rationale

Whale watching activities can benefit coastal communities with increased tourism, employment and income⁸, and can also help to raise awareness of cetaceans and their conservation needs among tourists themselves⁹⁻¹¹. However, there is strong evidence that without proper measures in place whale watching can also have a range of negative impacts on the individuals and populations that are the focus of tourism activities^{2,12}. These impacts can range from short-term disturbances to feeding or resting, to displacement of cetacean populations from core habitat and long-term impacts on reproduction and fitness^{e.g.13-16}. The potential severity of these impacts will depend on a combination of factors¹⁷, including (but not limited to):

- *the species of cetaceans that are the focus of the tourism:* some species are more sensitive to disturbance from vessels and underwater noise than others, depending on their habitat preferences, behavioural patterns, and the frequencies they use for communication and echolocation¹⁸.
- *the abundance, distribution and conservation status of the cetaceans in question:* If many different species or large populations of cetaceans are available for tourism activities in a particular area, the ‘pressure’ of whale watching activities can be spread out among individuals or groups. Conversely, in settings where a single small (possibly threatened or declining) population is the focus of repeated attention from whale watching, a small number of individual animals will bear the burden of all the impacts associated with the industry in that area^{e.g.19}.

- *the way in which cetaceans are using the whale watching area and the behaviours that are likely to be disrupted*: If whale watching occurs in areas or at times of year in which animals are engaged in critical life-functions, like feeding, resting, or nursing their young, the consequences of repeatedly disrupting these activities are likely to be more severe^{16,20-24}. Similarly, cetaceans are more likely to be distracted from some types of behaviours than others, with resting and feeding being the behaviours most likely to be abandoned in the presence of whale watching vessels²⁴⁻³¹.
- *the abundance, frequency and duration of whale watching encounters with focal populations*: for all species, regardless of abundance or behavioural state, the potential impacts of whale watching activities will become more severe as the number of vessels, and the duration and frequency of vessel encounters increases^{e.g.32-34}.
- *the nature of whale watching activities, including the platforms that are used*: Land-based whale watching causes little or no impact to the cetacean populations that are observed. Vessel-based tourism can cause varying levels of disturbance based on the way they approach cetaceans and the type of noise generated by their engines^{35,36}. Non-motorised vessels (e.g. Kayaks) do not generate underwater noise, but may disturb cetaceans in other ways³⁷, while in-water encounters between swimmers and cetaceans have also been documented to have potentially negative impacts^{20,38,39}.

In light of the potential for negative impacts, and the factors that can determine the severity of impacts, those responsible for managing whale watching activities have an obligation to ensure that the necessary data is available on target populations and the to assess the potential impact of the current or proposed whale watching activities. Ideally this type of assessment will take place *before* whale watching activities commence. However, if that has not been implemented, an assessment is recommended as soon as possible to determine whether ongoing activities are sustainable.

Tools and examples

- *Methods to assess the distribution, abundance and trends of cetaceans* are available from multiple sources and are too extensive to be covered in detail in this document. ACCOBAMS has an excellent track record in promoting good practice in this area, and the Mediterranean is one of the best surveyed bodies of water in the world, with multiple reviews of published studies⁴⁰, and regular vessel-based and aerial surveys to assess abundance, distribution and trends⁴¹
- *Methods to evaluate the impact of whale watching activities on cetacean populations* will ideally be implemented before whale watching activities (or a new category of activities) commence. In this case, the evaluation should start with a desk-based review of peer-reviewed literature and case studies featuring the same (or similar) species and whale watching platforms that occur (or are planned) in the area in question. The IWC-CMS Online Whale Watching handbook has three resources that may be useful to gather information on impacts that have been documented in other whale watching locations: 1) a searchable database of literature (<https://wwhandbook.iwc.int/en/downloadable-resources/searchable-database-of-scientific-literature>), 2) a table of documented impacts (<https://wwhandbook.iwc.int/en/industry-support/training-for-captains-guides>) and 3) a table of Case Studies (<https://wwhandbook.iwc.int/en/responsible-management/case-studies>).
- *Pilot studies*: Following a literature review, managers may consider conducting a pilot study in which a single or small number of operators are issued provisional licenses to conduct whale watching activities that can be carefully monitored to document the possible impacts on the target population. The results of such a pilot study can then be used to inform the design and implementation of an effective management framework. New et al. 2015⁴² provide an extensive review of methods to model and assess whale watching impacts. These are summarised and referenced in a table in Annex 1. Pilot studies or modelling can also be used to assess the

potential impact of a new category of activity (e.g. swimming with cetaceans), before it is permitted on a wider scale^{43,44}.

- *Defining the whale watching ‘carrying capacity’ of a targeted geographical area:* The whale watching ‘carrying capacity’ of a particular area can be defined as the maximum amount of whale watching activity that can be undertaken in a defined geographical area without incurring negative impacts to the target cetacean populations and/or their surrounding environment⁴⁵⁻⁴⁷. Studies to determine carrying capacities have been limited to date, but are becoming more common. Examples include a study conducted in Praia del Forte, north-eastern Brazil⁴⁵ and an ongoing study in the Sado Estuary of Portugal. The outcome of the assessment can be used to determine the maximum number of vessels, daily tours, tourists, or ‘contact hours’ that should be permitted to operate in the area in question. These studies normally also assume that licensed operators will follow a code of conduct that minimises their disturbance to the populations in question (see Section 6 below).

Recommendations

- *If possible, ensure that a full suite of baseline information on the abundance, distribution, habitat use, and conservation status of cetacean populations in the target area is available before whale watching activities commence, or a new category of activity (e.g. in-water interactions) is being considered.*
 - *Conduct desk-based literature studies to determine what the potential impact of proposed whale watching activities could be on these populations, based on available information about similar species and tourism platforms.*
 - *Conduct small-scale pilot studies to test and document the potential impacts of whale watching activities before activities are allowed to commence on a wider scale. Annex 1 provides a list of study approaches with references to peer-reviewed studies that can serve as examples.*
 - *Use the results of the second and third steps above to determine the likely ‘carrying capacity’ of a particular area targeted for whale watching, and design an appropriate management plan that will not exceed that capacity.*
 - *If whale watching activities are already underway, steps 2-4 can still be conducted and current management adapted.*
-

3. Monitoring and adaptive management

Rationale

Management measures conceived based on the best available knowledge and tools available at a particular time may not always remain relevant or adequate as the industry, habitat, or targeted cetacean populations evolve and change over time. Continued monitoring of cetacean populations (especially their abundance and trends, but also their health and indications of stress) as well as of the industry, will allow managers to determine whether whale watching practices may be causing harm, and therefore require changes to the suite of management tools in place⁴⁸⁻⁵⁰. For example, targeted populations may suffer declines or reduced fitness or increased stress from environmental pressures (for example, fisheries bycatch, increased shipping, coastal construction, climate-change caused shifts in prey), requiring stricter guidelines to limit additional pressure from whale watching. In other settings, tour operator numbers may suddenly expand rapidly, or tour operators who were once happy to comply with a voluntary code of conduct may become more competitive with each other leading to lower compliance and more disturbance to cetaceans^{6,51}. These scenarios require a re-assessment^{6,51} of current management measures to determine whether they need to be adapted to ensure the well-being and long-term presence and survival of the targeted cetacean populations.

Tools and examples

The following categories of tools can be used to conduct regular monitoring, and ensure that results are used to guide policy adaptations.

- *Involvement of research organisations* in management teams to ensure that the necessary expertise is available to design and implement monitoring studies, and detect possible negative trends in population numbers, health, or compliance⁵² (see Annex 1 for examples of methods used to study impacts of whale watching on cetaceans and to monitor the behaviour of whale watching tour operators);
- *A well-defined monitoring and review plan* to detect potential changes in cetacean populations and/or the whale watching industry (see Section 2 and Annex 1 for examples on how studies can be conducted). Some resources advocate 5- or 10 year cycles for evaluation and review of management plans⁵⁰.
- *The definition of 'triggers' or limits of acceptable change (LAC)*⁵⁰ that would require a suspension or re-evaluation of current practices and management measures either as part of, or outside of the normal cycle of review. These can be based on observed/measured changes in the target cetacean population, the industry, or the environment.

Recommendations

-
- *Encourage regular monitoring and evaluation of whale watching activities and the cetacean populations that they target, involving research organisations to detect and measure the potential impacts on cetacean behaviour, distribution, welfare, health or abundance.*
 - *Define triggers or limits of acceptable change (LAC) that will require a formal suspension or re-evaluation of current practices.*
 - *Be prepared to introduce new measures (see tools below) to further mitigate the impact of whale watching on the targeted populations.*
-

4. Development of effective management teams (stakeholder involvement)

Rationale

Many different categories of stakeholders have a role to play in the design, implementation, monitoring, enforcement, and adaptation of an effective whale watching management strategy⁵². These stakeholders range from government agencies and protected area managers to the operators themselves, local communities, cetacean and social science researchers, and marine and coastal law enforcement bodies. Excluding one group from participation in management decisions can lead to alienation, non-compliance, or other pitfalls that ultimately may result in negative impacts on the target populations⁴⁷. The composition of effective management teams may vary from one location to another, as may the priorities and strategies that are identified.

Tools and examples

- *Including different categories of stakeholders:* The IWC Whale Watching Handbook⁵³ features 22 case studies that illustrate different aspects of whale watching management, distilling strengths, weaknesses and lessons learned from each study. These almost unanimously cite the involvement of multiple categories of stakeholders in management as a strength in their management approach. The handbook also provides a table (adapted from Hoyt 2007⁵²) that outlines the different roles different categories of stakeholders can play: <https://wwhandbook.iwc.int/en/responsible-management/stakeholder-engagement-and-adaptive-management>.

- *Formal frameworks for participation or consultation:* To ensure their participation, stakeholders or their representatives can be members of a formal management body, or managers can involve them through regular public consultations.

Recommendation

- *Identify all the stakeholders that have a role to play in assessing, designing, implementing, monitoring, enforcing or adapting management, and determine how each category can most effectively be involved and consulted in a formal, recognised manner.*
-

5. Licensing or certification measures

Rationale

The scope and scale of potential impacts of whale watching activities on target populations will most logically be proportional to the number of vessels and tours that are operating in a particular location. Several studies have demonstrated increasing levels of reactions (for example changes in swimming patterns or vocal behaviour, suspension of feeding, or resting etc.) with increasing numbers of vessels or increased time that animals are exposed to vessels^{54,55}. One effective way to limit the potential disturbance to cetaceans is to limit the number of operators or vessels in an area by requiring all whale watching vessels to be licensed, and to limit the number of licenses that are issued (perhaps in line with an established carrying capacity – see Section 2). A 2021 study has demonstrated that disturbance from whale watching vessels may vary from one type of vessel and/or engine category to another, recommending that this be taken into consideration when licensing operators⁵⁶. Licensing can also be a useful means to maintain an accurate overview of the number of whale-watching tour operators and their activities, and to ensure that licensed operators adhere to certain conditions to obtain, and retain their licence.

Tools and examples

- *Legal underpinning for licensing:* Effective licensing or permitting of whale watching activity requires a legal definition of whale watching or marine mammal tourism. As of 2021, Spain and Portugal are the only countries in the ACCBOAMS area that have legal definitions of whale watching (In Portugal, Decreto-Lei-n.o-9/2006, and in Spain Decree-1727_2007). Subsequently are also the only two countries to have whale watching licensing schemes in place.
- *Capping the number of licenses:* The number of licenses issued may be limited per port/harbour or province and linked to formal studies to assess carrying capacity⁴⁵ (see Section 2), or it may be established based on ‘instinct’.
- *Standards or codes of conduct as conditions of licensing:* Alternatively, the number of licences may not necessarily be limited, but could still serve to improve management and mitigate impacts of whale watching by placing conditions on licensing that hold operators to a minimum standard. These conditions/requirements can include the following elements (as they do in Portugal, for example):
 - A prior permit/licence to operate as a commercial tourism business with proper registration with the chambre of commerce etc.;
 - Proper registration of vessels with the relevant port authorities, and specification of the exact vessels that will be used for whale watching activities;
 - A definition of the geographical area in which the operator intends to conduct tours;
 - Demonstration of appropriate qualifications for each crew member (skipper, deckhand, naturalist guide, etc.);

- Proof that at least one crew member has been designated and trained to deliver an educational component to the tour (see Section 9);
- An agreement to adhere to a code of good conduct (see Section 6);
- An agreement to contribute to research and knowledge of the target species by sharing data on cetacean sightings with the relevant authorities at the end of each season/year (see Section 10).
- *Monitoring and enforcement:* Licencing schemes require a system of monitoring and enforcement to be effective, as there must be penalties for operators who offer tours without licences or operators who do not comply with the conditions of licensing. This requires collaboration with the coast guard or similar bodies, who must be familiar with the laws and the penalties or fines that can be imposed for non-compliance (See Section 7).
- *Voluntary certification:* A voluntary form of licensing, is a certification scheme that operators can choose to apply to, such as the 'High Quality Whale Watching[®]' Certificate.

Recommendations

-
- *Work toward a legal definition of whale watching as a category of commercial tourism activity for which specific regulations and licencing measures can be put in place.*
 - *Use available data on cetacean populations and the possible impact of whale watching activities to determine whether the number of licenses issued should be limited to a certain number of vessels and/or tours.*
 - *Determine (ideally in collaboration with the multi-stakeholder management team) what conditions should be tied to the issuing and renewing of licenses to operate whale watching tours.*
 - *Maintain a database of licensed operators and their vessels, and consider regular communications through newsletters and/or (virtual) meetings at the start and/or end of each season.*
 - *Ensure effective monitoring and enforcement of licensing requirements (see Section 7).*
-

6. Measures to regulate approaches, frequency, length and type of exposure in encounters with cetaceans

Rationale

As outlined in Section 2, studies have demonstrated that the scope and scale of potential impacts of whale watching activities on cetaceans can vary depending on the species in question and the way that vessels are operated in proximity to cetaceans. Studies indicate that whales' and dolphins' reactions to boat presence vary with the distance of approaches e.g. ⁵⁷, the number of vessels within a certain radius of the animals e.g. ^{54,55}, the direction from which vessels approach⁴³, and with the presence of calves⁵⁸. Codes of conduct have proven effective in reducing the impact of whale watching on cetaceans, by regulating the speed and direction of approaches, limiting number of vessels that can be within a certain radius of whales or dolphins, and dictating whether or not swimmers are allowed to enter the water with cetaceans, and if so, under which specific conditions⁵⁹.

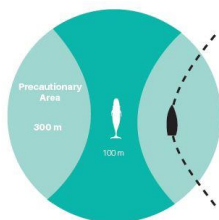
Tools and examples

- *Legally enforceable vs. voluntary guidelines:* As noted in Section 1, Codes of conduct including vessel approaches etc, can be voluntary or legally enforceable.
- *Guiding principles:* The details of effective regulations or codes of conduct may vary by species and/or location to ensure that they are appropriately tailored to local conditions. Many approach guidelines condone closer

approaches for dolphins than for whales, for example, and many also apply stricter measures to whale or dolphin groups with calves than those without. Some guidelines stipulate that Critically Endangered species (such as the North Atlantic Right Whale on the NE coast of the United States) should not be approached for tourism at all. While tailoring guidelines to local needs is important, there are a number of guiding principles have been identified by the International Whaling Commission. Those developing guidelines should be driven by the principle that disturbance to natural behaviour should be minimised, and as much as possible the nature and duration of the interaction between a cetacean and a vessel (or swimmer) should be determined by the animal and not the humans hoping to observe them.

THE CODE OF GOOD CONDUCT

- Length of observation limited to 30 min, 15 min if other boats are waiting;
- Do not approach closer than 100 meters;
- Keep your distance in case of new-born animals;
- Do not try to touch or feed animals even if they come voluntary near the boat;
- Do not suddenly change speed or direction;
- Stop immediately any approach if animals attempt to move away from observers and are disturbed.



PRECAUTIONARY AREA

- One boat at the time with a limited speed of 6 knots;
- Sounders and sonars must be switched off to limit acoustic disturbance;
- Keep a parallel trajectory to the animals.

- *ACCOBAMS resources:* [ACCOBAMS Resolution 4.7](#) provides very clear guidance for tour operators on how to handle vessels and in a manner that minimises impacts to cetaceans. [Resolution 6.20](#), Annex 2, provides a detailed description of the standards associated with the High Quality Whale Watching (HQWW®) Certificate, and the code of conduct operators must follow to achieve that label.
- *IWC resources:* The IWC Online Whale Watching Handbook also includes a searchable table of both voluntary and legally enforceable guidelines that can be consulted as examples: <https://wwhandbook.iwc.int/en/downloadable-resources/guidelines-and-regulations>
- *Transparency and Communication:* Codes of conduct/approach guidelines will be most effective if they are clearly communicated with well-illustrated and succinct materials that can be shared with operators via traditional (printed) materials as well electronically and via social media. Ensuring that vessel conduct regulations are clear and simple will make it easier for vessels to comply, and also

easier for those who are monitoring and enforcing regulations to clearly recognise and penalise non-compliance. If compliance with guidelines is intended to be monitored and/or legally enforced, work with relevant stakeholders to make sure they are aware of the guidelines and the penalties for infractions (see Section 7).

Recommendations

-
- *Conduct a literature review of the potential impacts of whale watching activities on the species found in the target area, as well as the measures that have been used to mitigate impact for that species and the type of whale watching activity in question.*
 - *Work with relevant stakeholders to develop approach guidelines that are most appropriate for your area.*
 - *Ensure effective communication of the conduct guidelines (whether voluntary or legally enforceable) to all relevant stakeholders, and ensure that those responsible for monitoring and enforcement know how to recognise and penalise infractions.*
-

7. Monitoring and Enforcement

Rationale

As noted in Section 1, legally enforceable regulations can ensure that all whale watching operators are held to the same standard in terms of adopting behaviours with the least impact on cetaceans. However, for these regulations to

be effective, operators must know that there will be negative consequences for infractions, otherwise there is little incentive to comply^{60,61}. The bodies responsible for marine surveillance vary from one country to another, but can include marine police, the coast guard, the navy, and park rangers, among others^{7,62,63}. Voluntary certification schemes also require some form of monitoring and enforcement of standards, if they are to be effective. As stated in Section 6, monitoring and enforcement will be much more effective if 1) codes of conduct are clear and simple enough that infractions are easy to recognise, and 2) the penalties for infractions are clearly defined and clearly communicated to all the relevant stakeholders.

Tools and examples

- *Vessel-based patrol by coast guard or other marine enforcement bodies:* Traditionally, monitoring and enforcement is conducted by patrol vessels at sea that can approach whale watching vessels to request evidence of their legal status to conduct tours and/or to warn them or fine them when infractions are observed. This requires strong legal frameworks and a clear mandate for the enforcement agencies regarding the circumstances under which they can issue warnings, fines or more severe penalties like revoking whale watching licenses.
- *Lower cost alternatives:* The IWC Whale watching Handbook⁵³ also provides a summary of lower cost methods that can be used in areas where the logistics or costs of placing a vessel on the water among whale watching vessels on a daily basis are prohibitive:
 - An unpredictable rota of patrol presence once a week or once a month;
 - Land-based observations conducted from a viewpoint at the entrance to a bay or a cliff-top;
 - Combining the role of registering and collecting fees for entry into the marine protected area, and the enforcing of appropriate conduct;
 - The placement of observers on whale watching vessels to monitor compliance.
- *Encouraging increased compliance through monitoring and education:* Compliance with both legally enforceable and voluntary measures can be enhanced through education of both tour operators and clients^{7,9,63}. Monitoring to ensure compliance with voluntary measures or certification schemes may be conducted by research or training organisations, as is the case with the ACCOBAMS HQWW Certification, or voluntary schemes like WhaleSense in the USA^{7,60}.

Recommendations

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- *Ensure that legally enforceable regulations and/or certification schemes include clear definitions of the penalties that will be incurred if infractions/non-compliance occurs.*
 - *Identify the stakeholders responsible for marine surveillance and/or who have a mandate to enforce the regulations, and ensure that they are well-informed about whale watching regulations, and the penalties for non-compliance.*
 - *Collaborate with stakeholders to establish a systematic means of conducting surveillance, whether at sea, or through other low cost methods.*
-

8. Time/Area closures to provide additional protection

Rationale

In some settings, approach guidelines and limits on the number of vessels that can approach cetaceans may be considered insufficient to prevent potential negative impacts to the target population. This may be the case for

particularly vulnerable populations, or those using geographically constrained habitats like inlets, bays, estuaries or reefs for critical life functions. For example, in nearshore habitats or bays where mothers nurse calves, or where populations rest in order to recover from energetically demanding activity, any level of vessel presence or human activity may be deemed likely to disturb critical life functions, and thus present an unacceptable risk the long-term well-being of the population^{64,65}. Managers can protect these areas by creating no-go zones that are off limits to whale watching activities. These measures can be in place permanently, seasonally, or at certain times of day when animals are known to be engaged in activities that are essential to their health and survival^{65,66}.

Tools and examples

- *Defining critical areas/critical times for protection:* The design of effective time/area closure measures requires good data on cetacean distribution, habitat use and behaviour in order to understand which areas, seasons, and times of day host cetaceans engaged in activities that should not be disturbed^{67,68}. If this is not available from existing studies, it may be necessary to conduct research to inform management (see Section 2 and Annex 1). Well-documented examples include the highly predictable use of inshore bays by spinner dolphins for resting in Hawaii^{21,69} and in the Samadai Reef in the Egyptian Red Sea^{26,70,71}.
- *Clear boundaries and timing based on science:* Once areas of critical importance have been identified, stakeholders can collaborate to determine boundaries of areas that should be demarcated for time/area closures. Boundaries should be based on the ecology and behaviour of the cetaceans in question, but should also be obvious to industry stakeholders and those responsible for monitoring and enforcing measures (for example the interior of a bay as defined by a straight line from one headland to another)^{53,65}. Zoning can be applied to allow different levels of human activity, in different portions of the defined area, as is the case in Samadai Reef Egypt⁶⁶. If measures are seasonal, or tied to certain times of day, these should also be based on the animals' behaviour and movements and clearly designated in the management plan^{72,73}.
- *Monitoring and enforcement* are essential to make time-area closures effective (see Section 8). To encourage compliance and make it easier for enforcement agencies to recognise infractions, the chosen geographical boundaries and/or seasons or times of closures should be communicated clearly to users as well as those responsible for enforcing regulations.

Recommendations

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- *Consider time-area closures for particularly vulnerable populations or geographically constrained areas where cetaceans regularly use habitat for critical life functions like nursing young or resting.*
 - *Base the geographic boundaries and times of closures (whether seasonal or daily) on the animals' ecology and behaviour, but also make them simple and easy to understand and enforce.*
 - *Communicate closures clearly to industry stakeholders and those responsible for enforcement.*
-

9. Promoting education and awareness raising

Rationale

Multiple studies have shown that when whale watching tours include a structured educational elements they can result in participants' increased environmental awareness and motivation to support conservation efforts^{9,11,74-77}. It is this educational and awareness-raising element that is often considered the positive outcome that may counter-balance some of the acceptable levels of temporary disturbance that responsible whale watching activities can cause to target populations. Whale watching tours that do not include an educational element, even when they adhere to proscribed approach guidelines and other responsible practices, risk disturbing cetaceans without the positive offset of motivating their guests to help protect cetaceans and their habitats. Furthermore, research shows that tourists

appreciate an element of education in their tours^{78,79}, and this can be used as a marketing strategy by tour operators. Provision of on-board education is a condition for obtaining and retaining a license to operate whale watching tours in Portugal, and is also a component of the HQWW[®] Certificate.

Tools and examples

- *On-board education:* The most common form of education associated with whale-watching tours is the presence of an on-board naturalist, guide or interpreter, who can share information about the cetaceans being viewed, as well as other aspects of the marine and coastal ecosystem. On-board naturalists may undergo formal training, as is provided through the ACCOBAMS HQWW Accreditation scheme, or they may be vessel captains or ex-fishermen with a wealth of local ecological knowledge.
- *Structuring educational elements:* Education associated with whale watching is most likely to be effective in increasing participants' knowledge and environmental motivation if it is structured and supported by audio/visual resources – which can range from videos shown on very large vessels to laminated factsheets, maps, or illustrations for use on smaller open-decked vessels. A number of resources are available through the IWC Online Whale Watching Handbook: <https://wwhandbook.iwc.int/en/downloadable-resources/resources-for-guides-and-educators> Educational messages can start at the time that clients book a tour, and carry on through all stages of the tour itself and through post-tour communication⁸⁰.
- *Partnerships with research organisations:* Researchers or students undertaking research on cetacean species can also make good naturalists guides⁸¹. Managers can consider encouraging collaborations that can have multiple benefits for tour operators (who can market themselves as having expert educators on board), guests (who will feel privileged to be learning from an expert in the field), and the researcher who will potentially be able to use data collected during whale watching tours for their study (see Section 10).

Recommendations

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- *Encourage whale watching activities to include an element of education and awareness raising and consider making the provision of on-board education a condition to obtain and maintain a license to operate whale watching tours, or to gain certification (as is the case for the ACCOBAMS HQWW Certificate).*
 - *Encourage the development of training programmes for on-board naturalists, as well as the development of effective communication/educational resources that can be available to whale watching guides in the relevant languages needed to communicate with tourists/guests.*
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10. Whale watching as a platform of opportunity for scientific data collection

Rationale

Vessel-based cetacean research is costly, and systematically designed scientific surveys generally generate data that represents only a snapshot of cetacean distribution, behaviour, and group composition at the specific point in time that the survey was conducted. By contrast, whale watching are often run on a daily basis (or during peak seasons in some locations, even multiple times per day) providing more regular opportunities to observe cetaceans in their natural habitats than most research programmes could ever hope to gain through systematic surveys. Multiple studies have demonstrated the effectiveness of using whale-watching vessels as platforms of opportunity to collect cetacean data⁸¹⁻⁹¹. At the same time, whale watching platforms are not suited for every type of research⁹². For example studies involving biopsy sampling, satellite tag deployment, or water/prey sampling, are all better conducted from dedicated survey vessels crewed only by trained scientists^{53,92}. However, data collected by vessel captains, on-board naturalists,

or guests can include positional data and species identifications to provide insight into (seasonal) distribution^{82,85,87,90,93,94}. If sightings data are accompanied by vessel tracks or ‘survey effort’ whale watching data can also provide insight into not only where the animals ARE seen, but also where they are NOT seen, or are less likely to be seen, providing more accurate insight into relative abundance, habitat use and/or hotspots⁹⁰. On-board naturalists or tourists can also be encouraged to take photos that can be used in photo-identification studies, contributing to population assessments and understanding of individual whale or dolphin movements over time^{81,95}. Together with awareness-raising, the data generated from whale watching tours can provide a positive offset to the potential disturbance that even responsibly conducted operations can cause to target populations.

Tools and examples

- *Collection of data by vessel captains or on-board naturalists:* In some areas vessel captains or on-board naturalists collect data on cetacean sightings during whale watching activities. This can range from simple sightings logs, to more complex data including vessel tracks and/or photographs to be used in individual identification. The collection of this type of data is a requirement for licensing to provide whale watching tours in Portugal and for HQWW certification in the ACCOBAMS Area. The IWC Online Whale watching Handbook provides an overview of the types of data that are more easily collected from whale watching Platforms of Opportunity: <https://wwhandbook.iwc.int/en/industry-support/contributing-to-science-and-conservation-1>
- *Collaboration between researchers and whale watching tour operators:* In some places, formal collaborations between whale watching tour operators and research organisations has resulted in data that is used for publication in scientific journals and to guide conservation management, such as a collaboration between the Center For Coastal Studies and tour operators in the Gulf of Maine, USA⁹¹. The collaborations can involve the placement of a researcher on whale watching tours to collect data at the same time that he/she shares expertise with guests. Alternatively, operators can send their collected data to researchers for analysis and synthesis into reports or publications. In some settings, data collected can also include questionnaires to tourists to rate their satisfaction and/or test for potential increases in awareness following their tours^{9,10,96-101}.
- *Research-based tourism:* Some research groups also offer paying participants the opportunity to join cetacean surveys and help collect, enter, and analyse data. In this way, participants help to fund valuable research, while also expanding their knowledge and appreciation of wildlife research methods.
- *Use of Citizen Science apps:* On-board naturalists and/or clients on board whale watching tours can be encouraged to submit sightings, tracks and/or photographs to various citizen science Apps. Apps can be location/region-specific and designed to contribute to the understanding of local cetacean populations, or they can be global. Some Apps allow data to be forwarded to relevant local research groups, while others (e.g. Flukebook.org, or happywhale.com or <https://www.inaturalist.org/>) are global in scope.

Recommendations

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- *Encourage the collection of cetacean sightings and photo identification data during whale watching tours, and consider making a minimum level of data collection a requirement for obtaining and retaining a whale watching license and/or obtaining certification (as is the case for the ACCOBAMS HQWW Certification programme).*
 - *Encourage collaboration between researchers and tour operators to maximise the potential for robust data collection, analysis and application to adaptive management.*
 - *Consider use of citizen science apps to facilitate data collection.*
-

ANNEX 1: Table of methods used to assess and monitor the potential impacts of whale watching activities on cetacean populations

The table below provides an overview of the types of studies that have been conducted to monitor and measure the potential impact of whale watching activities on cetacean populations. The examples provided in the reference list are not exhaustive, but intended to provide some examples of peer-reviewed studies using each category of method.

Category of study	Research platforms	Indicator or measure of potential impact	References (correspond to final reference list)
Behavioural responses linked to the presence of whale watching vessels	Observations of behaviour from research vessels, shore-based observation stations, tethered balloons, to observe actual whale watching vessels and reactions or experimental approaches and reactions	Changes in diving or surfacing patterns	102-105
		Changes in swimming speed and direction	28,105-107
		Changes in time spent feeding	24,31,108,109
		Changes in time spent resting	27,29,34,110
	Passive acoustic monitoring or vessel-operated hydrophones	Changes in vocal behaviour	58,111-113
Modelling of how behaviour changes translate into potential long-term impacts on fitness	Studies that measure behaviour changes above include modelling of long-term and cumulative effects persistent shifts in 'energy budgets'	Potential energy deficits accrued over time by decreased feeding or resting, or increased traveling or surface-active behaviour	28,54,114-122
Monitoring vessel behaviour around target species	Observations can be made from a research vessel, or land-based station, or by researchers (anonymously) placed on whale watching vessels	Rates of categories of vessel behaviour that fall within, or outside of established standards in terms of distance, speed, approaches to species or group categories that are off limits, etc.	6,7,31,51,123-129
Monitoring tourist perceptions of whale watching experiences	Interview surveys are conducted with tourists following their participation in whale watching tours. 'Before' and 'after' surveys can be used to measure knowledge gain or change in awareness or attitudes	Rates of satisfaction or dissatisfaction with elements of whale watching experiences, or changes in levels of awareness, knowledge or motivation after participating in whale watching	9,11,75,96,97,101,130-132

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6.1.5 Climate Change

Resolution 4.14 Climate Change

RESOLUTION 4.14 - Climate Change

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS):

Taking in consideration the Recommendation of the Scientific Committee,

Aware that global climate change is occurring and that some scenarios envisage rapid environmental changes to take place in particular in the marine ecosystems of the ACCOBAMS area,

Recalling the Decision IX/16 of the ninth Conference of the Parties to the Convention on Biological Diversity (CBD), the Resolution 9.7 of the Parties to the Convention on Migratory Species of Wild Animals (CMS) and the Resolution by the International Whaling Commission (IWC) on climate and other environmental changes and cetaceans (IWC/61/16),

Acknowledging the recent scientific data showing the impact of climate change on cetacean population in the Agreement area,

1. *Encourages* Parties to support the Scientific Committee activities and to take necessary actions to reduce anthropogenic contributions to climate change and marine acidification and to assist in the work described above;
2. *Requests* the Scientific Committee to continue to monitor the activities on this topic and to liaise with other Organisations, in particular the IWC and CMS;
3. *Charges* the Scientific Committee:
 - to progress on a targeted region-specific workshop on this issue within the next triennium, in cooperation with ACCOBAMS Partners, and other relevant Organisations;
 - to continue its works on studies of climate change and the impacts of other environmental changes on cetaceans as appropriate;
4. *Requests* the Scientific Committee to make contact with the intergovernmental panel on climate change in order to broaden its knowledge on this subject and also contribute with its experience and knowledge about this topic;
5. *Requests* the Agreement Secretariat to make contact with the Secretariat of the United Nations Framework Convention on climate change in order to improve the coordination between both Agreements;
6. *Mandates* the Agreement Secretariat to forward this Resolution and the works of the Scientific Committee and of the ACCOBAMS Partners to the relevant bodies and meetings.

6.1.6 Captivity and Release

Resolution 3.13 Dolphin Interaction Programmes

Resolution 3.20 Guidelines on the Release of Cetaceans into the Wild

Resolution 5.14 Live Removals of Bottlenose Dolphins in the Black Sea (*Tursiops truncatus*)

RESOLUTION 3.13 - Dolphin Interaction Programmes

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

On the recommendation of the Scientific Committee,

Noting the ongoing proliferation of dolphinarium and activities that involve direct human contact with dolphins such as swim-with-dolphins (SWD) and dolphin-assisted therapy (DAT) programmes,

Concerned:

- that many of these programmes involve the capture of cetaceans from the wild and their placement in captive facilities,
- by the continued trade in cetaceans, some of which are known to be originating from the Agreement Area,
- that these activities are likely to expand in facilities holding cetaceans in sea pens and tanks and that in this case they would present a significant risk of injury and disease transmission to both interacting parties (dolphins and humans),
- by the growing body of literature that discloses the risks associated with human interactions with marine mammals (and specifically, whales and dolphins), in the wild,
- that short- and long-term behavioural changes in cetaceans, in response to vessel or swimmer presence, and displacement from primary resting areas have been reported in numerous studies,

Aware:

- that Swim with Dolphin programmes (SWD) and Dolphin Assisted Therapy programmes (DAT) are businesses which are growing in number all over the world, including in the Agreement area,
- of the possible introduction of non-native species/subspecies/populations and the risk of disease transmission and genetic pollution resulting from the keeping of whales and bottlenose dolphins from outside the region in sea pens from which they might escape,
- that there are risks associated with direct contact between humans and marine mammals, especially cetaceans, that relate to the harassment of wild animals and present risks to the safety of swimmers,
- of the obligations towards cetacean conservation of the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), the Barcelona Convention Protocol relating to Specially Protected Areas and Biological diversity in the Mediterranean and the EU Habitat Directive,

Recalling:

- that Article II of the ACCOBAMS Agreement requires Parties to “prohibit and take all necessary measures to eliminate, where this is not already done, any deliberate taking of Cetaceans”,
- that Article II. 4 of the ACCOBAMS Agreement requests the application of the precautionary principle in implementing such measures,
- that the CMS Art I.1.(i) definition of “taking” – as used in ACCOBAMS – includes harassment,

DAT usually refers to activities involving dolphins. However, for the purpose of the present resolution, it refers to activities involving all cetaceans.

Further recalling:

- that CITES Article XV 2.b) provides that, in order to determine the appropriate level of protection for marine species in international trade, CITES shall consult inter-governmental Bodies having a function in relation to those species especially with a view to obtaining scientific data, these bodies may be able to provide and to ensuring co-ordination with any conservation measures enforced by such bodies and,
- the IUCN Cetacean Specialist Group action plan stressing that : "Removal of live cetaceans from the wild, for captive display and/or research, is equivalent to incidental or deliberate killing, as the animals brought into captivity (or killed during capture operations) are no longer available to help maintain their populations. When unmanaged and undertaken without a rigorous program of research and monitoring, live-capture can become a serious threat to local cetacean populations",

Recalling also:

- Resolution 2.8 on the "Framework guidelines on the granting of exceptions for the purpose of non-lethal in situ research aimed at maintaining a favourable conservation status for cetaceans",
- Resolution 1.12 on the "Conservation of the Black Sea *Tursiops truncatus*: Bottlenose dolphin",
- Resolution 2.17 on "The release of cetaceans into the wild",
- Recommendation SC4.11 of the Scientific Committee on "Captive facilities",

Recognizing that:

- the capture and long-term captivity of cetaceans from the ACCOBAMS area are therefore contrary to the spirit of the Agreement,
- there exists no scientific evidence that DAT is any more effective than any other animal assisted therapy and it has not been demonstrated effectively to have any long-term benefit,
- activities that promote or enable direct interactions between humans and marine mammals dramatically increase the potential for harassment,

1. *Requests* Parties to prohibit any cetacean interaction programme that involves closely approaching, interacting with, or attempting to interact with wild cetaceans, with the exception of authorized research activities granted according to Resolution 2.8 and cetacean-watching activities carried out in accordance with the Guidelines for commercial cetacean-watching activities in the Black Sea, the Mediterranean Sea and contiguous Atlantic area, adopted within the framework of ACCOBAMS. This includes attempting to swim with, touch, feed or otherwise elicit a reaction from the animals.
2. *Urges* Parties:
 - Not to allow imports of dolphins that have been captured from the wild, and to screen very carefully all information submitted for the importation of captive-bred dolphins;
 - To provide the Secretariat with information on dolphin-assisted therapy and other interaction programmes or activities existing or planned in the areas under their jurisdiction
3. *Charges* the Secretariat to:
 - collect information on the activities undertaken in the Agreement area involving deliberate and direct human contact with cetaceans, compile a report on the issue and submit it to the Scientific Committee and to the next MOP
 - request the Scientific Committee to assess the evidence available and come up with a clinical opinion on the issues, including a judgement as to whether DAT is necessary or whether it can be easily substituted with

therapies involving terrestrial domestic animals and submit this, with their recommendations, to the next MOP.

4. *Charges* the Scientific Committee to monitor the issue, and where necessary, make recommendations to the next Meeting of the Parties.

RESOLUTION 3.20 - Guidelines on the release of cetaceans into the wild

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Aware that there is increasing interest in the area covered by the Agreement for commercial operations involving 'swim-with' and 'dolphin-assisted therapy' programmes in controlled environments (including captive facilities and enclosed and semi-enclosed sea areas),

Convinced that the extent of such operations is likely to be an increasing threat to wild cetacean populations due to illegal takes and reintroductions,

Further aware that cetaceans originating from the Mediterranean and Black Seas are currently in captivity in several countries and that programmes for further captures are being authorized in the area covered by the Agreement,

Particularly concerned by the risks that cetacean releases and similar operations represent to wild populations of dolphins due to potential introduction into the environment of exotic pathogens and genetic mixing,

Conscious that the chances of survival of released dolphins, especially if born in captivity, are very low,

Agreeing that the only reason for any release should be conservation,

Stressing that, for all objectives, the overriding priority in any release programme should be that it does not affect the conservation status of existing wild cetacean populations,

Noting that the welfare of released animals must be of utmost concern,

Recalling:

- Article II of the Agreement, which prohibits the deliberate taking of cetaceans from the wild,
- Resolution 2.17 on the release of cetaceans into the wild, requesting the ACCOBAMS Permanent Secretariat, in close consultation with the Scientific Committee and in liaison with pertinent ACCOBAMS partners, to develop guidelines on proposals for the release of cetaceans into the wild that are not contrary to the Agreement, on the basis of scientific knowledge and lessons learnt from previous release programmes;
- Resolution 3.13 on dolphin interaction programmes,
- Article 9 of the Convention on Biological Diversity requiring Contracting Parties to adopt measures for the recovery and rehabilitation of threatened species and for their reintroduction into their natural habitats under appropriate conditions, and
- the IUCN/SSC Guidelines for Re-introductions, approved in response to the increasing occurrence of re-introduction projects worldwide and to the growing need for specific policy guidelines to help ensure that re-introductions achieve their intended conservation benefit and do not cause adverse side-effects of greater impact,

1. *Adopts* the Guidelines on proposals for the release of captive cetaceans into the wild as presented in Annex 1 to this Resolution;

2. *Urges* Parties and *invites* Riparian States to communicate in due time any planned release of cetaceans into the wild to the Scientific Committee for information and advice;
3. *Requests* the Scientific Committee to provide such review and advice via the Secretariat in a timely fashion;
4. *Urges* Parties who are also Parties to CITES to ensure close liaison between their CITES authorities and the Scientific Committee of ACCOBAMS through the Agreement Secretariat on this issue.

ANNEX 1

GUIDELINES FOR THE RELEASE OF CAPTIVE CETACEANS INTO THE WILD

Definition of terms

- ~ “Release”: deliver from confinement, restraint or suffering.
- ~ “Agreement area”: Area covered by the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area.
- ~ “Habitat”: any area in the range of cetaceans where they are temporarily or permanently resident, in particular, feeding areas, calving or breeding grounds, and migration routes.
- ~ “Acclimation”: the process of becoming accustomed or adapting to a new environment or situation.
- ~ “Native population”: population originating in the place or region in question.
- ~ “Subspecies”: taxonomic subdivision of a species, consisting of an interbreeding population of individual animals.
- ~ “Conspecifics”: individuals of or belonging to the same species

1. Aims and objectives of release

1.1. Aims

Recalling ACCOBAMS Article II, which prohibits the deliberate taking of cetaceans from the wild, these guidelines aim to ensure that special consideration is given to proposals for the release into the wild of captive cetaceans that originate from, or are a result of breeding between cetaceans originating from, the Agreement area. Within this context, the release should be guided by the principles of preservation and/or conservation of the species and/or population concerned and aimed at improving the health and welfare of the individual animal(s) proposed for release.

1.2. Objectives

The objectives of the release may include: to enhance the long-term health and survival of the individual(s) released; to enhance the long-term survival of the species or population; to maintain and/or restore natural biodiversity; to promote conservation awareness; to rescue individuals held in poor conditions; or a combination of these.

2. Planning for the release

2.1. Choice of release site

- The release site should be preferably within the historic range of the population from which the animal(s) proposed for release originate or descend.
- The release should only take place where the habitat requirements of the species are satisfied, and likely to be sustained for the foreseeable future.
- Local experts should be approached, through the Scientific Committee if appropriate, to determine the status and biology of wild populations at the release site and to determine the species’ critical needs. This could involve collection of information on habitat preferences, intraspecific variation and adaptations to local ecological conditions, social behaviour, group composition, home range size, shelter and food requirements, foraging and feeding behaviour, predators and diseases.
- The release project should consider any potential impact on the native population of the species in the area into which the animals are proposed for release. Preparation for the release should therefore include research and/or consultation on the past and present abundance of the species/population from which the animals originate or in the area into which the animals are proposed for release.

2.2. Evaluation and preparation of the animal(s) for release

- Cetaceans proposed for release must be subjected to a thorough veterinary screening process before transportation to the acclimation or release site. This is to ensure absence of any non-endemic or contagious pathogens with the potential to have an impact on the native population of the area into which the animals are proposed for release. The precise nature of this has yet to be defined but such screening is key to

minimizing the potential for transmitting lethal disease agents into wild populations. Any release should abide by the protocol for the veterinary screening of cetaceans as presented in Appendix 1.

- Information on the age, sex, reproductive status, history (including, where appropriate, time in captivity, number and species of other animals in the same facility), population origin (and exact location of capture, if applicable and known) and health (present and past) of each of the animals proposed for release should be made available.
- Cetaceans proposed for release should preferably be of the same subspecies as the native population of the site chosen for release and show similar ecological characteristics (morphology, physiology, behaviour, habitat preference).
- Local endemic or epidemic infectious diseases should be vaccinated against, prior to release.
- Body condition should be appropriate for the environmental conditions at the release site.
- Cetaceans to be released should be given the opportunity to acquire the necessary experience to enable their survival in the wild, through training and/or conditioning in the captive environment or in a temporary holding enclosure at the release site, where appropriate.
- Cetaceans should demonstrate the following behavioural characteristics prior to release: a) foraging capability b) normal (non-habituated) behaviour towards humans and human structures c) lack of sensitivity to any monitoring equipment.
- The proposed release of captive-bred animals should remain subject to review.

2.3. Logistics of the release

- Persons involved in the planning of a release should consult the available literature, seek expert advice and submit a detailed proposal to the ACCOBAMS Secretariat and the Scientific Committee for full review and consultation with the appropriate national and regional authorities.
- Personnel and other stakeholders involved in the release project should be multidisciplinary and could include government personnel, natural resource management agencies, non-governmental organizations, funding bodies, universities, veterinary institutions and other expert bodies, providing a full range of suitable expertise.
- Appropriate local and national authorities and interests should be informed about the project noting that where animals may migrate across national boundaries, more than one national authority may need to be approached.
- The release project should have all the necessary national and international permits to ensure the legality of the release.
- The estimated costs of the project should include the full release and monitoring programme and the availability and reliability of the financial and logistical resources required to carry it out.
- Plans for the transportation of animals to the release site should include measures to minimize stress and other health-related problems during transport and ensure access to a suitably qualified veterinarian at all times.
- Measures should be taken to ensure that accurate information is provided to local, national and international interested parties and the media.
- Measures should be taken to ensure the released cetacean is not at risk from human activities at the release site, including provisions to reduce the impact of public interest on the success of the release and to ensure that the released cetacean(s) pose(s) no risk to local inhabitants.

3. On-site rehabilitation and release

- Following transportation, acclimation prior to release should take place in a suitable environment, preferably in an enclosed sea pen in a sheltered bay, exposed to the natural forces and environment of the sea (e.g. waves, rocks), with an adequate supply of live fish for the animals to establish hunting techniques. The provision of a 'halfway house' of this type can provide the means of gradually returning the animals to the wild, while enabling monitoring of their condition in their natural environment prior to release. It could also provide a site to which the animals can be returned in case of illness or other incapacity following release.
- A suitably qualified veterinarian should be available throughout the rehabilitation process and cetaceans should undergo further veterinary screening prior to release.

- Release into the wild environment should occur as soon as the animals demonstrate the behavioural characteristics referred to in 2.2. and environmental conditions are deemed fit for the release to be carried out.

4. Post-release monitoring

- Post release monitoring of all cetaceans released should be carried out.
- Monitoring techniques should provide sufficient information about the post release activity without disrupting the normal activities of the animal.
- Photo-identification techniques, which use a photograph taken of both sides of a cetacean's dorsal fin, can be used to identify released individuals. By circulating photo-identification images throughout the fishing community and to other boat users, sightings of released individuals can be monitored. Information can also be distributed throughout the community close to the release site to encourage the reporting of sightings. Other monitoring techniques, including freeze-branding, tagging and telemetry should be subject to review, according to the provisions of ACCOBAMS Resolution 2.8.
- In addition, dedicated demographic, ecological and behavioural studies of released cetaceans should be undertaken to contribute to a study of long-term adaptation by the individual(s) released and the native population. The study should record factors such as the behaviour, body condition and association with conspecifics of the released cetaceans.
- Measures should be put in place to ensure any problems with the release can be addressed, such as the collection and investigation of mortalities, interventions (e.g. supplemental feeding, veterinary aid) and decision-making in relation to revision, rescheduling, or discontinuation of the programme where necessary, including animal recovery and placement.
- Public relations activities, including education and media coverage, should continue post-release, with the goal of helping to contribute to the success of the release.

5. Evaluation of the release

- A written evaluation of the release and any post-release monitoring should be presented to the ACCOBAMS Secretariat.
- Project managers should also seek publication of the results in scientific and popular literature.

Appendix 1

DISEASES TO TEST FOR BEFORE RELEASING REHABILITATED CETACEANS

The following list of diseases has been described from wild cetaceans. They do not all have the same level of pathological effect and thus pose varying levels of threat to free-ranging cetacean populations.

The only disease agents, at this time, for which screening is essential before releasing a rehabilitated cetacean, are the morbilliviruses; this is due to their potential to cause an epizootic if released into a naïve population.

Brucella and erysipelas are contagious but do not appear to have the potential to create mass mortalities. Testing for these diseases before releasing a rehabilitated cetacean should depend on the clinician's evaluation of the animal's state of health and the potential risk for the wild population.

Even if the tests described below are negative, the clinician must make the final decision for release, as a disease can be subclinical, and different factors can influence the correct interpretation of a diagnostic test. The clinician's overall evaluation of the patient should therefore prevail over laboratory tests.

MORBILLIVIRUS

Morbillivirus are RNA viruses that infect both odontocetes and mysticetes. Different strains have been identified (i.e. Dolphin Morbillivirus = DMV & Porpoise Morbillivirus PMV) but are believed to represent the same viral species (CMV = Cetacean Morbillivirus). Relatively recent outbreaks have caused extensive die-offs, including the striped dolphin epizootic in the Mediterranean Sea in the early 1990s. Morbillivirus may be enzootic in certain cetacean species (for example, long- and short-finned pilot whale (*Globicephala melas* and *macrorhynchus*)).

This virus causes typically pneumonia, encephalitis and immunosuppression, which allows secondary infections to develop, which may lead to the death of the animal.

It is recommended that stranded dolphins and whales should always be tested for morbillivirus before they are released, as they could be the source of a mortality event if they were to be shedding the virus in a naïve environment.

The infection involves a viremia during which the virus can be isolated or amplified with the help of RT-PCR (Reverse Transcription Polymerase Chain Reaction) from the animal's serum. An active infection can also be identified checking antibody titers. Before release, dolphins and whales should be checked for serological evidence of active infection. It is therefore important to have collected and, if possible stored, serum for these successive tests to be carried out. A monoclonal antibody-based competitive enzyme-linked immunosorbent assay (C-ELISA) can be used on sera from several species, which avoids the need for multiple anti-species enzyme conjugates.

BRUCELLOSIS

Marine *Brucella spp.* is a Gram-negative bacterium that has raised a lot of concern in recent years, as it has been proved to be responsible for some cases of zoonosis. Cetaceans can get infected by marine strains of *Brucella*, but the infection is generally of little concern. *Brucella* is known to have caused abortion in captive bottlenose dolphins (*Tursiops truncatus*), reproductive tract lesions in minke whales (*Balaenoptera acutorostrata*) and brain lesions in striped dolphins (*Stenella coeruleoalba*).

The infection comprises a bacteremia during which the bacteria can be isolated by culture from the blood, or its DNA can be amplified using PCR. An active infection can also be identified looking for antibody titers. A basic competitive enzyme-linked immunosorbent assay test (C-ELISA) using *Brucella abortus* can be used. If the animals have high(er) titers, an active infection is still present, and the animal may be shedding bacteria in its environment.

ERYSIPELAS

The causative agent of erysipelas is *Erysipelothrix rhusiopathiae*, a Gram-positive, rod-shaped bacteria. In the wild, cetaceans can be occasionally infected by *Erysipelothrix*, and two types of disease can result. The first one is a subacute cutaneous form characterised by rhomboid (diamond shaped) skin pigmentation; the second one is an acute systemic form that rapidly leads to death. No epidemics have been described so far.

ELISA or microtitration agglutination testing for high or increased *Erysipelothrix sp.* antibodies can identify animals that are still diseased. It is important to have sera from the start of the rehabilitation in order to be able to follow the serological evolution.

RESOLUTION 5.14 - Live removals of bottlenose dolphins in the Black Sea (*Tursiops truncatus*)

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Article II, paragraph 1, of the Agreement, which provides that Parties shall prohibit and take all necessary measures to eliminate, where this is not already done, any deliberate taking of cetaceans,

Recalling Resolution 1.12 on the conservation of the Black Sea bottlenose dolphin (*Tursiops truncatus ponticus*),

Taking in consideration the Recommendations of the Scientific Committee,

Concerned that the Black Sea bottlenose dolphin is severely threatened, due to multiple anthropogenic pressures, and is classified as “endangered” under the IUCN Red List,

Aware of the obligations towards this species under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Barcelona Convention Protocol relating to Specially Protected Areas and Biological diversity in the Mediterranean,

Recognizing that domestic and international commercial trade in Black Sea bottlenose dolphin may increase the stress on its population,

Recognizing also that the trade pressure could impede the conservation measures taken by the range States in respect of this population,

Concerned that, besides the already high by-catch levels, recent reports indicate the continued live removal of specimens of Black Sea bottlenose dolphin,

Aware that the practice of taking live Black Sea bottlenose dolphins from the wild to trade them or to keep them in captivity constitutes a breach of the Agreement,

Aware also that this kind of activities constitute a breach of obligations arising from the other above-mentioned treaties and are contrary to the objectives set by the Black Sea Conservation Plan for Cetaceans,

Stressing that *Tursiops truncatus* is included in Appendix II of the CITES and that a zero annual export quota has been established for live specimens from the Black Sea population of this species removed from the wild and traded for primarily commercial purposes,

1. *Invites* the Parties, and particularly the Black Sea riparian countries, to make every effort to strictly enforce the prohibition of deliberate taking of Black Sea bottlenose dolphins;
2. *Invites* also the Parties to reinforce the interdiction of the importation, exportation and re-exportation of Black Sea bottlenose dolphins from the Agreement area;

3. *Calls* upon other countries and especially other range states of Black Sea to implement the same measures;
4. *Asks* the Black Sea Parties, in coordination with the Black Sea Permanent Secretariat to carry out an assessment and an inventory of all specimens of bottlenose dolphins kept in captivity by means of genetic, morphological and photographic identification methods, to adopt appropriate measures to prevent the substitution of Black Sea bottlenose dolphins that die in captivity by others taken from the wild, and to present a report on this matters at the next Meeting of the ACCOBAMS Parties;
5. *Asks* the Secretariat to communicate this Resolution to the Black Sea Commission, to the Secretariat of the Bern Convention and to the Secretariat of the CITES as well as to the Black Sea states which are not Parties to the ACCOBAMS.

6.1.7 Functional Stranding Networks and Responses to Emergency Situations

- Resolution 1.10 Cooperation between National Networks of Cetacean Strandings and the Creation of a Database
- Resolution 2.10 Facilitation of Exchange of Tissue Samples
- Resolution 3.25 Cetacean Live Stranding
- Resolution 4.16 Guidelines for a Coordinated Cetacean Stranding Response
- Resolution 6.22 Cetacean Live Strandings
- Resolution 7.14 Best practices in monitoring and management of cetacean stranding
- Resolution 8.15 Cetacean Stranding Networks

RESOLUTION 1.10 - Cooperation between national networks of cetacean strandings and the creation of a database

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

Recalling that Article II, paragraph 3.e), of the Agreement, invites the Parties “to reinforce capacity building, the collection and dissemination of information, formation and education”,

Recalling in addition that the Conservation Plan binds the Parties to:

- develop “systematic research programmes on dead, stranded, wounded or sick animals, to determine the main interactions with human activities and to identify present and potential threats” (paragraph 4.d),
- “develop the systems for collecting data on observations, by-catches, strandings, epizootics and other phenomena related to cetaceans “(paragraph 5.a),
- “establish, as appropriate, a sub-regional or regional data bank for the storage of information collected” (paragraph 5.e),

Recalling also that the Conservation Plan states that “such actions shall be conducted in concert at the sub regional and Agreement level, supported by the Agreement Secretariat, the Co-ordination Units and the Scientific Committee and carried out in collaboration with competent international institutions or organisations”,

Recalling that Resolution 1.9 considers in the Action 15 of the Annex 1 the support to the Implementation of National Strandings Networks and the coordination into wider Regional Network, with specific mention to the Black Sea,

Aware that, within the Agreement area, there are already several networks, follow-up systems, and collections of data from stranded animals, as well as a Mediterranean co-ordination initiative directed by the CAR/ASP and known as the MEDACES,

1. *Takes into account* the Secretariat’s report, based on the questionnaire distributed by the interim Secretariat at the end of 2000, presenting the state of national structures on the follow-up procedure for stranded animals and a co-ordination project for these networks.
2. *Recommends* each Party individually:
 - to implement, if not already done, or to complete at a national level, networks or information structures for intervening and collecting data on strandings;
 - to reinforce the co-ordination so that the data collected can be effectively used:
 - to increase as needed the participation of the NGO and scientific community in such actions:
 - to support the introduction in cetacean training courses, of appropriate methods of field-work .
3. *Recommends* the co-ordination of national networks and the creation of a data base covering the Agreement zone;
4. *Welcomes with pleasure* the Spanish offer, in collaboration with the University of Valencia, to increase coverage of the data base MEDACES, which should be develop in the interest and help of all the Riparian States, to the whole of the Mediterranean sub-region/Atlantic zone of the Agreement.

5. *Entrusts* the administration of this, as far as the Mediterranean sub-region/adjacent Atlantic zone is concerned, to the CAR/ASP as a Sub-regional Co-ordination Unit;
6. *Urges* the Secretariat to find the means to establish and manage the equivalent data base for the Black Sea and to connect it, as far as possible, with that of Mediterranean/Atlantic area of the Agreement;
7. *Invites* the other riparian countries of the zone to participate in these actions;
8. *Invites* Parties who are also Parties to the CITES to register competent laboratories with the CITES Secretariat, in application of the CITES Resolution Conf.11/15, which allows for free exchange of specimens between their scientists (MOP 1/Inf.11);
9. *Asks* the Scientific Committee, on the occasion of its first Meeting, to approve a general protocol on measures to be taken when confronted with stranded animals and also to approve a code of deontology assuring the quality and use of the data base and defining practical methods for setting up the network;
10. *Asks*, in addition, the Scientific Committee to report on the progress of the project;
11. *Offers* the possibility for organizations and institutions participating in these projects, to use the ACCOBAMS Partner's Logo, for work relating to these questions, following approbation from the Executive Secretary.

RESOLUTION 2.10 - Facilitation of exchange of tissue samples

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

Stressing that Parties decisions for efficient conservation measures must be based on the best available scientific information,

Recalling that:

- Article II, paragraph 3.e) of the Agreement invites the Parties to reinforce the collection and dissemination of information,
- The Conservation Plan, which is fully part of the Agreement and binds the Parties to:
 - ✓ Develop systematic research programs on dead, stranded, wounded or sick animals, to determine the main interactions with human activities and to identify present and potential threats (paragraph 4.d),
 - ✓ Develop the systems for collecting data on observations, by-catches, strandings, epizootics and other phenomena related to cetaceans (paragraph 5.a),
 - ✓ Establish, as appropriate, a sub-regional or regional data bank for the storage of information collected (paragraph 5.e),

Recognizing that, to provide scientific sound bases, non-lethal sampling of cetaceans' tissues may be necessary,

Recalling also:

- Resolution 1.10 inviting Parties who are also Parties to the CITES to register competent laboratories with the CITES Secretariat, in application of the CITES Resolution Conf.11/15, implementing the exemption for scientific exchanges between their scientists and Scientific institutions as provided in article VII, paragraph 6 of this Convention, and
- Resolution 2.8 concerning the granting of derogations provided in Article II and in particular the non-lethal sampling of live cetaceans' tissues in the wild,

Aware of the need to enhance worldwide scientific collaboration with specialized laboratories for a better knowledge of cetaceans in ACCOBAMS area,

Convinced on the need to fully control international trade of endangered species belonging to wildlife, in particular by the implementation of CITES,

1. *Urges* Parties to implement Resolution 1.10, and register at least one specialized competent Scientific Institution within the CITES Secretariat and inform ACCOBAMS Secretariat of this designation;
2. *Asks* Parties CITES management authorities to facilitate the granting of import permits for samples coming from the sea under an ACCOBAMS implementation program and, as far as necessary the subsequent exportations;
3. *Charges* the Secretariat to manage and make available an updated database listing including Scientific Institutions, the procedures to be implemented for such exchanges and the national CITES authorities competent to grant any relevant permits.

RESOLUTION 3.25 - Cetacean Live Stranding

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Aware of the work on live stranding undertaken *inter alia* by participants in the ACCOBAMS rescue workshop (November 2006) and that the clear intention of such activities is the safe release to the wild of such animals,

Recognizing that data from rescue attempts is vitally important for improving knowledge and that records should be kept, and results shared among rescue networks,

Recalling the conclusions adopted by the Scientific Committee at its fourth meeting on live stranding,

1. *Invites* range States to act on the recommendations of the Scientific Committee in conducting live stranding activities in the Agreement area;
2. *Recommends* the establishment of an advisory panel for ACCOBAMS rescue activities and a veterinary group, as suggested by the Scientific Committee;
3. *Also invites* the Scientific Committee to promote information on rescue activities;
4. *Further recommends* that the Secretariat and the Parties explore the following options:
 - establishment of an ACCOBAMS-wide rescue network;
 - provision of annual reports on rescue activities to a central body, such as the Mediterranean Database on Cetaceans (MEDACES);
 - further analysis of rescue capacity in the ACCOBAMS area, followed by efforts to make rescue coverage comprehensive;
 - development of an ACCOBAMS rescue triage;
 - establishment of a network of expert veterinarians to provide help and advice to each other and to the ACCOBAMS rescue network,
 - involvement of zoos and aquaria in rescue activities, as appropriate, within their logistic frameworks and infrastructures, without exposing such animals for public display and/or display for commercial purposes; and
 - increasing the numbers of trained volunteers and other rescue workers through appropriate training events (noting that there might be national requirements for licensing rescue workers);
5. *Charges* the Scientific Committee, in collaboration with the Secretariat and the focal points, to develop comprehensive guidelines on live strandings;
6. *Further invites* Parties to report to the next Meeting of the Parties about progress made in implementing this Resolution.

RESOLUTION 4.16 - Guidelines for a coordinated cetacean stranding response

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS):

Taking in consideration the Recommendation of the Scientific Committee,

Recalling that the First Meeting of the Parties adopted the establishment of an “emergency task force for special mortality events” as a priority,

Recalling also Resolution 3.10 on “Guidelines to address the impact of anthropogenic noise”, Resolution 3.25 on “Cetacean live stranding” and Resolution 3.29 on “Guidelines for a coordinated cetacean stranding response”,

Recognizing that in recent years the ACCOBAMS area has been the scene of major cetacean mortality events, involving mass strandings over wide geographical areas, which have evoked great concern and have attracted considerable attention from the scientific community,

Convinced that in order to address new outbreaks of mortality events related to chemical, acoustic and biological pollution, as well as related to infectious agents and harmful algal blooms, affecting cetacean populations or their critical habitats, a task force should be constituted for marine mammal mortality and special events, made up of international experts,

1. *Encourages* Parties to take advantage of the two studies on “Guidelines concerning best practice and procedure for addressing cetacean mortality events related to chemical acoustic and biological pollution” and on “Guidelines for a coordinated cetacean stranding response during mortality events caused by infectious agents and harmful algal blooms”, presented in Annexes 1 and 2 to the present Resolution;
2. *Urges* the Scientific Committee, in collaboration with the Secretariat and the Sub-Regional Coordination Units:
 - to update the roster of contact persons and experts from the scientific and conservation communities and from governmental environment and natural resource agencies who could contribute in appropriate fields of expertise, such as pathology, epidemiology, toxicology, biology, ecology, acoustics, and to strengthen the two emergency task forces on:
 - (i) “mass mortality”, to address unusual mortality events, including epizootics and atypical mass strandings; and
 - (ii) “maritime disaster”, to address oil or chemical spills affecting critical habitats of cetaceans;
 - to use existing experience to prepare contingency plans for each task force, including descriptions of administrative procedures and modalities for interventions, the decision-making processes and the management of information, communication and relations with the media;
 - to update the studies and the contingency plans periodically on the basis of past experience and new techniques and technologies;

3. *Recommends* to the Parties and invites non-Party riparian States:
 - to inform the Secretariat as rapidly as possible about unusual mortality events affecting cetacean populations or their critical habitats, so that the emergency contingency plan can be initiated; and
 - to facilitate the organization of training programmes to enhance the effectiveness of the emergency task forces;

4. *Instructs* the Secretariat:
 - in consultation with the Scientific Committee and in collaboration with States and Sub-Regional Coordination Units, to contact the relevant experts in order to initiate the emergency contingency plan; and
 - to contact REMPEC and its homologous Black Sea organization under the Bucharest Convention framework in order to define a collaborative effort, as appropriate;

5. *Decides* that the present Resolution replaces Resolution 3.29.

ANNEX 1

Guidelines concerning best practice and procedure for addressing cetacean mortality events related to chemical, acoustic and biological pollution¹⁹⁰

1. GUIDELINES CONCERNING BEST PRACTICES AND PROCEDURES FOR ADDRESSING CETACEAN MORTALITY EVENTS RELATED TO CHEMICAL, ACOUSTIC AND BIOLOGICAL POLLUTION

1.1 Role of chemical, biological and acoustic pollution in cetacean mortalities and diseases

1.1.1 Introduction

1.1.2 Chemical pollution

- 1.1.2.1 Polychlorinated biphenyls
- 1.1.2.2 Brominated flame retardants
- 1.1.2.3 Polycyclic aromatic hydrocarbons
- 1.1.2.4 Perfluorinated compounds
- 1.1.2.5 Heavy metals

1.1.3 Biological pollution

1.1.4 Acoustic pollution

- 1.1.4.1 Anthropogenic sonar signals
- 1.1.4.2 Seismic surveys

1.2 Things to do in preparation for non-infectious unusual mortality events

1.2.1 Technical and administrative infrastructure needed in each Member State to best address emergencies caused by cetacean die-offs

1.2.2 Equipment list

- 1.2.2.1 Recording material
- 1.2.2.2 Necropsy
- 1.2.2.3 Specific sampling
- 1.2.2.4 Minimal equipment

1.3 Actions to take during non-infectious unusual mortality events

1.3.1 Protocols for collection, transportation and storage of specimens and samples

- 1.3.1.1 Protocols for sample collection
 - 1.3.1.1.1 Basic data protocol
 - 1.3.1.1.2 Specific sample collection
 - 1.3.1.1.2.1 Reproductive tract
 - 1.3.1.1.2.2 Biological pollution
 - 1.3.1.1.2.3 Chemical pollution
 - 1.3.1.1.2.4 Acoustic pollution

1.3.2 Protocols for transportation and storage

1.4 Activities to implement after stranding

1.4.1 Debriefing meeting

1.4.2 Communication

- 1.4.2.1 Local government, Armed Forces, Ministry of External Affairs, Ministry of Environment, Ministry of Health
- 1.4.2.2 Scientists
- 1.4.2.3 Press

1.4.3 Preliminary report

1.4.4 Follow-up

¹⁹⁰ Document prepared by: Dr Marie-Françoise Van Bresse, Cetacean Conservation Medicine Group, CMED/CEPEC, Cra 74, 139-33, Bogota, Colombia E-mail: mfb.cmed@gmail.com

2. CONTINGENCY PLAN DRAFT

2.1 OSCB

2.1.1 Administrative support team

2.1.2 Scientists

2.1.3 Volunteers

2.2 Memoranda of understanding with collaborators

3. OUTLINE OF A PROGRAMME TO BUILD CAPACITY

4. ACKNOWLEDGMENTS

5. LITERATURE CITED

1. GUIDELINES CONCERNING BEST PRACTICES AND PROCEDURES FOR ADDRESSING CETACEAN MORTALITY EVENTS RELATED TO CHEMICAL, ACOUSTIC AND BIOLOGICAL POLLUTION

1.1 Role of chemical, biological and acoustic pollution in cetacean mortalities and diseases

1.1.1 Introduction

Since the detection of massive mortalities in seals (Osterhaus and Vedder, 1988) and dolphins (Domingo *et al.*, 1990) in the last twenty years, diseases of marine mammals have gained growing attention. Several micro- and macro-parasites that may negatively influence population growth have been identified (Van Bresseem *et al.*, 2009) and the role of chemical pollutants in facilitating the emergence of morbillivirus epidemics has been thoroughly investigated (Aguilar and Borrel, 1994; Ross, 2002). Evidence suggests that polychlorinated biphenyls (PCBs) and related compounds might have contributed to the severity of morbillivirus outbreaks in seals and dolphins through toxicity at the level of the immune system (Aguilar and Borrel, 1994; Ross, 2002). More recently mid-frequency sonar operations induced cetacean mass-strandings in Europe, the US and Asia following decompression and gas and fat embolic syndrome (Jepson *et al.*, 2003; Fernandez *et al.*, 2005; Yang *et al.*, 2008). Biological pollution is also of increased concern because of the findings of terrestrial pathogens in marine mammals, of a significant increased fecal coliform count in harbour seals (*Phoca vitulina*) living near urban developments and of cutaneous disorders of miscellaneous aetiology in coastal odontocetes (Mos *et al.*, 2006; Van Bresseem *et al.*, 2007; Miller *et al.*, 2008). Chemical and biological pollution will likely increase as a result of climate change (Boxall *et al.*, 2009).

Below are summarized information on chemical, biological and acoustic pollution in cetaceans and their role in cetacean diseases and mortalities. A special insight is given into the effects of pollution in marine mammals from European waters, especially the Mediterranean Sea that receives persistent, organic contaminants from the most contaminated regions of the world (Lelieveld *et al.*, 2002).

1.1.2. Chemical pollution

During the 20th century, the global environment became contaminated with several persistent, organic contaminants, commonly referred to as 'POPs'. Contamination has resulted from deliberate discharges and applications, as well as from the inadvertent formation of byproducts of incomplete combustion or industrial processes. Classes of these POPs include the organochlorine pesticides (*e.g.*, DDT, chlordane, toxaphene), the polyhalogenated-biphenyls (PHBs; including polychlorinated biphenyls PCBs), -dibenzo-*p*-dioxins (PHDDs; including polychlorinated dibenzo-*p*-dioxins PCDDs), -dibenzofurans (PHDFs; including polychlorinated dibenzofurans PCDFs), the polychlorinated naphthalenes (PCNs), carcinogenic polycyclic aromatic hydrocarbons (PAHs) and certain brominated flame-retardants. Several POPs have 'dioxin-like' properties, *i.e.* they bind to the Aryl hydrocarbon receptor (*AhR*) and initiate toxic responses. POPs are fat-soluble chemicals and are resistant to metabolic breakdown, factors that result in their bioaccumulation in aquatic food chains and persistence in the environment (see Ross, 2002; Tabuchi *et al.*, 2006).

Prey items from the freshwater and marine environment, and the terrestrial food chain are the main sources of these contaminants for marine mammals. POPs may accumulate in high concentrations, affect the reproductive, immune and endocrine systems and cause cancers (Reijnders, 1986; De Swart *et al.*, 1994; Ross *et al.*, 1996). High trophic level organisms are vulnerable to accumulating high concentrations of POPs, but considerable variation exists among species. For example, cetaceans appear to be able to metabolically eliminate many dioxin-like PCBs, PCDDs and PCDFs, but are prone to accumulating the nondioxin-like (or "globular") PCBs (Tanabe *et al.*, 1988; Kannan *et al.*, 1989).

Other problematic persistent chemical contaminants not included in the POP group include the organo-metallic compounds (chemical compounds that are used in anti-foulant paints) and methyl mercury (an organic form of mercury that is highly toxic) (reviewed in Ross and Birnbaum, 2003). Mediterranean cetaceans are exposed to a cocktail of toxic compounds, some time at very high concentrations, as indicated by the data compiled here below.

1.1.2.1 Polychlorinated biphenyls

PCBs are widespread in the environment. They bio-accumulate in wildlife occupying high trophic levels as a consequence of their chemical characteristics and persistence. Pinnipeds and cetaceans accumulate high levels of PCBs

in their blubber because they are at the top of the food chain, have large lipid stores, have a long life span and a limited capacity for metabolism and excretion of compounds such as *p,p*-DDT and PCBs (Aguilar *et al.*, 1999,2002; Ross *et al.*, 2000). PCBs are immunotoxic causing thymus atrophy and reduced T-cell function through a common mechanism of action mediated by the cytoplasmic *AhR* (Silkworth and Antrim, 1985; Kerkvliet *et al.*, 1990) that has been found in all mammals studied, including several marine mammal species (Hahn, 1998).

Studies carried out in seals that died during the 1988 seal epidemic and in the laboratory showed that: (1) ambient levels of environmental contaminants in the Baltic Sea herring were immunotoxic to harbor seals; (2) the pattern of effects implicated “dioxin-like” contaminants; (3) PCBs represented the major “dioxin-like” contaminant class; (4) many populations of free-ranging pinnipeds had PCB levels which exceeded those found to be immunotoxic in the captive study; and (5) environmental contaminants likely contributed to the severity of the 1988 PDV-associated mass mortality of harbor seals in northern Europe (Ross, 2002). Similarly, the striped dolphins (*Stenella coeruleoalba*) that died during the 1990-1992 epidemic had significantly higher loads of PCBs than the individuals that survived it. Given their well-known immunosuppressive effects, it was suggested that PCBs may have compromised the dolphin’s immune response and increased the severity of the outbreak (Aguilar and Borrell, 1994). Though the role of environmental contaminants in the 2007 morbillivirus epidemic in the Mediterranean remains inconclusive, recent pollutant data obtained through analyses of biopsies from apparently healthy striped dolphins in 1987-2002 suggested that PCB and DDT concentrations have gradually decreased (Aguilar and Borrell, 2005). Recent studies have demonstrated a significant association between chronic PCB exposure and infectious diseases in harbour porpoises (*Phocoena phocoena*) from the British Isles. Individuals that died in poor health had a significantly higher sum of the concentrations of 25 individual chlorobiphenyl congeners ($\Sigma 25\text{CBs}$) than those that perished by traumatic death (Jepson *et al.*, 2005a, Hall *et al.*, 2006).

Altogether these data suggest that contaminant-related immunosuppression likely contributed to the severity of the 1988 phocine distemper virus outbreak in harbour seals and of the 1990-1992 dolphin morbillivirus epidemic and that they may increase susceptibility of porpoises to infectious diseases.

1.1.2.2. Brominated flame retardants

Brominated flame retardants (BFRs) are a diverse group of compounds that have been extensively applied to combustible materials, such as plastics, wood, paper, and textiles to meet fire safety regulations (Alaee *et al.*, 2003; de Wit, 2002). Additive flame retardants, such as polybrominated diphenyl ethers (PBDEs) and hexabromocyclododecane (HBCD), are blended with the polymers and may leach out of the products (Alaee *et al.*, 2003). Being environmentally persistent compounds resistant to physical and biochemical degradation and with high production volumes, PBDEs and HBCD are among the most abundant BFRs detected in the environment (Alaee *et al.*, 2003). Initially the major commercial products, the penta- and octabromodiphenylether formulations were prohibited in all applications for the European Union Market in August 2004 (European Union 2003). The deca-mix product was also banned in Europe following a ruling by the European Court of Justice in 2008. HBCD and tetrabromobisphenol-A (TBBP-A) are however still widely used. PBDEs are similar in structure to thyroxine (T4) and triiodothyronine (T3) (Hamers *et al.*, 2006). Biologic effects of PBDEs in rodents are similar to those of PCBs, with increased risks for reproductive and endocrine disruption and neurodevelopmental problems (Zhou *et al.*, 2002; Siddiqi *et al.*, 2006; Stoker *et al.*, 2004; Kuriyama *et al.*, 2005; Ellis-Hutchings *et al.*, 2006; Lilienthal *et al.*, 2006; Talsness, 2008). BFRs negatively affect the reproductive health, immune system and development in exposed mammals including pinnipeds and cetaceans (Law *et al.*, 2002, 2003, 2006a; Ross, 2005). They have been detected in cetaceans from Europe, the United States and Asia (Isobe *et al.*, 2007; Law *et al.*, 2008, Johnston-Restrepo *et al.*, 2008). Rising trends in the concentrations of HBCD in the blubber have been observed in harbour porpoises stranded or dying due to physical trauma along the coasts of British Isles in 1994–2003 (Law *et al.*, 2008). PBDEs have also been detected in Mediterranean Sea striped dolphins, bottlenose dolphins, Risso’s dolphins, a long-finned pilot whale and a fin whale (Pettersson *et al.*, 2004). The impact of these contaminants on Mediterranean cetaceans is poorly known and should be further investigated (Fossi *et al.*, 2006).

1.1.2.3. Polycyclic aromatic hydrocarbons

Polycyclic aromatic hydrocarbons (PAHs) are a large class of molecules with condensed benzene rings. They are genotoxic and may induce cancers in humans and animals (Mastrangelo *et al.*, 1996; Hakami *et al.*, 2008; Topinka *et al.*, 2008). Their lipophilic nature allows them to cross biological membranes and accumulate in organisms (Marsili *et al.*, 2001). They are released in the environment by natural and man-made processes including combustion of wood and fossil fuels, oil plants and refineries and oil spills (Marsili *et al.*, 2001). It has been estimated that an input of 635.000 tonnes of petroleum derived-hydrocarbons contaminates the Mediterranean each year (UNEP, 1988). Low molecular weight PAHs tend to remain in solution and are available to marine organisms through ingestion and respiration. Their solubility augments as temperature increases. These fat-soluble contaminants build up in fat and are mobilized with fat reserves during illnesses, reproduction and lactation and food scarcity (Marsili *et al.*, 2001).

The contamination of the Saguenay River and immediate St. Lawrence estuary area by highly toxic PAHs such as the potent carcinogen benzo(a)pyrene (BaP) released massively by the local aluminum smelters over half a century and the exposure of belugas (*Delphinapterus leucas*) to these compounds were suggested as the most likely aetiology for a high prevalence of malignant tumours in belugas from the estuary (Ray *et al.*, 1991; Martineau *et al.*, 2002b). Total and carcinogenic PAHs were also detected in the subcutaneous blubber of fin whales (*Balaenoptera physalus*) and striped dolphins collected along the Italian coast of the Mediterranean Sea in 1993 and 1996, with naphthalene being the most ubiquitous compound (Marsili *et al.*, 2001).

1.1.2.4. Perfluorinated compounds

Perfluorinated compounds (PFCs) refers to a group of man-made chemicals and their precursors, manufactured for their properties of providing resistance to heat, oil, and stains to products. Belonging to this group are subgroups of PFCs - perfluorinated carboxylic acids (PFCA) that includes perfluorooctanoic acid (PFOA) used as a polymerization aid in the manufacture of fluorinated polymers and elastomers; and perfluorinated alkyl sulfonates that includes perfluorooctane sulfonate (PFOS). Fluorotelomer alcohols are precursors to PFCAs. They are transformed in biota or in the atmosphere to produce PFCAs such as the extremely stable PFOA. They are persistent organic pollutants and are not known to degrade by any natural processes. PFCs and fluorotelomer alcohols are widely used in consumer product applications including lubricants, stain repellents (clothing and carpeting), food preparation (greaseproof packaging and non-stick cookware- Teflon), pharmaceuticals, insecticides and fire-fighting foams. They are ubiquitous and several of them have adverse effects on neuroendocrine and reproductive systems, reduce neonatal survival, are carcinogenic and immunotoxic (DeWitt *et al.*, 2008, 2009a,b).

General exposure to PFOS may occur through ingestion of contaminated fish and water, or with dermal contact with PFOS containing products and direct occupational exposure at workplaces where it is manufactured. PFOA is found in the blood of the general human population (Hansen *et al.*, 2001; Nakayama *et al.*, 2005). Concentrations of PFOS in animals from relatively more populated and industrialized regions, such as the North American Great Lakes, Baltic Sea, and Mediterranean Sea, were greater than those in animals from remote marine locations (Giesy and Kannan, 2001). PFOS and PFOSA were found in cetaceans from around the globe including Japan, China, Brazil, the US and the Mediterranean (Kannan *et al.*, 2001, 2002; Hart *et al.*, 2008; Yeung *et al.*, 2009). Transplacental transfer occurred at very high levels in at least two species (Dorneles *et al.*, 2008; Hart *et al.*, 2008). PFOS was the most predominant fluorochemical detected in the tissues of free-ranging Mediterranean odontocetes (short-beaked common dolphins *Delphinus delphis*, common bottlenose dolphins *Tursiops truncatus*, striped dolphins and long-finned pilot whales *Globicephala melas*) analyzed and in the blood of captive bottlenose dolphins fed mackerel and herrings caught in the Mediterranean and capelin from the North Sea. The greatest PFOS concentration was observed in the liver of a common dolphin (940 ng/g, wet wt) similar to those reported for dolphins from the Florida coast (Kannan *et al.*, 2002).

A recent study in bottlenose dolphin epidermal cell cultures suggests that exposure to PFOS significantly alters normal gene expression patterns and causes a cellular stress response, a decreased cell cycle progression and cellular proliferation and reduced protein translation (Mollenhauer *et al.*, 2009). Though no direct mortalities due to these compounds were reported their ubiquitous presence, high concentration in several species, maternal transfer and toxicity are cause for concern.

1.1.2.5. Heavy metals

Marine mammals accumulate high levels of mercury (Hg) and cadmium (Cd) (Wagemann and Muir, 1984; Aguilar *et al.*, 1999). The natural occurrence of these elements in seawater has involved detoxification capacities to support elevated exposure to toxic metals in their environment (reviewed in Das *et al.*, 2000). Cd can be stored over long periods in the kidneys of marine mammals (Lahaye *et al.*, 2006). In odontocetes the demethylation of organic Hg occurs in the liver and leads to the production of non-toxic granules of tiemannite that are not excreted (Martoja and Berry, 1980). Since these granules are not excreted, inorganic Hg would be stored in the liver for the whole life resulting in elevated concentrations of Hg in this organ (Nigro and Leonzio, 1996; Lahaye *et al.*, 2006). The immune system is susceptible to long-term mercury exposure. A reduced viability, metabolic activity as well as DNA and RNA synthesis were observed *in vitro* in stimulated lymphocytes from harbour seals following exposition to more than 1µM concentration of methylmercury (Das *et al.*, 2008). In addition to immunosuppression, metal pollutants may induce immunoenhancement leading to hypersensitivity and autoimmunity (Kakuschke and Prange, 2007).

High Hg concentrations in harbour porpoises from the German Waters of the North and Baltic Seas were significantly associated with prevalence of parasitic infections and pneumonia (Siebert *et al.*, 1999). The mean liver concentrations of Hg, Se, the Hg:Se molar ratio and Zn in harbor porpoises found dead along the coasts of the British Isles were significantly higher in those that died of infectious diseases than in those that died of a physical traumas (Bennett *et al.*, 2001). Hg and Cd were also detected in the liver and kidneys of Mediterranean bottlenose dolphins and striped dolphins, respectively, at high concentrations in some individuals (Lahaye *et al.*, 2006).

1.1.3. Biological pollution

Coastal ecosystems are continuously invaded by microorganisms from ballast waters, aquaculture waste and untreated run-off waters (Weber *et al.*, 1994; Rhodes *et al.*, 2000; Cabello, 2004, 2006; Drake *et al.*, 2007). The discharge of water, sediments and biofilms from ships' ballast water tanks is a prominent vector of aquatic invasive species (Ruiz *et al.*, 2000; Drake *et al.*, 2007). The use in aquaculture of a wide variety of antibiotics in large amounts, including non-biodegradable antibiotics useful in human medicine, ensures that these remain in the aquatic environment, exerting their selective pressure for long periods of time. This has resulted in the emergence of antibiotic-resistant bacteria in aquaculture environments (including the Mediterranean Sea), in the increase of antibiotic resistance in fish pathogens and in alterations of the bacterial flora both in sediments and in the water column (Rigos *et al.*, 2004; Cabello, 2006). Increasing water temperatures, a consequence of global warming, likely enhance the survival of some marine bacterial pathogens such as *Vibrio* spp. and increase exposure (Pascual *et al.*, 2002). An increased pathogen exposure due to biological pollution has been detected in harbour seals inhabiting urban sites along the coast of Washington State and British Columbia (Mos *et al.*, 2006). Biological contamination is also thought to have played a role in the emergence of miscellaneous skin diseases observed in cetaceans from the Americas and the Indian Ocean (Van Bresseem *et al.*, 2007; Flach *et al.*, 2008; Kiszka *et al.*, 2009).

1.1.4. Acoustic pollution

Cetaceans depend on sound to find food, communicate, detect predators and navigate. Escalating mechanized use of the sea, such as for shipping, military activities, oil and gas exploration and recreation, is increasing the amount of noise that humans introduce into the oceans, sometimes over very large distances. Anthropogenic underwater noise is a relatively novel environmental element for cetaceans and they may not be able to cope with it (Simmonds *et al.*, 2004; Wright *et al.*, 2007).

Powerful underwater sounds cause damage to the hearing systems, which can result in: (1) disorientation, (2) disconnection from school, pod or community, (3) internal bleeding; ruptured tissues, deafness and strandings as well as physiological harm. For example, exposure to an unexpected and unnatural loud noise could startle a deep-diving whale, causing it to bolt for the surface in a panic – such a rapid ascent could lead to bubbles forming in the tissues (a condition known in human divers as “the bends”) and then to a stranding (Weilgart, 2007).

Anthropogenic sound sources vary in space and time but may be grouped into general categories: (1) explosions, (2) large commercial ships, (3) airguns and other seismic exploration devices, (4) military sonars, (5) navigation and depth-

finding sonars, (6) research sound sources, (7) acoustic harassment devices (AHDs) and pingers, (8) polar icebreakers, (9) offshore drilling and other industrial activity, and (10) small ships, boats, and personal watercraft (Hildbrand, 2005). The following paragraphs summarize data on military sonars and seismic explorations.

1.1.4.1. Anthropogenic sonar signals

Sonar is an acronym for Sound Navigation and Ranging. A wide range of sonar systems is in use for both civilian and military applications. They intentionally create acoustic energy to probe the ocean. They can be categorized as low-frequency (<1 kHz), mid-frequency (1–20 kHz), and high-frequency (> 20 kHz). Low-frequency active (LFA) sonars are used for broadscale surveillance. Mid-frequency tactical antisubmarine warfare (ASW) sonars are designed to detect submarines over several tens of kilometers. They are incorporated into the hulls of submarine-hunting surface vessels (Hildbrand, 2005). All active sonars emit a noise pulse or “ping”. These sound pulses bounce off a target (such as a submarine) and return as echoes that are detected by hydrophones.

Multiple mass strandings of beaked whales have been documented over the last decade following acoustic exposure to anthropogenic sounds, especially mid-frequency sonars, in Europe, the US and Asia (see Cox *et al.*, 2006 for a review). These strandings affected Cuvier’s beaked whale (*Ziphius cavirostris*), Blainville’s beaked whale (*Mesoplodon densirostris*), northern bottlenose whale *Hyperoodon ampullatus* and Gervais’ beaked whale *Mesoplodon europaeus* (see Cox *et al.*, 2006 and Simmonds *et al.*, 2004 for reviews). Affected whales had a condition called gas and fat embolic syndrome (GFES) characterized by extensive fat and gas bubble emboli, an ensemble of lesions most similar to decompression sickness (DCS) in human divers (Jepson *et al.*, 2003, 2005b; Fernandez *et al.*, 2005). The prevalent hypothesis is that GFES is induced through a precondition of tissue N₂ supersaturation coupled with a behavioural response (increased or decreased surface interval, ascent rate, or dive duration, leading to increased supersaturation, thereby increasing DCS risk) to acoustic exposure (Jepson *et al.*, 2003; Cox *et al.*, 2006). Other suggestions include an acoustic signal that could (1) activate existing stabilized bubble nuclei allowing them to grow by passive diffusion, and/or (2) drive activated bubbles to expand through rectified diffusion (Cox *et al.*, 2006). Each of these hypotheses assumed that these beaked whales live with significantly elevated blood and tissue tension N₂ levels, a fact supported by a recent mathematical model (Hooker *et al.*, 2009). In the Mediterranean strandings related to acoustic testing occurred in Greece in May 1996 (Frantzis, 1998).

1.1.4.2. Seismic surveys

Seismic airguns, used by the petroleum industry to detect pockets of oil or natural gas within the ocean floor and by researchers to locate sub-surface geological features, sound like underwater gun blasts and at times can be heard throughout entire ocean basins. Such impulsive sounds can be acutely harmful to nearby animals, but may also disturb (repeatedly startle) marine mammals to the point where they abandon important habitat (Nieukirk *et al.*, 2004; Simmonds *et al.*, 2004). The possibility that seismic noise can lead to strandings and/or death in marine mammals exists. Indeed, two Cuvier’s beaked whales stranded in the Gulf of California in September 2002 coincidentally with seismic reflections (Hildebrand, 2005). During the 2002 breeding season, three seismic surveys conducted in the Southern portion of Abrolhos Bank, Bahia and Espírito Santo States, Brazil may have been responsible for an increase in the strandings rate of adult humpback whales (*Megaptera novaeangliae*) (Engel *et al.*, 2004). Hearing damage may also have indirectly killed humpback whales by compromising their navigation or sensory system (Todd *et al.*, 1996).

1.2 Things to do in preparation for non-infectious unusual mortality events

Marine mammal strandings attract a lot of public attention. Several dolphins may beach over weeks along thousands of kilometres. The degree of response of each country will depend on the existence of active stranding networks and marine mammal research groups as well as on its economic and logistic possibilities. Some countries may be able to provide most of the scientific, technical and administrative infrastructure needed to face a massive stranding while others may only offer a more reduced support or none at all. Collaboration between Member States will be a plus to effectively attend these events. The foundation of an expert Sub-Committee on Cetacean Unusual Mortalities (CEUM)

within the ACCOBAMS Scientific Committee would optimise the answer to die-offs in the Agreement Zone. The CEUM Sub-Committee should ideally have the equipment described in 1.2.2.1- 1.2.2.3. Nevertheless, much can be done with a more reduced infrastructure and equipment (1.2.2.4).

1.2.1. Technical and administrative infrastructure needed in each Member State to best address emergencies caused by cetacean die-offs

All Member States should at least have an on-scene coordinator body (OSCB) that would contact the CEUM Sub-Committee and any other relevant institution in the case of a suspected mass-mortality, send data to the Mediterranean Database of Cetacean Strandings (MEDACES- http://medaces.uv.es/home_eng.htm), deal with the public and media, ensure that the proper samples are taken, be responsible to obtain all necessary permits and deal with the carcasses. The OSCB should ideally depend on an existing stranding network, a natural science museum, a university or a ministry (Agriculture, Environment, Fisheries). It should collaborate with existing national entities related to marine mammal stranding such as active stranding networks and marine mammal research groups, wildlife conservation and rescue centres, aquaria and oceanaria, coastguards, park officials and local authorities. It should also establish Memoranda of Agreement (MOA) with the Navy that could be directly involved in sonar activities as well as with Oil and Gas Companies involved in seismic surveys. Ideally, the Navy MOA should permit collaboration between the Naval Forces and the OSCB during stranding events possibly related to sonar activities by allowing the use of their planes, helicopters, boats and/or, trucks for transport of stranding responders or animals or assistance with aerial surveys to discern the extent of such an event. The MOA with the Oil and Gas Companies should facilitate access to OSCB marine mammal observers to their boats. The OSCB should also launch an agreement with universities or medical institutions willing to offer free tomographic examination of the cetacean's head stranded during acoustic operations and with universities or research institutes interested to collaborate on chemical and biological contamination. The OSCB should have all necessary addresses and phone numbers in the case of an emergency as well as a precise protocol to collect samples for research.

The OSCB basic technical and administrative infrastructure should include:

- A stranding hotline telephone, dedicated to record any stranding occurring along the coast and operating 24 hours, seven days a week;
- A computer with permanent internet access;
- A printer;
- Portable telephones;
- A GPS to register stranding locations;
- Digital cameras;
- DVD reader;
- Educative material;
- A specialized marine mammal library;
- A website describing the activities of the OSCB as well as the names of the persons in charge and to be contacted in the event of a die-off;
- A database on cetacean mortality events
- A centrifuge to spin blood samples;
- A large fridge to keep samples at 4°C;
- A -80°C freezer to store samples for longer periods of time.

1.2.2. Equipment list

The optimal and complete equipment list to face stranding of live and dead animals has been presented in another ACCOBAMS document (Van Bresseem, 2009). A checklist for recording material, necropsy and sampling for chemical, acoustic and biological pollution is provided here below.

1.2.2.1. Recording material

- Waterproof pencils;
- Metal clipboards, waterproof labels;
- Data forms, necropsy and collection protocol forms;
- Camera and film, extra batteries, video camera with additional memory cards;
- Tape measure (metric), at least 20 meters long (plastic and metallic);
- Hoist/crane, scales to record organ weights (0,1-10kg);

1.2.2.2. Necropsy

- Rope, at least 20 meters, blankets, stretchers to move carcasses, if necessary;
- Gloves (non-powdered, vinyl)
- Necropsy instruments: multiple stainless-steel scalpel handles, stainless steel scalpel blades, stainless steel scissors, stainless steel forceps forceps and knives;
- Stainless steel surgical scissors;
- Knife sharpener, if possible, in secure pack;
- Stainless steel flensing knives and hooks with appropriate sharpening tools, chain saw, axe, or reciprocating saw to cut through the cranium, chest or vertebrae;
- Hammers, chisels and handsaws;
- Retractors of various sizes and shapes. Self-retaining retractors with one or two movable arms mounted on a slide bar are most useful;
- Sterile instruments for culture collection;
- Whirlpicks;
- Jars, vials;
- Buckets;
- Flashlights with extra batteries and light bulbs;
- Containers (from vials to garbage cans) for sample collection, including ice chest, dry ice and, if possible, liquid nitrogen;
- Gas generator and flood lights with extra bulbs and gasoline;
- Lights;
- Portable or electric circular saw;
- Accessible water supply with hose;
- Buckets;
- Garbage bags, dish soap, paper towels for clean-up.

1.2.2.3. Specific sampling (chemical, biologic and acoustic pollution)

- 10% neutral buffered formalin;
- 2.5% buffered glutaraldehyde and/or 4% paraformaldehyde (for transmission and scanning electron microscopy);
- Dimethyl sulfoxide (DMSO)
- methylene chloride or methanol
- Isopropanol alcohol for contaminant sampling;
- clean and sealed glass containers for contaminant sampling
- Teflon bags for contaminant sampling (precleaned)
- Needles and syringes;
- Heparinized syringes;
- ethylenediaminetetraacetic acid- and heparin-containing tubes
- Culture vials for microbiology;
- Transport medium for microbiology and cell culture;
- Sterile swabs;
- Sterile urine cups;
- Glass slides;
- Serum tubes for blood and urine collection and gas burner to sear organ surfaces and sterilize scalpel blades;
- Coolers for samples refrigeration;
- Liquid nitrogen (if possible)

1.2.2.4. Minimal equipment

The following minimal equipment also permits to document the event and take valuable samples from freshly dead dolphins. In this case, all samples for toxicology should be large to allow further processing with stainless steel instruments.

- Recording material (waterproof pencils, metal clipboards, waterproof labels, data forms, necropsy and collection protocol forms);
- Camera;
- Mobile phone;
- Buckets;
- Water sprayer;
- Gloves, plastic boots and masks;
- Wide plastic sheets;
- Butcher knives;
- Butcher saws;
- Scalpel and scalpel blades;
- Vials and jars;
- Plastic bags (whirlpacks);
- Aluminium foils;
- Ropes.

1.3 Actions to take during non-infectious unusual mortality events

Several situations may occur during non-infectious unusual mortality events:

- Single stranded dolphins found dead or agonizing on different beaches;
- Several dead dolphins stranded together on the shore;
- Dead and live cetaceans stranded simultaneously on a beach.

In all cases, excellent coordination between the OSCB staff, the proposed CEUM Sub-Committee, other organizations specialised in these events and military institutions will be the key for a successful answer. The protocols given below are broadly based on Geraci and Lounsbury (2005). The second edition of *'Marine Mammal Ashore: A Field Guide for Strandings'* provides extensive information on how to deal with stranded, live or dead dolphins and whales and one or more copies should be in the library of all bodies involved with cetacean strandings. It would be wise to carry one copy to the field. Several papers cited in the present document are available online or upon request to the authors and would be worth to have in the library for more in-depth information.

1.3.1. Protocols for collection, transportation and storage of specimens and samples

1.3.1.1. Protocols for sample collection

Prior to sample collection, basic data should be collected in order to get crucial biological parameters. Recording the whale/dolphin condition is important to determine which samples should be given priority. Only the animals considered fresh or slightly decomposed are worth sampling for microbiology, toxicology and histopathology. All samples collected for microbiology and toxicology should be taken as aseptically as possible. The necropsy should be carried out by an experienced scientist. Notes should be taken by an assistant.

After collection of the basic data, the body should be opened, preferably on a wide plastic sheet or on a necropsy table. All instruments necessary for collecting biological samples such as bags, jars and vials with or without liquids should be clean, sterile and at hand before making the first incision. An assistant should label the containers and take notes and pictures.

Glass containers and Teflon bags are recommended for both organic compound and heavy metal analysis. Although glass containers should have a teflon-lined cap, foil-lined caps are acceptable for organic compound analysis. Sample

jars should be cleaned with detergent, rinsed with tap water, soaked in 1:1 acid, rinsed with metal-free water, and rinsed again with high purity methylene chloride or methanol (PSEP 1989a,b). Containers should be kept capped and sealed after cleaning and prior to sample collection. Handling of containers should be kept to a minimum and the inside of the container should not be touched by anything other than the sample. Cross-contamination between tissues should be avoided. The scalpel and forceps should be cleaned after taking each sample. All tissue surfaces that come into contact with implements that were not cleaned (e.g., blubber when the body was opened) should be cut away with clean implements. The sample should not come into contact with the outside of the sampling container or the ground. When conditions are not ideal and sterility is not guaranteed, remove a large slice (300-400 grs of the required tissue as hygienically as possible. Record whether the knife is ferrous or stainless or metal steel. The large samples may be collected in aluminum foil, plastic bags or buckets. They should be sealed, labelled with a waterproof pen, placed in a cooler with ice and transported to the laboratory quickly.

Skin samples for cell culture should be collected in culture medium with antibiotic and anti-fungi and kept on ice. They should be processed within 24h. These skin samples should be collected only in the case of an existing agreement with a university or research institute.

Small (1 cm³) and representative samples of all organs and tissues from fresh cetaceans should be promptly fixed in 10% neutral buffered formalin solution for histopathology. The pancreas should be fixed as soon as possible, given the enhanced susceptibility of this organ to *postmortem* autolysis. The fixative containing the above tissue samples should be replaced with fresh formalin solution after 24 hours.

If there is suspicion of sonar-related stranding, if there is possibility to carry out tomography and if the specimens are fresh enough, the whole head should be collected and kept at on ice or in a 4°C till examination is carried out.

Samples for microbiology (skin lesions, blood, etc...) should be only taken from freshly dead cetaceans, collected in a sealed container previously cleaned and sterilized containing transport medium, identified and kept on ice or at 4°C. If laboratory tests are not planned within the next days, then freeze at -80°C.

1.3.1.1.1. Basic Data Protocol

- Investigator
 - Name:
 - telephone:
 - e-mail:
- Date:
- Location of stranding:
- Presence of other dead aquatic animals:
 - Species:
 - Number (estimation):
- Field number:
- Species¹⁹¹:
- Sex¹⁹²:
- Standard body length¹⁹³:
- Condition:
 - alive
 - fresh
 - early decomposition
 - advanced decomposition
 - mummified

¹⁹¹ Species identification should be done by qualified persons. Ideally a picture of each specimen with its field number should be taken.

¹⁹² A picture of the genital region with field number will help to confirm the sex.

¹⁹³ Precise how it was taken (measurements should be parallel to the dolphin body, e.g. total length from snout to fluke notch).

- Fatness stage: fat, normal, thin, emaciated
- Indications for acoustic testing manoeuvres¹⁹⁴:
 - presence of naval exercises YES/NO
 - number of boats:
 - distance from coast:
 - extension of the area:
 - frequency used, date and time of the exercises:
 - characteristic of the vessel (vessel length, speed and heading):
 - identify key characteristics of sound (e.g. frequency, amplitude, energy, directional transmission pattern, use of arrays vs. single sources, etc.)
 - characteristics of environmental parameters that may influence sound propagation
 - behaviour of cetaceans before stranding:
 - * *continually circling or moving haphazardly in a tightly packed group – with or without a member occasionally breaking away and swimming towards the beach: YES/NO.*
 - * *abnormal respiration including increased or decreased rate or volume of breathing, abnormal content or odour: YES/NO*
 - * *presence of an individual or group of a species that has not historically been seen in a particular habitat, for example a pelagic species in a shallow bay when historic records indicate that it is a rare event: YES/NO.*
 - * *abnormal behaviour for that species, such as abnormal surfacing or swimming pattern, listing, and abnormal appearance: YES/NO*
 - presence of external abnormalities (especially bleeding from the eyes and ears): YES/NO
 - Description - pictures
- Indication for an algal bloom: YES/NO
- Evidence for human interactions: YES/NO
 - Net marks
 - Knife cuts
 - Wounds caused by vessel strikes
 - Description-pictures

- Presence of skin lesions and wounds: YES/NO.
 - Description – pictures

- Collect samples in 10% neutral buffered formalin solution, DMSO and, if possible, keep some unfixed samples at –80°C

- Lactating: YES/NO

¹⁹⁴ This checklist should be filled by an assistant or an experienced volunteer while the principal researcher carries on with the rest of the protocol.

1.3.1.1.2 Specific sample collection¹⁹⁵

1.3.1.1.2.1. Reproductive tract

Ovaries and testes should always be examined, weighed, photographed and collected in 10% formalin (4% end concentration) to assess sexual maturity. The presence/absence of corpora albicantia and a corpus luteum should be recorded. Uterus should be opened to check for a foetus. The latter should be measured, weighed and sexed and, if small, conserved in formalin. Presence of sperm in the epididymis should be evaluated. A piece of at least 1 cm³ of both testes should be collected in formalin. The following questions may be answered in the field if time permits otherwise in the lab after addressing the mortality event.

- Ovaries:
 - presence of corpus albicans: NO, YES
 - presence of corpus luteum: YES, NO
- Foetus in uterus: YES, NO
 - sex
 - length
 - weight
- Testes: YES/NO
 - Right:
 - presence of seminal fluid
 - length
 - weight
 - Left:
 - presence of seminal fluid
 - length
 - weight

1.3.1.1.2.2. Biological pollution

- Document, describe and take pictures of any change in organ gross morphology.

- Collect cutaneous lesions and subcutaneous abscesses in 10% formalin (histology) and in containers with cell culture medium (microbiology);
- Collect 5-10grs samples from the kidneys, testes, uterus, placenta and foetus (if available), mammary glands and spleen, keep on ice and refrigerate at 4°C or freeze at –80°C if long delays are unavoidable (> 24h) before further analysis. When no freezing facilities are available, smaller samples should be kept in DMSO. Preserve 1 cm³ samples of the same organs in formalin.
- Collect pleural and peritoneal fluids, urine and pus from abscesses and store half in aerobic containers and half in anaerobic containers. Keep on ice and then freeze at –80°C if a laboratory is not at hand.
- Extract 5-10 ml blood directly from the heart or major blood vessels after disinfecting the surface with alcohol and put on ice. You may attempt to centrifuge the blood and take the supernatant before freezing to avoid further hemolysis;
- Collect water around the site of stranding (preferably before massive arrival of people) in a sterile container, seal and put on ice before freezing;

¹⁹⁵ Basic and advanced data protocols are also available at the Medaces website: http://medaces.uv.es/home_eng.htm

1.3.1.1.2.3. Chemical pollution

The following organs are useful to evaluate the burden of contaminants in cetaceans.

- Blubber: take a large sample (300-400 grs minimum) of blubber about 10 cm caudal to the blowhole or directly below the dorsal fin on the mid-lateral line, place in an aluminium foil, then in a sealed plastic bag with field number and store on ice;
- Skin: take a 10 cm² sample of clean skin, preserve in a container with culture medium containing antibiotics and anti-fungi, seal, identify and keep on ice;
- Liver: slice 300-400 grs from the caudal end of the liver, place in an aluminium foil, then in a sealed plastic bag with field number and place on ice;
- Kidney: take 500 grs of from the caudal end of the left kidney, place in an aluminium foil, then in a sealed plastic bag with field number and place on ice;
- Blood: collect 50 ml blood in a tube, seal, identify and keep on ice;

1.3.1.1.2.4. Acoustic pollution

With suspect sonar-related strandings, arrangements should be made for computerized tomography (CT) of the entire head or ears and close evaluation of the larynx should be undertaken for evidence of submucosal hemorrhage. Samples of peribullar adipose tissue should also be collected for histopathology. Tissues from all organs should be collected, if feasible.

- Live animal
 - blood
 - diagnostics such as auditory evoked potential (AEP) computerized tomography (CT) or ultrasound
 - rehabilitation
- Dead animal
 - When possible collect head for diagnostic imaging including CT/MRI scans or ultrasound of entire head;
 - Collect tissues (1 cm³) from all organs and preserve in formalin 10%, with emphasis on the brain, peribullar adipose tissue, hypophysis, choroid plexus, cervical spinal cord, liver, lung, kidney, heart, lymph nodes, digestive tracts, reproductive tracts, and perilaryngeal tissues, including the trachea and thyroid and eyes. All sampled should be collected in separate bags (whirlpacks) and clearly identified.

1.3.2 Protocols for transportation and storage

Contact the local CITES Management Authority (http://www.cites.org/common/directy/e_directy.html) to know the requirements to obtain permits to export cetacean samples. Contact the laboratories that will analyse the samples and coordinate for sample dispatch according to the airline procedures. Make sure that somebody will collect the samples at their arrival and that the person in charge is not on holidays at the time you send the samples. Keep telephone and e-mail contact until you are assured that the samples arrived and were properly stored.

Microbiology: All fresh samples should be kept on ice or cold packs, away from the sun while waiting for further processing. Upon arrival in the laboratory, they should be kept at 4°C and immediately dispatched to the laboratory, if possible. If long delays are expected they should be frozen at –20°C or –80° C. Storage should be organized in a way that samples are easily found when the freezer is full. Records should be kept of any sample location.

Toxicology

Chemical analysis: samples en route to the analytical laboratory should be packed in dry ice. However, if delivery time is short (less than 6 hours, depending on ambient temperatures), then samples could be delivered in coolers filled with ice. All samples for toxicology should be stored in a freezer at –20°C or below until analysis. Storage time and temperature records should be recorded. The maximum holding times for tissues recommended by PSEP guidelines are 1 year for organics (with the exception of volatile organic compounds, which have a maximum holding time of 14 days), 28 days for mercury, and 2 years for all other metals. Samples held for longer periods may be suitable

for analysis of some contaminants, but suitability should be evaluated based on the contaminants being tested and then described in a report presenting results for these samples.

Skin culture: skin samples to be used for cell culture should be maintained on cool packs and send as soon as possible to the laboratory. They should never be frozen nor left without ice.

Acoustic pollution

With suspect sonar related strandings, arrangements should be made for CT of the entire head or ears and close evaluation of the larynx should be undertaken for evidence of submucosal haemorrhage. Samples of peribullar adipose tissue should be collected for histopathology.

1.4 Activities to implement after stranding

1.4.1. Debriefing meeting

Organize a debriefing meeting with all the people involved in the stranding and ask them their opinion on the event, the number of cetaceans they counted and attended, the presence of other dead aquatic animals on the beach, if live dolphins and whales were observed in waters close to the beach where the event happened, if the response to the stranding was adequate in their opinion, what material was missing. Thank all volunteers for their help and distribute any new information material and stickers. Speak with fishermen, members of the military and local people and ask if they have observed the occurrence of unusual species during the days preceding the stranding, if free-ranging cetaceans known to occur in the region exhibited an unusual behaviour, if military operations had taken place during the last days, or if there were reports of seismic surveys in neighbour waters.

1.4.2. Communication

1.4.2.1. Local government, Armed Forces, Ministry of External Affairs, Ministry of Environment and Ministry of Health

Call or write the local government, the Ministries of Health and Environment as well as the Navy and the Oil and Gas Companies if there are strong indications for strandings related to acoustic pollution.

1.4.2.2. Scientists

E-mail or call scientists that have signed a MOA. Ask for their comments and help. Send data to the Mediterranean Database of Cetacean Strandings. (MEDACES- http://medaces.uv.es/home_eng.htm).

1.4.2.3. Press

Write a brief note on the event for the media. Alert the media and public for the possibility of more cetacean strandings on every beach and encourage them to report.

1.4.3. Preliminary report

Write an initial report as soon as possible. Points to summarize in the report should include the following (Geraci and Lounsbury, 2005):

- Date and location of the stranding
- Type of beach;
- Nature, timing, effectiveness of the initial response;
- Account of the scene as described by the team:
 - species involved and number of specimens per species,
 - pattern of stranding,
 - presence of other dead or sick aquatic animals,
 - presence of live cetaceans exhibiting an unusual behaviour in adjacent waters,

- evidence for the use of mid-frequency sonar,
- cetacean condition,
- indication for an epidemic,
- environmental conditions.
- Necropsy findings;
- Specimens collected, place where they are stored, condition for storage;
- Actions taken and reason for decisions:
 - intended response plan,
 - impediments to implementation,
 - eventual action.
- Additional information:
 - photographs, maps, drawings,
 - reports from independent groups (police, coastguards, stranding networks, rehabilitation facility, Navy, fishermen),
 - Things to be improved.

1.4.4. *Follow-up*

Ask for a follow-up of the analysis and prepare a manuscript on the findings together with all involved institutions.

2. CONTINGENCY PLAN DRAFT

Cetaceans from the Mediterranean harbour a cocktail of chemical, toxic pollutants, some likely to have increased the severity of disease epidemics. Mid-frequency sonar operations have caused the stranding of beaked whales in Greece (Frantzis, 1998). Biological contamination is of concern because of the release of untreated freshwater run-off, aquaculture, maritime traffic and discharge of ballast waters in Mediterranean waters. Thus, Member States should be ready for the eventuality of cetacean strandings, diseases and mortalities related to these agents. The development and strengthening of existing national and regional stranding networks will be key to properly address these events. Importantly, data on strandings along the coasts of the Black and Mediterranean Sea as well as the contiguous Atlantic waters should be sent to MEDACES (http://medaces.uv.es/home_eng.htm) set-up in 2001 to co-ordinate all national and regional efforts for riparian countries. The establishment of a CEUM Sub-Committee within the ACCOBAMS Scientific Committee would further improve answer to strandings by facilitating coordination between Member States and helping with infrastructure and capacity building. The foundation of CEUM Working Group that would communicate by e-mail would facilitate information diffusion. Memoranda of Agreement with the Naval Forces as well as with Oil and Gas Companies would improve answer to cetacean die-offs related to acoustic pollution.

2.1. OSCB

An efficient contingency plan will be based on the foundation of a national OSCB that will be responsible for the activities and decisions related to unusual mortality events as well as on timely relaying information on their occurrence to the Member States and to the suggested CEUM Sub-Committee. The easy and open communication between OSCBs will help determine when a die-off is underway, ensure a timely and adequate intervention and, ultimately, uncover the cause of the die-off and explore environmental factors that may have enhanced its severity. Minimal personal of an OSCB should be one scientist, preferably a marine mammal research veterinarian with good knowledge in the biology of cetaceans and of the different factors involved in cetacean strandings.

2.1.1. *Administrative support team*

At least one person should be in charge of the administration of the OSCB. His/her responsibilities should include:

- Coordination with local authorities;
- Coordination with the Naval Forces and Oil and Gas Companies;
- Contact with the authorities that will deliver CITES permits;

- Contact with the airlines that will transport the samples: ask for their specific requirements for the packaging and dispatch of biological materials;
- Communication with media and public;
- Development of education activities and material;
- Management of volunteers;
- Building of a website;
- Finance management.

2.1.2. Scientists

A biologist and a veterinarian, both ideally with experience with cetaceans, should be appointed by the OSCB. Their responsibility should include the following items:

- Develop a stranding network that can react quickly to cetacean mortality events;
- Develop protocols for attending strandings and for the collection of tissues for chemical, acoustic and biological pollution;
- Prepare the material necessary for attending a die-off (everything should be ready and at hand for instant leave);
- Provide field staff and build capacity;
- Recruit and manage volunteers;
- Timely intervention and incident control coordination: an educated decision on response level (equipment and personnel);
- Coordination with other similar networks within and outside the Member States;
- Adequate decision regarding the fate of live-stranded cetaceans (release, rehabilitation, euthanasia);
- Collection of biological data and pictures;
- Necropsy of dead cetaceans;
- Collection of samples;
- Contact with laboratories that will process the samples;
- Contact with research centres that could provide free CT examination;
- Prepare a protocol for packing and dispatching biological material;
- Send the samples;
- Carcass disposal in agreement with national regulation.

2.1.3. Volunteers

Volunteers should be recruited to help with strandings. They may have distinct backgrounds and personalities and should be given tasks according to their respective skills.

2.2. Memoranda of understanding with collaborators

Memoranda of understanding should be established with the Naval Forces, Oil and Gas companies as well as with universities, research/medical institutes and laboratories willing to help at the occasion of an outbreak of mortality. Laboratories (toxicology, microbiology and acoustic research) should be asked to send specific protocols for sampling, preserving and sending the samples. Ideally they should provide the vials, fluids and other material required for sampling. Otherwise they should specify the material needed for sampling and the firm where to buy it.

3. OUTLINE OF A PROGRAMME TO BUILD CAPACITY

Capacity building is a prerequisite to explore factors involved in a die-off. It should concern the staff of the OSCB, volunteers, coastguards and navy officials, fishermen and the general public (please see § 1.2.3.). The following programme outlines the steps that may be taken to realize this target.

- Organization of annual, national workshops on cetacean outbreaks of mortality for the staff of the OSCBs. National and international experts in the fields of toxicology, acoustic contamination and microbiology should ideally be invited to participate;

- Organization of training courses on cetacean strandings, on acoustic, chemical and biological contamination and sample collection for the staff of the nascent OSCBs. These training courses may take place at the OSCB, CEUM facilities or at the laboratory of a national stranding network;
- Organization of national meetings with other relevant bodies related to strandings (universities, coastguards, oceanaria, naval forces, fishermen, etc) and presentation of documents on cetacean mortality events;
- Acquire capacity building material (books, papers, reports, CDs, DVDs, protocols) from other stranding networks, universities, research groups, NGOs and scientists;
- Development of a library dedicated to marine mammal strandings, acoustic, biological and chemical contamination and epidemics;
- Communication with other OSCBs;
- Preparation of leaflets on the biology of cetaceans and the reasons of cetacean mortality events targeting the general public;
- Preparation of children booklets and posters on whales and dolphins and stranding events.

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ANNEX 2

**Emergency task force:
Guidelines for a coordinated cetacean stranding response during mortality events caused by infectious agents and harmful algal blooms¹⁹⁶**

1. GUIDELINES CONCERNING BEST PRACTICES AND PROCEDURES FOR ADDRESSING CETACEAN STRANDING DURING EPIDEMICS CAUSED BY INFECTIOUS AGENTS AND HARMFUL ALGAL BLOOMS

1.1 Introduction on main marine mammal die-offs

1.1.1 Morbilliviruses

- 1.1.1.1 Morbillivirus epidemics in pinnipeds
- 1.1.1.2 Morbillivirus epidemics in cetaceans

1.1.2 Herpesviruses

1.1.3 Brucella spp.

1.1.4 Leptospira spp.

1.1.5 Toxoplasmosis

1.1.6 Harmful Algal Blooms

1.2 Things to do in preparation for an epidemic

1.2.1 Technical and administrative infrastructure needed in each Member State to best address emergencies caused by cetacean epidemics

1.2.2 Equipment list

- 1.2.2.1 Crowd control, public relations
- 1.2.2.2 Recording material
- 1.2.2.3 Animal relief
- 1.2.2.4 Emergency Medical Supplies
- 1.2.2.5 Euthanasia
- 1.2.2.6 Necropsy
- 1.2.2.7 Specific sampling
- 1.2.2.8 Personal
- 1.2.2.9 Large equipment
- 1.2.2.10 Dispatch
- 1.2.2.11 Minimal equipment

1.2.3 Capacity Building

- 1.2.3.1 Scientists
- 1.2.3.2 Volunteers
- 1.2.3.3 Local government officials
- 1.2.3.4 Public

1.3 Actions to take during an epidemic event

1.3.1 Protocols for intervention on site

- 1.3.1.1 Live cetaceans stranded on the beach
- 1.3.1.2 Dead whales and dolphins

1.3.2 Protocols for collection, transportation and storage of specimens and sample

- 1.3.2.1 Protocols for sample collection
 - 1.3.2.1.1 Basic Data Protocol
 - 1.3.2.1.2 Specific sample collection
 - 1.3.2.1.2.1 High priority samples

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1.3.2.1.2.2 Intermediate priority samples

1.3.2.2 Protocol for transportation and storage

1.3.3 Carcass disposal

1.3.3.1 Let it lie

1.3.3.2 Bury it

1.3.3.3 Burn it

1.3.3.4 Tow it out to sea

1.3.3.5 Compost it

1.3.4 Communication management

1.4 Activities to implement after the epidemic

1.4.1 Debriefing meeting

1.4.2 Preliminary report

1.4.3 Media communication and alert

1.4.4 Contacts

1.4.5 Follow-up

2. CONTINGENCY PLAN DRAFT

2.1 OSCB

2.1.1 Team

2.1.1.1 Administrative support team

2.1.1.2 Scientists

2.1.1.3 Volunteers

2.2 Memoranda of Understanding with Collaborators

2.3 Get ready to detect an epidemic

2.4 Get ready to attend an epidemic

2.5 Determine the end of the event

3. OUTLINE OF A PROGRAMME TO BUILD CAPACITY

4. ACKNOWLEDGMENTS

5. LITERATURE CITED

GUIDELINES CONCERNING BEST PRACTICE AND PROCEDURES FOR ADDRESSING CETACEAN MORTALITY EVENTS CAUSED BY EPIDEMICS

1.1. Introduction on main marine mammal die-offs

Marine mammal epidemics have occurred in pinnipeds and cetaceans worldwide and are the subject of continued scientific research. Repeated outbreaks may have long-term effects on the affected populations (Van Bresseem *et al.*, 1999, 2009; Lonergan and Harwood, 2003; Härkönen *et al.*, 2006). Among the micro-parasites causing marine mammal mass-mortalities, morbilliviruses appear by far to be the more lethal and widely distributed of all (e.g. Kennedy, 1998; Duignan *et al.*, 1995a,b; Van Bresseem *et al.*, 2001a, 2009). Herpesviruses, the bacteria *Brucella* spp. and *Lepstospira* spp. as well as the protozoan *Toxoplasma gondii* have also triggered severe diseases and mortalities in a number of cetacean and pinniped species (Gulland *et al.*, 1996; Foster *et al.*, 2002; Dubey *et al.*, 2003; Smolarek Benson *et al.*, 2006). Harmful algal blooms (HBAs) are increasingly recognized as a cause of die-offs in marine animals (Flewelling *et al.*, 2005). Below I summarize information on these infectious diseases and intoxications.

1.1.1. Morbilliviruses

The genus *Morbillivirus* belongs to the Family *Paramyxoviridae* and includes measles virus (MV) in humans and other primates, canine and phocine distemper viruses (CDV and PDV) in carnivores, cetacean morbillivirus (including the strains porpoise, dolphin and pilot whale morbilliviruses) in cetaceans, rinderpest (RPV) and peste des petits ruminants (PPRV) viruses in artiodactyls. Morbilliviruses are pleiomorphic, enveloped virions about 150 nm in diameter with a single-stranded RNA of negative sense polarity (Fenner *et al.*, 1993). They require large populations of individuals (e.g. 300,000 for measles virus in humans) to be maintained endemically and induce serious, often lethal, systemic diseases in their hosts (Black, 1991). Transmission probably occurs through the inhalation of aerosolised virus, shed by infected individuals.

Since the late 1980s, at least three different morbillivirus species have caused outbreaks of lethal disease in pinnipeds and cetaceans. The existence of immunologically naïve marine mammal communities and the introduction of morbilliviruses from other aquatic or terrestrial mammals where these viruses are endemic may be the decisive factors involved in triggering an epidemic. Factors influencing contact rates between individuals are very important in determining the spread of the disease (Harris *et al.*, 2008). Biological and environmental factors such as inbreeding, high contaminant loads and limited prey availability may synergistically interact to increase the severity of the disease (Van Bresseem *et al.*, 2009).

1.1.1.1 Morbillivirus epidemics in pinnipeds

Phocine distemper virus (PDV) caused mass mortalities in harbour seals (*Phoca vitulina*) from Northern Europe in 1988 and 2002 (Osterhaus and Vedder, 1988; Jensen *et al.*, 2002). On both occasions the epidemics started in central Kattegat (Denmark) and subsequently spread to other colonies around the northern European coast. More than 23,000 seals (an estimated 60% of the population) died in 1988 and 30,000 (approximately 47% of the population) in 2002 (Hammond *et al.*, 2005; Härkönen *et al.*, 2006). Clinical signs observed in seals were those typical of canine distemper and included respiratory, digestive and nervous problems and abortions. Histological findings included interstitial and purulent pneumonia and generalised lympho-depletion (Kennedy *et al.*, 1989). Arctic seals may be the reservoir of the virus. Harp (*Phoca groenlandica*) and grey (*Halichoerus grypus*) seals may be the vectors (Härkönen *et al.*, 2006).

An outbreak of CDV caused the death of 5,000-10,000 Baikal seals (*Phoca sibirica*) in 1987-1988 (Grachev *et al.*, 1989; Mamaev *et al.*, 1996). Clinical signs were similar to those of canine distemper in dogs (Grachev *et al.*, 1989). It is likely that this epizootic resulted from contact with CDV infected terrestrial carnivores (Mamaev *et al.*, 1996).

Several thousands of Caspian seals (*Phoca caspica*) died in Azerbaijan on the western shore of the Caspian Sea in 1997. A strain of CDV, distinct from the one found in Baikal seals and other field CDVs, was detected by polymerase chain reaction (PCR) in the brain of an adult female suggesting that this virus could have caused the epidemic (Forsyth *et al.*, 1998). A confirmed CDV outbreak occurred in this species in the spring of 2000, killing more than 10,000 animals.

Broncho-interstitial pneumonia and lymphocytic necrosis and depletion were common findings. Terrestrial, sympatric carnivores may be a reservoir for CDV (Kuiken *et al.*, 2006).

Morbilliviruses were isolated from Mediterranean monk seals (*Monachus monachus*) during an outbreak of mortality in 1997 (Osterhaus *et al.*, 1997) thought to have primarily been caused by HABs (Hernandez *et al.*, 1998; Harwood, 1998).

1.1.1.2. Morbillivirus epidemics in cetaceans

Concurrently with the first PDV outbreak in harbour seals, porpoise morbillivirus (PMV) caused mortalities in harbour porpoises (*Phocoena phocoena*) from European waters in 1988-1990 (Kennedy *et al.*, 1988, 1992a; Visser *et al.*, 1993). A dolphin morbillivirus (DMV) ravaged the Mediterranean striped dolphin population (*Stenella coeruleoalba*) in 1990-1992 and again in 2007-2008 (Domingo *et al.*, 1990; Van Bresseem *et al.*, 1993; Fernandez *et al.*, 2008; Raga *et al.*, 2008). DMV-affected dolphins were first detected in the vicinity of Valencia, Spain, at the beginning of July 1990. The epidemic subsequently expanded to the western and eastern Mediterranean and vanished in the spring of 1992 after reaching the coasts of Greece (Bompar *et al.*, 1991; Bortolotto *et al.*, 1992; Aguilar and Raga, 1993; Van Bresseem *et al.*, 1993; Cebrian, 1995). Although no precise mortality rates could be estimated for this die-off, it is likely that thousands of animals perished (Aguilar and Raga, 1993). As a relative measure of the impact, the mean school size in the epidemic core regions significantly decreased to less than 30% of the pre-outbreak number (Forcada *et al.*, 1994). Serological data indicated that the virus did not persist endemically in striped dolphins and that this population was losing its immunity to DMV and was at risk from new virus introductions (Van Bresseem *et al.*, 2001a). Pilot whales (*Globicephala* sp.) as well as other gregarious cetacean species were suggested as reservoir and vector of the virus (Duignan *et al.*, 1995b; Van Bresseem *et al.*, 1998, 2001a). Between October 2006 and April 2007, at least 27 long-finned pilot whales (*Globicephala melas*) stranded along the southern Spanish Mediterranean coast and the Balearic Islands (Fernández *et al.*, 2008). In early July 2007 dead or moribund *S. coeruleoalba* and *G. melas* were found in the Gulf of Valencia (Raga *et al.*, 2008). Morbillivirus lesions and antigen were observed in stranded pilot whales and striped dolphins. A DMV strain closely related to the virus isolated during the 1990-1992 epidemic was detected in several stranded odontocetes by PCR (Fernández *et al.*, 2008, Raga *et al.*, 2008). In summer-autumn 2007, over 200 *S. coeruleoalba* were found dead along the coasts of Spain. Juveniles were more frequently affected than adults, likely because older dolphins were still protected by the immunity developed during the 1990-1992 epidemic (Raga *et al.*, 2008). The virus apparently reached the French Mediterranean coast in August 2007 and Italy's Ligurian Sea coast in August-November 2007 (Garibaldi *et al.*, 2008). It could still be detected by PCR in dolphins stranded along the Mediterranean coast of France in May 2008 (Dhermain *et al.*, unpublished observations). As both DMV epidemics started close to, or in the Gibraltar Strait and, as DMV was circulating in the North Sea in January 2007 (Wohlsein *et al.*, 2007), it was suggested that DMV-infected pilot whales entered the Strait of Gibraltar and transmitted the infection to striped dolphins (Van Bresseem *et al.*, 2009)

In the Northwest Atlantic, PMV and DMV infections killed about 27% of the inshore population of common bottlenose dolphins (*Tursiops truncatus*) along the Atlantic coast of the US, from New Jersey to Florida in 1987-1988 (Krafft *et al.*, 1995, Taubenberger *et al.*, 1996, McLellan *et al.*, 2002). In 1993-1994, PMV hit coastal bottlenose dolphins along the Gulf of Mexico coasts of Florida, Alabama, Mississippi and Texas (Lipscomb *et al.*, 1996). Pilot whales (*Globicephala* sp.) and offshore bottlenose dolphins may have been a source of infection for the coastal dolphins (Duignan *et al.*, 1996). Broncho-interstitial pneumonia, non-suppurative encephalitis and lymphoid depletion were commonly seen in the affected porpoises and dolphins (Kennedy *et al.*, 1991, 1992a; Domingo *et al.*, 1992; Lipscomb *et al.*, 1994).

Finally, an uncharacterised morbillivirus was implicated in the die-off of short-beaked common dolphins (*Delphinus delphis ponticus*) in the Black Sea in 1994 (Birkun *et al.*, 1999). Morbillivirus neutralizing antibodies were also detected in the sera of 53% of 73 harbour porpoises collected along the coast of the Black Sea in 1997-1999 (Müller *et al.*, 2002).

1.1.2. Herpesviruses

Herpesviruses antigenically and genetically related to members of the Alphaherpesvirinae subfamily (Family Herpesviridae, order Herpesvirales) were detected in a harbour porpoise stranded along the west coast of Sweden in 1988, in two bottlenose dolphins beached in South Carolina and Delaware (US) in 1995-1999 and in one bottlenose

dolphin stranded in Tenerife, Canary Islands, in 2001 (Kennedy *et al.*, 1992b; Blanchard *et al.*, 2001; Esperon *et al.*, 2008). Gross and histological findings included encephalitis and necrotizing lesions in multiple organ systems as well as skin lesions (Kennedy *et al.*, 1992b; Blanchard *et al.*, 2001; Esperon *et al.*, 2008). Sequencing data suggest that these viruses are cetacean-specific and have coevolved with their cetacean hosts (Smolarek-Benson *et al.*, 2006). The virus detected in the dolphin stranded in South Carolina had nucleotide and amino acid identities of 98.9% and 96.9%, respectively, with herpesviruses identified in skin lesions from two other Atlantic bottlenose dolphins, suggesting that similar viruses may be responsible for both cutaneous and systemic infections in this species (Smolarek-Benson *et al.*, 2006). Herpesviruses have regularly been detected in skin lesions from porpoises, dolphins and belugas (Martineau *et al.*, 1988; Barr *et al.*, 1989; Van Bresseem *et al.*, 1994; Smolarek-Benson *et al.*, 2006). They are possibly endemic in several cetacean species and populations (Mikaelian *et al.*, 1999). After infection herpesviruses become latent and are excreted periodically or continuously during the host's entire lifetime (Roizman *et al.*, 1995)

1.1.3. *Brucella* spp.

Brucellosis is a globally distributed, zoonotic, bacterial disease of mammals that is pathogenic for the reticulo-endothelial, reproductive, musculoskeletal and cutaneous systems and which may cause generalized infection with septicaemia in humans (Corbel, 1997). The causative agents are Gram-negative bacteria of the genus *Brucella* including *B. abortus* in cattle, sheep, goats and pigs, *B. melitensis* in goats, sheep and cattle, *B. canis* in dogs, *B. suis* in pigs, *B. ovis* in sheep and *B. neotomae* in the desert wood rat (*Neotoma lepida*). In the 1990s, previously unknown strains of *Brucella* were detected by serology, histology and direct isolation in free-ranging pinnipeds and cetaceans from the Americas, Europe, the Antarctic and western North Pacific as well as in captive bottlenose dolphins (Ewalt *et al.*, 1994; Tryland *et al.*, 1999; Van Bresseem *et al.*, 2001b; Foster *et al.*, 2002; Ohishi *et al.*, 2004). Disorders associated with brucellosis in cetaceans include placentitis, abortion, lung infection, orchitis and non-suppurative meningoencephalitis (Miller *et al.*, 1999; Gonzalez *et al.*, 2002; Ohishi *et al.*, 2004). To date there are four known cases of humans infected with *Brucella* spp. from marine mammals, three naturally acquired and one of laboratory origin (Brew *et al.*, 1999, Sohn *et al.*, 2003, McDonald *et al.*, 2006) indicating the zoonotic potential of marine brucellae.

On the basis of biological and molecular characteristics, Foster *et al.* (2007) proposed two *Brucella* species in marine mammals, *Brucella ceti* and *B. pinnipedialis* with, respectively, cetaceans and seals as preferred hosts. Groussaud *et al.* (2007) further suggested that brucellae isolated from cetaceans constitute two species with different preferred hosts, i.e. *B. phocoenae* in porpoises and *B. delphini* in dolphins.

1.1.4. *Leptospirosis*

Leptospirosis is a zoonotic bacterial disease of global distribution that affects many species of domestic and wild animals including pinnipeds and is considered as a re-emerging disease. It is caused by *Leptospira* spp. a flexible, spiral-shaped, Gram-negative spirochete (Family Leptospiraceae) with internal flagella. *Leptospira interrogans* is found in California sea lions (*Zalophus californianus*) while *Leptospira kirschneri* is specific of elephant seals (*Mirounga angustirostris*) (Cameron *et al.*, 2008). Leptospirosis in pinnipeds typically presents as an interstitial nephritis with clinical signs of impaired renal function, including dehydration, vomiting and depression (Cameron *et al.*, 2008). Infective leptospirae are shed in urine. *L. interrogans*, serovar Pomona caused several severe outbreaks of renal disease in sea lions resulting in the stranding and subsequent death of hundreds of individuals along the coast of California (Vedros *et al.*, 1971; Dierauf *et al.*, 1985; Gulland *et al.*, 1996). The epidemic occurrences are cyclical in nature, with a distinct 3- to 4-year periodicity separated by endemic maintenance of the disease (Lloyd-Smith *et al.*, 2007). Close proximity to dog parks and high dog park density are significantly associated with leptospirosis in sea lions (Norman *et al.*, 2008). So far reports of this disease in free-ranging marine mammals have been limited to North America but similar outbreaks could theoretically occur in marine mammals anywhere in the world where leptospirosis is present in sympatric domestic and wild mammals. An outbreak has occurred among pinnipeds kept in captivity in the Netherlands (Kik *et al.*, 2006).

1.1.5. Toxoplasmosis

Toxoplasmosis is caused by *Toxoplasma gondii*, an obligate intracellular protozoan parasite, and occurs worldwide in human and other warm-blooded animals including cetaceans (Dubey *et al.*, 2003). Wild and domestic felids are the only animals known to serve as definitive hosts but many mammals can be intermediate hosts (Miller *et al.*, 2008). Infection occurs through the ingestion of contaminated food or water, or transplacentally. Free-ranging dolphins with toxoplasmosis have been reported in Europe (including the Mediterranean Sea), the Americas and the Caribbean. They presented lymphadenitis, necrotizing adenitis, myocarditis, acute interstitial pneumonia, non-suppurative encephalitis and systemic disease (Dubey *et al.*, 2003; Di Guardo *et al.*, 2009). Transplacental foetal infection was reported in two dolphins (reviewed in Dubey *et al.*, 2003). Toxoplasmosis in cetaceans was often, though not always, associated with immunosuppression following a morbillivirus infection and/or high concentrations of environmental contaminants including PCBs (Di Guardo *et al.*, 1995, 2009; Mikaelian *et al.*, 2000). Feline faecal contamination flowing from land to sea through surface run-off is a likely source of infection (Conrad *et al.*, 2005, Miller *et al.*, 2008). The possible reactivation of latent *T. gondii* infection during morbillivirus outbreaks may synergistically increase the severity and death rate of this viral disease (Van Bresseem *et al.*, 2009).

1.1.6. Harmful algal blooms

HBAs are proliferations of microscopic algae that harm the environment by producing toxins that accumulate in shellfish or fish, or through the accumulation of biomass that in turn affects co-occurring organisms and alters food webs in negative ways (HARRNESS, 2005). They occur worldwide and have apparently increased in global distribution, intensity and occurrence over the past few decades (Fire *et al.*, 2008). Approximately 20 of the more than 1,000 known dinoflagellate species produce toxins that may cause mortality in fish, birds and mammals (Steidinger and Baden, 1984). Domoic acid (DA) is a potent marine neurotoxin produced by diatom species of the genus *Pseudo-nitzschia*. Brevetoxins are powerful natural neurotoxins emitted by *Karenia brevis* and related species of dinoflagellates. Saxitoxin is generated by the dinoflagellates *Alexandrium tamarense* and *A. catenella*. Human intoxication is characterized by acute gastrointestinal illness with neurological symptoms that, in some cases, may lead to death. Brevetoxins, DA and saxitoxins have been implicated in the die-offs of birds and marine mammals, worldwide (Gilmartin *et al.*, 1980; Geraci *et al.*, 1989; Bossart *et al.*, 1998). Paralytic phycotoxins may have played a role in the mortalities observed in 1997 in the Western Sahara population of Mediterranean monk seal (*Monachus monachus*) (Hernandez *et al.*, 1998; Harwood, 1998). DA caused the deaths of hundreds of California sea lions along the central coast of California in 1998 (Scholin *et al.*, 2000) and was associated with an unusual marine mammal mortality event along the southern California coastline in 2002 (Torres de la Riva *et al.*, 2009). Brevetoxins caused the death of more than 100 coastal bottlenose dolphins along the coast of Florida in March–April 2004 (Flewelling *et al.*, 2005). Primary prey items of Sarasota Bay bottlenose dolphins with elevated levels of brevetoxins are vectors for their predators during the *K. brevis* blooms (Fire *et al.*, 2008).

1.2. Things to do in preparation for an epidemic

Marine mammal strandings attract a lot of public attention. Epidemics may cause the beaching of several dolphins over weeks along thousands of kilometres across borders. The degree of response of each country will depend on the existence of active stranding networks and marine mammal research groups as well as on its economic and logistic possibilities. Some countries may be able to provide most of the scientific, technical and administrative infrastructure needed to face a massive stranding while others may only offer a more reduced support or none at all. Collaboration between Member States will be a plus to effectively attend these events. The foundation of an expert Sub-Committee on Cetacean Unusual Mortalities (CEUM) within the ACCOBAMS Scientific Committee would optimise the answer to die-offs in the Agreement Zone. The CEUM Sub-Committee should ideally have the equipment described in 1.2.2.

The following guidelines are designed for an optimal response to an epidemic. Nevertheless, much can be done with a more reduced infrastructure and equipment (please see 1.2.2.11).

1.2.1. Technical and administrative infrastructure needed in each Member State to best address emergencies caused by cetacean epidemics

All Member States should at least have an on-scene coordinator body (OSCB) that would contact the CEUM Sub-Committee and any other relevant institution in the case of a suspected mass-mortality, send data to the Mediterranean Database of Cetacean Strandings (MEDACES- http://medaces.uv.es/home_eng.htm), deal with the public and media, ensure that the proper samples are taken, be responsible to obtain all necessary permits and deal with the carcasses. The OSCB should ideally depend on an existing stranding network, a natural science museum, a university or a ministry (Agriculture, Environment, Fisheries). It should collaborate with existing national entities related to marine mammal stranding such as active stranding networks and marine mammal research groups, wildlife conservation and rescue centres, aquaria and oceanaria, coastguards, park officials, navy and local authorities.

The OSCB basic technical and administrative infrastructure should include:

- A stranding hotline telephone, dedicated to record any stranding occurring along the coast and operating 24 hours, seven days a week;
- A computer with internet access;
- A printer;
- Portable telephones;
- A GPS to register stranding locations;
- Digital cameras;
- DVD reader;
- A specialized marine mammal library;
- A website describing the activities of the OSCB as well as the names of the persons in charge and to be contacted in the event of an epidemic;
- A database on cetacean mortality events
- Educative material;
- A centrifuge to spin blood samples;
- A large fridge to keep samples at 4°C;
- A –80°C freezer to store samples for longer periods of time.

1.2.2. Equipment list

The following is an optimal equipment checklist to face stranding of live and dead animals (Geraci and Lounsbury 2005; Raverty and Gaydos, 2007). However, much can still be done with less material and infrastructure (§ 1.2.2.11.).

1.2.2.1. Crowd control, public relations

- Plastic tape and pylons to cordon off necropsy site;
- Signs: WARNING—PUBLIC HEALTH HAZARD—DO NOT ENTER;
- Educative material on stranding and epidemics as well as on the stranding network;

1.2.2.2. Recording material

- Waterproof pencils;
- Metal clipboards, waterproof labels;
- Data forms, necropsy and collection protocol forms;
- Camera and film, extra batteries, video camera with additional memory cards;
- Tape measure (metric), at least 20 meters long (plastic and metallic);
- Hoist/crane, scales to record organ weights (0,1-10kg);

1.2.2.3. Animal relief

- Zinc oxide;
- Blankets and towels;

- Shovel (to dig pits for fins and tail);
- Ice packs (to keep the extremities cool);
- Tarpaulins;
- Foam mattresses;
- Water sprayers
- Inflatable rescue pontoon system
<http://www.jwautomarine.co.uk/images/SlideSh/show024/default.htm>
http://www.jwautomarine.co.uk/pr_sb.htm;
- Thermal space blankets (for warming or cooling);

1.2.2.4. Emergency medical supplies

- I.V. Fluids and infusion sets (droppers, 10& 60 drops/min.);
- Basic diagnostic set (stethoscope, thermometers);
- Stimulants;
- Tranquillizers;
- Adrenalin;
- Steroids.

1.2.2.5. Euthanasia¹⁹⁷

- Needles for large animals;
- Sedative: midazolam (0.02 mg/kg);
- Barbiturate: Large Animal Immobilon (Etorphine) administered intramuscularly is recommended (see footnote 1);

1.2.2.6. Necropsy

- Rope, at least 20 meters, blankets, stretchers to move carcasses, if necessary;
- Standard necropsy instruments. Multiple scalpel handles, scalpel blades, scissors, forceps and knives;
- Knife sharpener, if possible in secure pack;
- Flensing knives and hooks with appropriate sharpening tools, chain saw, axe, or reciprocating saw to cut through the cranium, chest or vertebrae;
- Hammers, chisels and handsaws;
- Retractors of various sizes and shapes. Self-retaining retractors with one or two movable arms mounted on a slide bar are most useful;
- Sterile instruments for culture collection;
- Whirlpacks;
- Jars, vials;
- Buckets;
- Flashlights with extra batteries and light bulbs;
- Containers (from vials to garbage cans) for sample collection, including ice chest, dry ice and if possible liquid nitrogen;
- Gas generator and flood lights with extra bulbs and gasoline;
- Lights;
- Portable or electric circular saw;
- Accessible water supply with hose;
- Buckets;
- Garbage bags, dish soap, paper towels for clean-up.

1.2.2.7. Specific sampling (histology, microbiology, HBAs)

¹⁹⁷ Legislation regarding euthanasia and the use of euthanizing agents may vary between countries. Local laws should be checked before deciding which agent is to be used. The OSCB should obtain an authorization from the local authorities to perform euthanasia on cetaceans before life-strandings occur.

- 10% neutral buffered formalin;
- 4% buffered glutaraldehyde;
- 20% diethyl sulfoxide (DMSO) saturated saline solution for genetic analysis, in vials;
- Isopropanol alcohol, for contaminant sampling;
- Needles and syringes;
- Heparinized syringes;
- Culture vials for virology and bacteriology;
- Transport medium for bacteriology and virology;
- RNA later (Ambion; <http://www.ambion.com/techlib/resources/RNALater/index.html>)
- Sterile swabs;
- Sterile urine cups;
- Glass slides;
- Serum tubes for blood and urine collection and gas burner to sear organ surfaces and sterilize scalpel blades;
- Culture vials for bacteriological and virological analysis;
- Aluminum foil and plastic bags for freezing tissues;
- Coolers for samples refrigeration;
- Plankton net.

1.2.2.8. Personal

- Protective clothing for staff and volunteers (hats, boots, protective wear, wet and dry suits);
- Coveralls, aprons, gloves, caps, disposable masks, protective eye and head gear;
- Hand soap and towels;
- Disinfectant;
- First aid kit.

1.2.2.9. Large equipment

- All terrain vehicle with trailer;
- A boat to reach floating dead cetaceans;
- 30m² walk-in fridge;
- A wet laboratory to carry out the necropsies.

1.2.2.10. Dispatch

- CITES permits;
- Contact airlines that may dispatch the samples and ask where to buy IATA-approved containers. They will be required to send samples by airplanes.

1.2.2.11. Minimal equipment

The following minimal equipment also permits to alleviate the suffering of a stranded live dolphin and take valuable biological and microbiological samples from freshly dead dolphins:

- Recording material;
- Camera;
- Mobile phone;
- Buckets;
- Blankets;
- Water sprayer;
- Zinc oxide, shovels;
- Gloves, plastic boots and masks;
- Wide plastic sheets;
- Butcher knives;

- Butcher saws;
- Scalpel and scalpel blades;
- Vials and jars;
- Ropes.

1.2.3. Capacity building

Different levels should be considered for capacity building according to the persons concerned i.e. scientists of the OSCB, volunteers and public.

1.2.3.1 Scientists

Scientists of the OSCB with no previous knowledge of marine mammal die-offs should receive specific training to attend live animals, do necropsy, take samples, manage the public and dispose of the carcasses. It would be recommendable that the proposed CEUM Sub-Committee and/or Member States with a large experience in cetacean stranding arrange training courses for scientists of the nascent OSCBs with less practice. Training in rescue techniques and stranding are also offered by several NGOs and marine mammal centres in Spain, Italy, the UK and other European countries. Scientists may start to build a specialized marine mammal library including valuable books such as 'Marine Mammal Ashore, a Field Guide for Strandings' (Geraci and Lounsbury, 2005) and 'Stranded Cetaceans: Guidelines for Veterinary Surgeons', RSPCA (1997). Free scientific papers on infectious diseases and marine mammal mortalities available on the World Wide Web and specifically at pubmed (<http://www.ncbi.nlm.nih.gov/pubmed/>) should be downloaded and printed. International workshops on cetacean epidemics should be planned within the Member States.

1.2.3.2. Volunteers

Volunteers should be given a formation allowing them to efficiently help during outbreaks of mortality. Workshops on the general biology of dolphins and whales, the reasons why they strand and the pathogenic agents they may harbour, should be organized. Volunteers should in particular be informed of the potential health risks stranded marine mammals represent. Each volunteer should be given a role according to his/her personal skills. Stranding simulations with inflatable plastic whales may be a good idea to give participants a feel how a real event might evolve.

1.2.3.3. Local government officials

Leaflets describing the basic biology of cetaceans and explaining stranding events and epidemics, and how to react to them, should be written, printed and distributed to local government officials. These leaflets should provide the hotline for strandings as well as the names of the people in charge. Members of the OSCB may arrange talks on marine mammal epidemics for government officials and distribute educational material at this occasion.

1.2.3.4. Public

Booklets for children addressing the basic biology of cetaceans and the possible reasons for their die-offs should be written, printed and distributed to kindergartens and local schools. Posters on the same topics and including the health risk posed by marine mammal strandings should be designed and distributed in schools, libraries, museums, tourism information centres, national parks, universities, etc. National or local companies and businesses may be keen to offer support for printing this material. A website or a newsletter detailing the activities of the OCSB would be useful to help the general public to understand its activities.

1.3 Actions to take during an epidemic event

Several situations may occur during an epidemic:

- Single stranded dolphins may be found dead or agonizing on different beaches
- Several dead dolphins stranded on the shore
- Dead and live cetaceans stranded simultaneously on a beach

In all cases, excellent coordination between the OSCB staff, the proposed CEUM Sub-Committee and other organizations specialised in these events will be the key for a successful answer. The protocols given below are broadly based on Geraci and Lounsbury (2005) and the Irish Whale and Dolphin Group (2007) (<http://www.iwdg.ie/content.asp?id=31>). The second edition of 'Marine Mammal Ashore: A Field Guide for Strandings' provides extensive information on how to deal with stranded, live or dead dolphins and whales and one or more copies should be in the library of all bodies involved with cetacean strandings. It would be wise to carry one copy to the field.

1.3.1. Protocols for intervention on site

1.3.1.1. Live cetaceans stranded on the beach

The event should be evaluated and attempts made to determine the species and appraise the length of the specimens. The number of stranded dolphins of each species should be estimated. Live animals should be stabilized to ensure that they can breathe and will not overheat or become too stressed:

- Support the animal in an upright position if possible, digging trenches under the pectoral fins;
- Keep the animal moist by covering it with wet blankets or towels, sprayed or doused with a constant supply of water;
- Protect damaged skin with zinc oxide;
- Do not cover or obstruct the blowhole and make every effort to keep sand and water away from the blowhole;
- In sunny weather try to provide shade for the animal by erecting a tarpaulin above it;
- In very cold or windy weather, try to erect a windbreak around the animal;
- If the animals are in the surf zone, move them into deeper waters or shift them so they are perpendicular to the water's edge, with the head facing land;
- Caution: care should be taken around the tail fluke as a thrashing cetacean can maim or kill. Also minimize contact with the animal (use gloves and mask if contact is necessary) and avoid inhaling the animal expired air;
- All noise, contact and disturbance around the animal must be kept to a minimum. Erect a rope barrier to cordon off the area (apart from essential personnel caring for the animal) and ask the local authorities to assist with crowd control at the scene;
- When available, a coastguard or beach-master should be appointed to liaise with media and control onlookers, and to ensure that the veterinary and rescue teams can get on with the job, without unnecessary interference;
- Contact all people and organizations that have shown interest in helping rescue live stranded cetaceans;
- Evaluate the health of the animal according to the following parameters:
 - presence of obvious injuries;
 - entangled nets or ropes around flukes, fins and beak;
 - breathing pattern:
 - small cetaceans** (eg. porpoise or common dolphin): Normal breathing rate = 2-5 breaths/min;
 - medium-sized cetaceans** (eg. pilot whale): Normal breathing rate = 1 breath/min;
 - large Cetaceans** (eg. sperm whale): Normal breathing rate = up to 1breath per 20mins;
 - skin integrity;
 - nutritional status;
 - heart rate (from 30 to 100 beats/ minute in bottlenose dolphin) using a stethoscope for small dolphins and a hand firmly placed under the axillary region for larger cetaceans;
 - behavioural criteria: alert (responsive to environment stimuli: palpebral reflex), weakly responsive (responsive only after much stimulation), non-responsive (not responsive to noise or touch);
 - presence of blood in the mouth or blowhole (critically poor health);

- core body temperature: normal range 36.5 to 37°C. Critical hypothermia: below 35.6°C; critical hyperthermia above 40°C;
- When the animal seems healthy, attempts should be made to re-float it and guide it to deeper waters by lifting with a tarpaulin or a stretcher, by dragging with slings or using a rescue pontoon system. This should only be attempted when a sufficient number of experienced people are available (e.g. 6 for a medium-sized bottlenose dolphin). Re-floats should be attempted on rising tides. Once the animal is towed back to the sea, it should be supported, with its blowhole kept above the surface. Acclimation is complete when the whale is able to surface on its own to breathe. This may take several hours and, in cold water, a relief team should be available. A mother and calf should be acclimated together. If several cetaceans beached together they should be released together. All supporting devices should be easy to remove;
- Under no circumstances should attempts be made to re-float calves that are likely not weaned;
- When the animal is unfit for immediate release the other options should be considered i.e. rehabilitation or euthanasia. Rehabilitation will only be possible when a facility exists in the country and is reachable by road in no more than two hours;
- If the animal cannot be rescued, humane killing should be considered. Euthanasia is an option for odontocetes and small whales and should be done through the administration of 'Large Animal Imobilon' (see footnote 1), possibly after sedation. Larger whales should be allowed to die naturally.

1.3.1.2. Dead whales and dolphins

- Autopsy on the beach is a valid option when strandings occur in remote areas, away from public presence, do not threaten human health and weather conditions are favourable. It is recommendable for large dolphins and whales or when no transport is available. If feasible, the animals should be placed on a wide plastic sheet before the autopsy is undertaken. Freshly dead dolphins should be given priority. When the day is hot, attempt to collect the basic information and then quickly open the specimen and collect samples for virology, bacteriology, parasitology and HBA research.
- When feasible, dolphins and porpoises should be transported to an appropriate facility for complete necropsy. All endeavours should be made to retrieve the animal in as short a time as possible to avoid deterioration of the body before analysis. While awaiting necropsy, specimens should be kept in a cold room.
- In all cases, photographic documentation is strongly recommended.

1.3.2. Protocols for collection, transportation and storage of specimens and samples

1.3.2.1. Protocols for sample collection

Prior to sample collection, some basic data should be collected in order to be able to know indispensable biological parameters. Recording the whale/dolphin condition is important to determine which samples should be given priority. Only the animals considered fresh or slightly decomposed are worth sampling for microbiology. All samples collected for microbiology should be taken as aseptically as possible. Ideally, the necropsy should be carried out by an experience scientist. Notes should be taken by an assistant.

After collection of the basic data, the body may be opened, preferably on a wide plastic sheet or on a necropsy table. All instruments necessary, collecting, bags, jars and vials with or without liquids should be at hand before making the first incision. An assistant should label the containers and take notes and pictures.

The protocols provided here below and the sample priority and field tissue checklist provided in the Annex will be useful to make sure that all the necessary samples are collected and preserved adequately.

1.3.2.1.1. Basic Data Protocol

- Investigator (name, telephone, affiliation, address, e-mail):
- Date:
- Location of stranding:
- Presence of other dead aquatic animals:
 - Species:
 - Number (estimation):
- Indication for an algal bloom: YES/NO
- Field number:
- Species¹⁹⁸:
- Sex¹⁹⁹:
- Standard body length²⁰⁰:
- Condition:
 - alive
 - fresh
 - early decomposition
 - advanced decomposition
 - mummified
- Evidence for human interactions: YES/NO
 - Net marks
 - Knife cuts
 - Wounds caused by vessel strikes
 - Description-pictures
- Presence of skin lesions and wounds: YES/NO.
 - Description – pictures
 - Collect samples in formalin, DMSO and, if possible, freeze at –80°C
- Lactating: YES/NO

1.3.2.1.2. Specific sample collection ²⁰¹

1.3.2.1.2.1. High priority samples

Reproductive tract

Ovaries and testes should always be examined, weighed, photographed and collected in 10% formalin (4% end concentration) to assess sexual maturity. The presence/absence of corpora albicantia and a corpus luteum should be recorded. Uterus should be opened to check for a foetus. The latter should be measured, weighed and sexed and, if small, conserved in formalin. Presence of sperm in the epididymis should be evaluated. A piece of at least 1x1x1 cm of

¹⁹⁸ Species identification should be done by qualified persons. Ideally a picture of each specimen with its field number should be taken.

¹⁹⁹ A picture of the genital region with field number will help to confirm the sex.

²⁰⁰ Precise how it was taken (measurements should be parallel to the dolphin body, e.g. total length from snout to fluke notch).

²⁰¹ Basic and advanced data protocols are also available at the Medaces website: http://medaces.uv.es/home_eng.htm

both testes should be collected in formalin. The following questions may be answered in the field if time permits otherwise in the lab after addressing the mortality event.

- Ovaries:
 - presence of corpus albicans: NO, YES
 - presence of corpus luteum: YES, NO

- Foetus in uterus: YES, NO
 - sex
 - length
 - weight

- Testes: YES/NO
 - Right:
 - presence of seminal fluid
 - length
 - weight

 - Left:
 - presence of seminal fluid
 - length
 - weight

Virology and serology

- The following organs are targeted by morbilliviruses and herpesviruses and should be carefully examined for any changes and lesions. Use gloves, wash them frequently and change them between each specimen:
 - Lungs
 - Spleen
 - Liver
 - Lymph nodes
 - Kidneys
 - Brain²⁰²
 - Thymus
 - Heart
 - Skin

- Document, describe and take pictures²⁰³ of any change in organ gross morphology. Take pictures of skin lesions.

- Ten grams or 2x2x2cm of each organ should be conserved on ice and then frozen at -80°C for virus isolation. Each sample should be carefully labelled. When no freezer or liquid nitrogen is available, cut tissue samples to ≤ 0.5 cm in any single dimension and preserve in 'RNA later' (Ambion) for PCR studies. Once submerged in 'RNA later' samples may stay at room temperature for a week. If a longer delay is expected then freeze them at -20°C or -80°C after a night at room temperature (no more than 25°C).

- Preserve small samples of the previously mentioned organs in 10% formalin and 20% DMSO for histopathological and molecular studies.

²⁰² If the skull is to be preserved for a museum collection, separate the head from the body and introduce a small spoon into the foramen magnum to collect a piece of brain/cerebellum. An electric saw could be used to cut a sharp-edge window in the skull. The two pieces could be later glued together.

²⁰³ Always place a piece of paper with specimen field number close to the lesion you wish to photograph, to be able to identify its origin when the event is over.

- Extract 5-10 ml blood directly from the heart or major blood vessels after disinfecting the surface with alcohol and put on ice. You may attempt to centrifuge the blood and take the supernatant before freezing to avoid further hemolysis.
- Take some pleural, peritoneal and pericardial fluids, urine, fluid from vesicles in sterile tubes, keep on ice and store at -80°C .

Bacteriology

- Document, describe and take pictures of any change in organ gross morphology.
- Collect 5-10grs samples from the kidneys, testes, uterus, placenta and foetus (if available), mammary glands, spleen, eventual subcutaneous abscesses, keep on ice and refrigerate at -4°C or freeze at -80°C if long delays are unavoidable (> 24h) before further analysis. When no freezing facilities are available, smaller samples should be kept in DMSO.
- Preserve 1x1x1 cm samples of the same organs in formalin and DMSO.
- Take a blood sample from the heart and process as described above.
- Collect pleural and peritoneal fluids, urine and pus from abscesses and store half in aerobic containers and half in anaerobic containers. Keep on ice and then freeze at -80°C if a laboratory is not at hand.
- If feasible (a laboratory is ready to receive and analyse the samples in a short time) take swabs from the eyes, blowhole and throat and place them in an appropriate bacterial medium transport and refrigerate.

Protozoans

- Document, describe and take pictures of any changes in organ gross morphology.
- Collect samples of the following organs, keep on ice, refrigerate at -4°C and send with cold pack to a specialized research institute if possible. Otherwise preserve small samples in 10% formalin and DMSO:
 - Brain
 - Heart
 - Skeletal muscles
 - Lymph nodes
 - Spleen
 - Thymus
 - Lungs
 - Foetus
 - Placenta
- Take a blood sample from the heart and process as described above.

Biotoxins

- Collect 5 to 10ml of blood in a heparinized syringe, separate the serum and freeze for shipment. If not possible, keep the sample on cold packs and ship to the lab. As several toxins may cause marine mammal mortalities and concentrate in different organs, it is recommended to take a wide range of samples including:
 - 50 grs of liver, kidney, lung (cranial pole), stomach contents, faeces, brain as well as bile and at least 3ml of urine. These samples should be kept on ice until frozen at -20°C .
 - Samples of brain, lungs and upper respiratory tract should also be preserved in 10% formalin.
- Collect water samples, keep on ice until frozen
- Collect fish and plankton with a plankton net, keep on ice until frozen

- Record any other aquatic animal mortality occurring concurrently with the cetacean outbreak of mortality

1.3.2.1.2.2. Intermediate priority samples

- When possible document and describe any change in the gross morphology of all organs not mentioned in 1.3.2.1.2.1. The following should always be examined:
 - Adrenals
 - Tonsils
 - Stomach
 - Intestine
 - Pancreas
 - Bladder
- Collect samples and store according to the procedures described in 1.3.2.1.2.1. for virology and bacteriology.
- Check the mouth, tongue, teeth and/or baleen plates, document and take pictures of any abnormalities and collect samples for virology and bacteriology as described in 1.3.2.1.2.1.
 - Description
- Examine the genital slit, penis (whole) and vagina (whole) for the presence of warts or vesicles, describe and take samples for virology as described in 1.3.2.1.2.1.
 - Warts: YES/NO
Describe and take pictures
 - Vesicles, ulcers: YES/NO
Describe and take pictures

1.3.2.2. Protocol for transportation and storage

All fresh samples should be kept on ice or cold packs, away from the sun while waiting for further processing. Upon arrival in the laboratory, they should be frozen at -20°C or -80°C according to the above mentioned protocols. Storage should be organized in a way that samples are easily found when the freezer is full which may be quite a task! Records should be kept of any sample location. Contact the local CITES Management Authority (http://www.cites.org/common/directy/e_directy.html) to know the requirements to obtain permits to export cetacean samples.

1.3.3. Carcass disposal

Carcass disposal may depend on the laws of each Member State. In some countries local authorities are responsible for the disposal of dead cetaceans. When it is not the case the OSCB should develop plans in advance in accordance with national authorities. Their feasibility should be discussed with the bodies that should intervene to help with carcass disposal (coastguards, navy, landfill site owners). The costs of each plan should be established. Here are some recommendations extracted from Geraci and Lounsbury (2005) and a background document from South African National Parks (online <http://www.sanparks.org/about/news/2006/july/whale.php>).

1.3.3.1. Let it lie

In uninhabited areas the carcass may be left on the beach. Weather, tide and scavengers will do the work. Before leaving the carcass baleen or teeth should be extracted. Open the abdomen and thorax to prevent any bloater decomposing in the sun. Care should be taken with large whales.

Specimens that were euthanized represent a risk to scavengers and should be buried, taken to a sanitary landfill, composted or destroyed by incineration

1.3.3.2 Bury it

Burial of small cetaceans in a sandy beach may be relatively easy after cutting the carcasses. Burial of large cetaceans requires heavy equipment and experienced operators. Environmental damage and disturbance should be considered. The burial site should be above the water table to avoid contamination with body fluids. The hole should be deep so that the carcass is buried under at least one or two meters of earth.

1.3.3.3. Burn it

Burning the carcass reduces the mass and volume, allowing for whatever is left over to be cut up and removed either into the sea or to a landfill site. The burn will involve stacking a cremating pyre of wood around the whale and using solid accelerants in the slits of the blubber, burning it for a few days and then assessing the situation. Anti-oil pollution solvents may be used to mop up the resulting oil effluents.

1.3.3.4. Tow it out to sea

The carcass may be towed out to sea, providing it is released far enough offshore (about 80 km or more) so that currents and winds do not bring it back, it is clear of a shipping lane and has enough ballast to sink. The carcass should be cut open to avoid bloating and favour sinking. Collaboration with scientists studying 'whale falls' (Hagg, 2005) would be beneficial. Before considering this option, contact the relevant authorities (navy, coastguards) and ask their permission and requirements to minimize problems with boat traffic.

1.3.3.5. Compost it

Carcasses up to 640 kg may be placed in a composting bin and covered with a 'bulking agent' such as sawdust or straw, high in carbon. As anaerobic microorganisms break down the carcass, fluids and odorous gases diffuse into the bulking material where they degrade to carbon dioxide and water. A properly functioning composting unit requires minimal maintenance, emits little odour, has no effects on groundwater, reaches internal temperatures high enough to kill pathogens and break down chemical euthanasia agents. Please see the website of the Minnesota Department of Agriculture for more details www.mda.state.ms.us.

1.3.4. Communication management

At least one person of the OSCB should be in charge of communication management. His/her job would include calling the local authorities, giving the volunteers their tasks, write down the name, coordinates (telephone number, e-mail) and tasks of the participants, manage the public and contact other facilities that may help with the stranding event, animal rescue and carcass disposal.

1.4. Activities to implement after the epidemic is over

1.4.1. Debriefing meeting

Organize a debriefing meeting with all the people involved in the stranding and ask them their opinion on the event, the number of dolphins they counted and attended, the presence of other dead aquatic animals on the beach, if the response to the stranding was adequate in their opinion, what material was missing. Thank all volunteers for their help and distribute any new information material and stickers.

1.4.2. Preliminary report

Write an initial report as soon as possible. Points to summarize in the report should include the following (Geraci and Lounsbury, 2005):

- Date and location of the stranding, type of beach;
- Nature, timing, effectiveness of the initial response;
- Account of the scene as described by the team:
 - species involved and number of specimens per species,

- pattern of stranding,
- presence of other dead or sick aquatic animals,
- cetacean condition,
- indication for an epidemic,
- environmental conditions.
- Necropsy findings;
- Specimens collected, place where they are stored, condition for storage;
- The actions taken and reason for decisions:
 - intended response plan,
 - impediments to implementation,
 - eventual action.
- Additional information:
 - photographs, maps, drawings,
 - reports from independent groups (police, coastguards, stranding networks, rehabilitation facility),
 - Things to be improved.

1.4.3. Media communication and alert

Write a brief note on the event for the media. Alert the media and public for the possibility of more cetacean strandings on every beach and encourage them to report.

1.4.4. Contacts

Contact the laboratories that will analyse the samples and coordinate for sample dispatch according to the airline procedures. Make sure that somebody will collect the samples at their arrival and that the person in charge is not on holidays at the time you send the samples. Keep telephone contact until you are assured that the samples arrived and were properly stored.

1.4.5 Follow-up

Ask for a follow-up of the analysis and prepare a manuscript on the findings together with all involved institutions.

2. CONTINGENCY PLAN DRAFT

In the Mediterranean Sea, epidemics of morbillivirus have caused the death of thousands of striped dolphins in 1990-1992 and in 2007 as well as mortalities in long-finned pilot whales (Aguilar and Raga, 1990; Fernandez *et al.*, 2008; Raga *et al.*, 2008; Van Bresseem *et al.*, 2009). An uncharacterised morbillivirus was also detected in two short-beaked common dolphins stranded along the coast of Crimea in 1994 during an outbreak of mortality (Birkun *et al.*, 1999). Herpesviruses, *Toxoplasma* spp. and *Brucella* spp. have been identified in odontocetes stranded along the coasts of Spain (Mediterranean Sea and Canary Islands) and Italy (Di Guardo *et al.*, 1995, 2009; Van Bresseem *et al.*, 2001b; Esperon *et al.*, 2008). Paralytic phycotoxins may have been responsible for the death of several Mediterranean monk seals in the Mauritanian colony (Hernandez *et al.*, 1998, Harwood, 1998). Thus, Member States should be ready for the eventuality of cetacean mortalities in their waters due to viruses, bacteria, protozoans and HBAs. The development and strengthening of existing national and regional stranding networks will be key to properly address these mortalities. Importantly, data on strandings along the coasts of the Black and Mediterranean Sea as well as the contiguous Atlantic waters should be sent to MEDACES (http://medaces.uv.es/home_eng.htm) set-up in 2001 to coordinate all national and regional efforts for riparian countries. The establishment of a CEUM Sub-Committee within the ACCOBAMS Scientific Committee would further improve answer to strandings by facilitating coordination between Member States and helping with infrastructure and capacity building. The foundation of CEUM Working Group that would communicate by e-mail would facilitate information diffusion.

2.1 OSCB

An efficient contingency plan will be based on the foundation of a national OSCB that will be responsible for the activities and decisions related to unusual mortality event as well as on timely relaying information on their occurrence to the Member States and to the suggested CEUM Sub-Committee. The easy and open communication between OSCBs will help determine when a die-off is underway, ensure a timely and adequate intervention and, ultimately, uncover the cause of the die-off and explore environmental factors that may have enhanced its severity. Minimal personal of an OSCB should be one scientist, preferably a marine mammal research veterinarian with good knowledge in the biology of cetaceans.

2.2.1. Team

2.2.1.1. Administrative support team

At least one person should be in charge of the administration of the OSCB. His/her responsibilities should include:

- Coordination with local authorities;
- Communication with media and public;
- Development of education activities and material;
- Management of volunteers;
- Building of a website;
- Finance management.

2.2.1.2. Scientists

A biologist and a veterinarian, both ideally with experience with cetaceans, should be appointed by the OSCB. Their responsibility should include the following items:

- Develop a stranding network that can react quickly to cetacean mortality events;
- Develop protocols for attending strandings and for the collection of tissues for microbiology, parasitology and HBA testing;
- Prepare the material necessary for attending a die-off (everything should be ready and at hand for instant leave);
- Provide field staff and build capacity;
- Recruit and manage volunteers;
- Timely intervention and incident control coordination: an educated decision on response level (equipment and personnel);
- Coordination with other similar networks within and outside the Member States;
- Adequate decision regarding the fate of live-stranded cetaceans (release, rehabilitation, euthanasia);
- Collection of biological data and pictures;
- Necropsy of dead cetaceans;
- Collection of samples;
- Contact with laboratories that will process the samples;
- Contact with the authorities that will deliver CITES permits;
- Contact with the airlines that will transport the samples: ask for their specific requirements for the packaging and dispatch of biological materials;
- Prepare a protocol for packing and dispatching biological material;
- Send the samples;
- Carcass disposal in agreement with national regulation.

2.2.1.3. Volunteers

Volunteers should be recruited to help with strandings. They may have distinct backgrounds and personalities and should be given tasks according to their respective skills.

2.2 Memoranda of Understanding with Collaborators

Memoranda of understanding should be established with other institution and laboratories willing to help at the occasion of an outbreak of mortality. Laboratories (bacteriology, virology, parasitology, HBA research) should be asked to send specific protocols for sampling, preserving and sending the samples. Ideally, they should provide the vials, fluids and other material required for sampling. Otherwise they should specify the material needed for sampling and the firm where to buy it.

2.3 Get ready to detect an epidemic and unusual mortality events

Regular visits to the beaches by scientists and volunteers of the OSCB should be organized, so that a baseline for a 'normal' stranding number may be established by species, geographic location, season of the year etc. All cetaceans that are fresh or moderately decomposed should be necropsied and samples sent for parasitological, bacteriological and virological to get an idea of the common macro- and micro-fauna in these populations. The OSCB should make sure that the media have the hotline phone number, distribute posters on epidemics in public places and regularly communicate with coast guards, fishermen associations and any person or organization susceptible to register unusual mortalities of marine mammals.

◆ Criteria pointing to the occurrence of an unusual mortality event²⁰⁴ are:

- Marked increase in the magnitude or a marked change in the nature of morbidity, mortality or strandings when compared with prior records;
- A temporal change in morbidity, mortality or strandings is occurring;
- A spatial change in morbidity, mortality or strandings is occurring;
- The species, age, or sex composition of the affected animals is different than that of animals that are normally affected;
- Affected animals exhibit similar or unusual pathologic findings, behavior patterns, clinical signs, or general physical condition (e.g., blubber thickness);
- Morbidity is observed concurrent with or as part of an unexplained continual decline of a marine mammal population, stock, or species.

◆ The following criteria for defining an epidemic are:

- It is unexpected;
- It involves the stranding and death of unusual large number of cetaceans from one or several species;
- It may start in one country and progress to others;
- It may last for several months;
- It may recur;
- It demands an immediate response.

2.4. Get ready to attend an epidemic

When an epidemic is suspected, the OSCB should get in contact with national and international collaborators and the suggested CEUM Sub-Committee and call its volunteers as soon as possible. Once ready, the OSCB scientists should go at once to the site of stranding taking all the necessary equipment already pre-packed. They should give volunteers their tasks before attending the animals. The administrator should liaise with the local authorities, public and media.

2.5. Determine the end of the event

The end of the epidemic may be difficult to pinpoint but in the case of morbillivirus infection will likely be gradual. Collaboration between all Member States will be essential to estimate the end of the mortality event.

²⁰⁴ Source: <http://www.nmfs.noaa.gov/pr/health/mmume/criteria.htm>

3. OUTLINE OF A PROGRAMME TO BUILD CAPACITY

Capacity building is a prerequisite to an efficient die-off response. It should concern the staff of the OSCB, volunteers, coastguards and navy officials, fishermen and the general public (please see § 1.2.3.). The following programme outlines the steps that may be taken to realize this target.

- Organization of annual workshops on cetacean epidemics and infectious diseases for the staff of the OSCBs. National and international experts of morbilliviruses, *Brucella* spp. and other bacteria as well as of HBAs should ideally be invited to participate;
- Organization of training courses on cetacean strandings, infectious agents and sample collection for the staff of the nascent OSCBs. These training courses may take place at the OSCB, CEUM facilities or at the laboratory of national and international stranding networks;
- Organization of national meetings with other relevant bodies related to strandings (universities, coastguards, oceanaria, etc) and presentation of documents on cetacean epidemics and diseases;
- Acquire capacity building material (books, papers, reports, CDs, DVDs, protocols) from other stranding networks, NGOs and scientists;
- Development of a library dedicated to marine mammal strandings and epidemics;
- Communication with other OSCBs;
- Preparation of leaflets on the biology of cetaceans and the reasons of strandings and mass die-offs targeting the general public;
- Preparation of children booklets and posters on whales and dolphins and stranding events.

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RESOLUTION 6.22 - Cetacean Live Stranding

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Resolutions 1.10 on “Cooperation between national networks on cetacean strandings and the creation of a data base”, 3.25 on “Cetacean live stranding” and 4.16 on “Guidelines for a coordinated stranding response”,

Taking into consideration Recommendation 10.10 of the ACCOBAMS Scientific Committee,

Recognizing that in recent years the ACCOBAMS Area has been the scene of cetacean live stranding events, involving mass strandings over wide geographical areas, which have evoked great concern and have attracted considerable attention from the scientific community,

Aware that cetacean live strandings can present national governments with specific challenges that are exacerbated when they become a transboundary event,

Recalling that in emergency situations, one possible major barrier could be due to general difficulty of administrative authorities to produce immediate responses,

Conscious of the related work underway under the Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS), and *noting* ASCOBANS Resolution 8.10 on Small Cetacean Stranding Response,

Considering that the joint ACCOBAMS/Pelagos workshop on cetacean live stranding held in Monaco on 29th and 30th October 2014 proposed harmonized procedures in case of cetacean live stranding, stressing that, in case of transboundary emergencies involving cetaceans, rapid intervention, participation and cooperation from different experts, stakeholders and within scientific organizations are required to ensure an effective response and an adequate coordination,

Also considering that the International Whaling Commission (IWC) held an Expert Workshop in September 2013, which, in particular, stressed the need for human safety, developed a decision tree related to rescue versus euthanasia, provided an authoritative and comprehensive review of various euthanasia methods and provided advice on data collection protocols and event management,

1. *Takes note*, as guidelines, of:
 - the common definitions of terms related to stranding events as presented in Annex 1;
 - the common best practices for a basic post-mortem examination of stranded cetaceans as presented in Annex 2;
 - the common data collection protocol for live strandings as presented in Annex 3;
2. *Requests* the Scientific Committee, to approach the ECS, IWC and ASCOBANS in order to:
 - review during the triennium, if necessary, the common definitions, common data collection and common necropsy protocol;

- develop principles and guidelines for handling live strandings events, including prevention, recognizing the cultural, political and socio-economic differences between countries;

3. *Requests* the Permanent Secretariat to:

- encourage training and exchange programmes for national stranding networks aimed at creating a common framework for rescue teams, in particular with respect to rehabilitation, intervention on live strandings and euthanasia procedures and dealing with the public;
- undertake trainings on necropsies, live strandings and response to emergency situation in the ACCOBAMS Area;
- maintain / establish (sub)regional mailing lists of participants in the stranding networks to facilitate exchange of information, in particularly in the South Mediterranean region;
- encourage data / tissue exchanges through collaboration with relevant databases and tissue banks. In this context, list of tissue banks registered with the CITES Secretariat should be made available.

ANNEX 1 COMMON DEFINITIONS OF TERMS RELATED TO STRANDING EVENTS

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In order to come up with a unified approach on how to manage strandings in general and live stranding in particular within the ACCOBAMS area as well as to facilitate data and information exchanges, it is fundamental to consider the presence of different approaches currently existing in different member states as potential barriers. The starting point towards the establishment of common procedures is a shared definition of all stranding events that can be identified and the possible stakeholders involved in these events, as stated during the joint workshop ACCOBAMS/PELAGOS on cetaceans live strandings organized in Monaco (October 29th-30th, 2014) in order to define common procedures in case of transboundary emergencies involving live stranded animals

This document summarize all proposed common definitions of term related to stranding events.

1. **Stranding**

Literally, **a stranded cetacean is one cetacean which body lies entirely on land**. The term is used to include both dead and live animals, the latter found in a helpless state after faltering ashore ill, wounded, weak, or simply lost. The term is sometimes expanded to include animals, dead or alive found floating or swimming, respectively, in shallow waters, in the latter case, showing clear signs of physiological dysfunction. One should keep in mind that many, if not most, of the dead stranded animals stranded while still alive and therefore the distinction between live and dead strandings relates to the timing of human attendance. The distinction is however crucial, as human intervention in a live stranding may prevent death or hasten it to prevent suffering. On the basis of the number of animals involved, it is possible to distinguish between single and mass strandings.

1.1 **Single stranding**

This term refers in general to **a single animal involved, including a female and her calf**. Such events are the most common ones occurring in the Mediterranean Sea. Further definitions involve characteristics and features of the animal found stranded and general conditions of the findings. Accordingly, it is possible to distinguish:

- A. Dead stranded cetacean: an animal lacking vital signs, which means without brain, respiratory and circulatory function.** This type of event requests specific procedures involving public actors (i.e. coast guard, local governments, sanitation authorities, public veterinarians, research institutions, NGOs, news media, etc.) in order to ensure public health and safety (delimitation of the carcass, rapid removal of the corpse, disposal of the carcass according to existing laws), research (biological information, postmortem investigations, recovery and storage of tissue samples and skeleton) and on-site public education; some countries consider dead stranded large whales as unusual events due to the compound logistics and procedures required.
- B. Beached cetacean: this is another term sometimes used to define an animal found dead completely ashore.**
- C. Live stranded cetacean: this term refers to a cetacean found alive, ashore or free-swimming in shallow waters.** Live-stranded animals are usually in need of medical attention and are unable to return to their natural habitat without assistance. In these cases, specific approaches should be considered in order to react to different situations. All interventions should be coordinated by a rescue team, including one or more expert veterinarians, able to assess the situation and apply its best knowledge and past experience through a well-established triage procedure. The latter should be used to decide whether the animal is immediately releasable, releasable after a period of rehabilitation or if euthanasia is the only option. In general, medical condition and the stranding characteristics (i.e., epidemic on going, mass stranding, etc.) are the basic criteria to decide the possible release into the wild but behavioural responses, ecological and ethological parameters and ethical statement may also be used in assessing the situation and in the decision process.

- D. **Stranded cetacean: referring to an animal still in the water that is trapped, cannot cope or is outside of its natural environment;** these conditions suggest a perilous situation with a possible risk of stranding that may demand preventive measures and highlight the quandary of whether and when to act. More in detail in the ACCOBAMS area, this term referred to specific situations, often involving pelagic cetacean species, observed in unusual proximity to the coastline. Distance from the coasts depends on geography and bathymetry of the area. This term could refer also to coastal species when they are observed inside ports, estuaries, basins or in highly congested areas which could represent a risk for the animal's survival.
- E. **Entangled cetaceans: cetaceans are included in this term when found entangled in fishing gear** and this condition impairs their swimming and diving abilities thereby compromising their feeding activities. Animals could be completely or partially entangled by nets. If human safety and animal welfare are ensured by available trained personnel and equipment, a procedure to release the animal could be attempted.

1.2 Multiple strandings

- A. **Unusual Mortality Event (UME): this term refers to unexpected mortality of cetaceans at an abnormally large scale compared to average stranding reports for the species involved in the event and the area and period considered.** An immediate response is required, and special investigation teams may be assembled to investigate the causes of these events. Main recognized causes are a rapid diffusion of a disease, biotoxins, human interactions (including environmental accidents) and malnutrition. Features of these mass mortalities (i.e. temporal and spatial distribution) do not correspond to mass strandings, as defined below.
- B. **Disease outbreak: specific UME involving infectious agents.** A disease outbreak is the occurrence of cases of disease in stranded individuals in excess of what would normally be expected in a defined population, geographical area and/or season. An outbreak may occur in a restricted geographical area or may extend over an entire basin involving several countries. It may last for a few days or weeks, or for several years. A single case of a zoonotic or a communicable disease absent from a given cetacean population, or caused by an agent (e.g. bacterium or virus) not previously recognized in that species or area, or the emergence of a previously unknown disease, may also constitute an outbreak and should be reported and investigated.
- C. **Mass stranding: these events involve two or more cetaceans (excluding cow/calf pairs) stranded at the same time and place.** Several causes may be responsible for this event, including, but not limited to, extreme weather conditions, tidal changes, disease of one or several group members, or human-related events. It is noteworthy that some individuals involved in a mass stranding may be completely healthy.
- D. **Atypical mass stranding: this definition refers to those mass stranding related to sonar exposure** in which animals do not strand all together as a single cluster but over a very short and defined time lap and within a confined space, both in association to the SONAR event. .

1.3 Usual vs Unusual stranding events

In order to implement a stranding network, it is often useful, depending on the internal organization, to define usual and unusual strandings. This definition is based on resources, knowledge and organization necessary to face these kinds of events.

- A. **Usual strandings: this term refers to those stranding events occurring more frequently in a routine fashion.** In the Mediterranean Sea, small odontocetes found dead on the shore or close to the beach are included in this category. In these events, small teams are involved to recover the carcass, collect data, perform necropsy, store tissues, preserve skeleton and dispose of the corpse. Due to the limited scope, no immediate response is often necessary.

- B. Unusual strandings: occur rarely** and, due to the amount of animals, the size of the cetaceans involved and/or the presence of live animals, request an immediate and coordinated response that faces several problems such as animal welfare, administration of euthanasia and associated socio-ethical considerations, decisional processes and emergency. These kinds of events are in need of equipment and a well-trained and coordinated, often multinational, emergency team.

2. Terms related to dead stranded cetaceans

Postmortem investigations on cetaceans found stranded dead ashore are fundamental diagnostic procedures aimed to reveal and report any threats for cetaceans' conservation, by using an evidence-based approach. In the last years, an increasing number of skilled and expert veterinarian have been involved and forensic protocols and techniques have been developed and used, thus increasing the quality of the data collected. In addition, PM investigations are an essential source of biological data, including dietary, morphometric, genetic, etc. Dead cetaceans could have stranded alone or have been a part of a multiple stranding.

- 2.1. **Necropsy/autopsy:** synonyms of postmortem examination, a specialized procedure that consists of a thorough examination of a carcass by dissection to determine the cause, the mechanism and manner of death and to evaluate any disease or injury that may be evident. It is usually performed by a specialized veterinarian with specific training in animal pathology. If trained personnel are not available, veterinarians and/or biologist with an adequate training in cetaceans' anatomy could perform part of the gross and sampling procedures, as well as some of the main ancillary analyses.
- 2.2. **Cause of death/stranding** could be defined as: the disease, injury or abnormality that alone or in combination with other factors (environmental, other concurrent diseases, age, etc.) is responsible for initiating the sequence of functional disturbances that ended in death. In the case of an animal stranded on the shore, the necropsy is aimed to determine the cause of stranding. During necropsy the following may be further defined:
- Immediate cause of death: final disease or condition resulting in death;
 - Underlying cause of death: the disease or injury that initiated the chain of morbid events that led directly and inevitably to death;
 - Contributing factors: other significant diseases, conditions, or injuries that may have contributed to death, but which did not constitute an underlying cause of death.
- 2.3. **Mechanism of death:** the immediate physiologic derangement resulting in death. A particular mechanism of death can be produced by a variety of different causes of death. In an animal stranded alive that later died on shore, the mechanism is often asphyxiation due to mechanical compression of the chest by the animal's own weight.
- 2.4. **Manner of death:** how death came about; in the case of wildlife and, specifically, in cetaceans, we could distinguish: natural (due mainly to natural disease or toxic processes); related to anthropic activity (accidental - ship strikes, by-catch - and non-accidental or due to a volitional act - direct killing); undetermined (inadequate information regarding the circumstances of death in order to determine manner).

3. Terms related to live-stranded cetaceans

May strand singly or be a part of a mass stranding; may be found completely ashore or in shallow waters. Stranded cetaceans sighted swimming close to the shore, in ports or lagoons with clear avoidance behaviour and entangled cetaceans should not be considered stranded and a different approach with specific protocols should be used in handling such cases.

- 3.1. **Triage:** a process of determining the priority of treatments, based on the severity of patient's condition. The process rations patient treatment efficiently when resources are insufficient for all to be treated immediately (i.e. mass strandings). This approach has been developed and is used in emergency medical centers. In its

application to cetaceans stranded alive, specific decisional matrices have been developed by several rescue teams and stranding networks, in order to define the final destination of an animal, given that technical, economical and personnel resources are limited.

- 3.2. **Releasable cetaceans:** animals stranded alive, the ecological, ethological and health conditions of which, as evaluated by skilled veterinarians, are considered appropriate for an independent life and do not pose any risk to wildlife populations and public safety.
- 3.3. **Conditionally releasable cetaceans:** animals stranded alive, the ecological, ethological and health conditions of which, as evaluated by skilled veterinarians, are considered appropriate for an independent life and that do not pose any risk to wildlife populations and public safety, after further examinations or after a period of rehabilitation/quarantine, when national laws allows such procedures.
- 3.4. **Non releasable cetaceans:** animals stranded alive, the ecological, ethological and health conditions of which, as evaluated by skilled veterinarians, are considered NOT appropriate for an independent life and/or pose a risk to wildlife populations and public safety, even after a period of rehabilitation/quarantine. Euthanasia or permanent captivity, when national laws allow such procedure, are the most suitable options.
- 3.5. **Euthanasia:** Has been defined by the IWC and by the American Veterinary Medical Association in 2013 as “the use of humane techniques to induce the most rapid, painless and distress-free death possible”. It could be chemical (use of drug) or physical (firearms). A specific IWC report is available (Report of the IWC Workshop on Euthanasia Protocols to Optimize Welfare Concerns for Stranded Cetaceans).

4. Common code system for strandings

As already proposed during the aforementioned workshop on transboundary procedure, an alert system is proposed including coded definitions of stranding events herein presented.

CODE A: live cetacean/s at risk (close to the coastline or stranded)

In this category are included animal/s that are still alive in the water but with obvious signs of trouble in swimming, abnormal behavior for the species or unusual location, potentially threatening their safety. No rehabilitation efforts are attempted because it is difficult to approach the animal in the water.

CODE B: single live animal refloated after stranding or stranding and rehabilitated or following disentanglement (cetaceans stranded alive and entangled).

Single animal rehabilitated and released after being stranded alive in shallow waters, or lying on the beach, or entangled and released after its health assessment.

CODE C: mass strandings involving dead animals including atypical events

Simultaneous stranding of two non-dependent (not recognized as mother and offspring) or more dead cetaceans of the same species. Atypical mass strandings that may comprise of more than one species, are also considered.

CODE D: mass strandings involving live animals, including atypical events

Simultaneous stranding of two non-dependent (not recognized as mother and offspring) or more live cetaceans of the same species. Atypical mass strandings that may comprise of more than one species, are also considered.

CODE E: unusual mortality events

Increase in seasonal and/or regional stranding rates related to diseases or environmental factors (i.e. oil spills, biotoxins, peak of by-catch phenomenon), involving both live and dead animals.

CODE F: presence of anthropic activity using sound

The use of anthropic sound sources has been often related to mass strandings or unusual mortalities.

5. References

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General document on transboundary emergencies involving cetaceans in the PELAGOS Sanctuary, Monaco, October 29th-30th 2014.

ANNEX 2

COMMON BEST PRACTICES FOR A BASIC POST-MORTEM EXAMINATION OF STRANDED CETACEANS

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Conservation of cetaceans in the Mediterranean Sea and riparian waters is menaced by several threats. Often these are estimated on the basis of simple observation, but they are not associated to marine mammals' mortality by using an evidence-based approach.

In order to quantify and explain the real impact of diseases, human activities and other causes of stranding, it is necessary to perform systematically postmortem examination of cetaceans found stranded on the coast. These procedures should be carried out through a shared approach in order to compare and exchange data collected during necropsies.

These approaches should be maintained not only within the ACCOBAMS Area but worldwide since the need of comparison and sharing is a common feeling. For these reasons, the present document has been prepared after consulting several colleagues (i.e. pathologists, stranding responders) working in the ACCOBAMS and ASCOBAMS Areas and also within the International Whaling Commission (IWC). This document should be considered as the starting point for a joint effort to build up a common procedure in order to study the causes of cetaceans' strandings and, in particular, the real impact of human activities on marine mammals' conservation.

In preparing this document it has been considered that in the ACCOBAMS area there are evident differences in the approach to cetaceans' strandings; procedures can be really informal or very well structured, services and equipment can be completely unsuitable or adequately organized, education and competences on the field can be at the forefront or totally insufficient. In some countries, National Stranding Networks are official or well-functioning and could have already adopted a national procedure for examining stranded marine mammals. For countries where National Stranding Networks are not existing or operate on the base of the volunteers' involvement there, a procedure based on the standards of more advanced countries could be too difficult to achieve.

The present document should be considered as a postmortem examination guideline supporting the development of national postmortem best practices in the Mediterranean Sea, Black Sea and riparian waters in order to standardize data collection and support those stranding networks without specialists working in these fields.

For those countries without a structured network including veterinarians and laboratories, these procedures could offer a simple tool to collect data in the proper way also by untrained personnel; furthermore, the document give also indication and suggestion to develop a more detail postmortem examination. On the other hand, for countries where a more developed procedure has been established, the present guidelines could give the minimum standard to be achieved.

These guidelines should be considered as the first step of a multi-level approach considering:

BASIC: basic gross examination and data collection

- collection of data on stranding event (date and location coordinates)
- data on animal involved (species, sex, age class, physiological status)
- measuring the animal
- gross examination with general description of main findings
- possible external signs of human interaction
- stomach content examination

INTERMEDIATE: sampling for general ancillary analyses

- sampling and performing microscopic examination and tissue bank
- sampling and performing microbiology
- sampling and performing toxicology
- sampling and performing and life history

ADVANCED: specific postmortem examinations and analyses with specific data and samples collection

- Dolphin morbillivirus
- Human interaction (bycatch and ship strikes)
- Sound related mortality
- Mass strandings

In order to diagnose specific causes of death, more detailed analyses and diagnostic procedures should be implemented: for these reasons, the creation of a list of internationally recognized experts and diagnostic laboratories is proposed and it is recommended to give whoever needs a proper support for more detailed examinations and/or in case of specific causes of strandings and diseases. In particular, this “expert panel” could develop dedicated diagnostic protocols in case of specific problems, as dolphin morbillivirus mortalities, ship strikes and interaction with fisheries, sound related unusual mortalities or be considered as advisory consultant. They could also support ACCOBAMS directly in the case of specific problems related to cetaceans’ mortality or intervene in case of unusual mortality events.

Finally, the expert panel could be appointed to revise and implement the present document with those indication and recommendation coming from the dialogue with ACCOBAMS and IWC in order to compare and share data as well as implement the guidelines with new information and diagnostic approaches. These could be foreseen periodically during international meeting as European Cetacean Society which could also support a common protocol for postmortem investigation to be used around Europe.

PROPOSAL FOR POSTMORTEM BEST PRACTICES IN CASE OF CETACEANS STRANDINGS

An autopsy, also known as a postmortem examination or necropsy, is a specialized procedure that consists of a thorough examination of a carcass by dissection to determine the cause and manner of death and to evaluate any disease or injury that may be evident. It is usually performed by a specialized veterinarian with a specific training in animal pathology. If trained personnel is not available, veterinarians and/or biologist with an adequate training in cetaceans' anatomy could perform part of the gross and sampling procedures, as well as some of the main ancillary analyses (for instance life history, genetics, gastric content analyses, toxicological studies).

1) Main goals of a postmortem examination

As already stated, through a standardize procedure, necropsies are aimed to determine:

- a) cause of death/stranding: it could be defined as the disease, injury or abnormality that alone or in combination with other factors (environmental, other concurrent diseases, age, etc.) is responsible for initiating the sequence of functional disturbances that ends in death. In the case of animal stranded on the shore, the necropsy is aimed to determine the cause of stranding. During necropsy it could be defined a:
 - underlying cause of death: the disease or injury that initiated the chain of morbid events that led directly and inevitably to death;
 - contributing factors: other significant diseases, conditions, or injuries that contributed to death, but which did not result in the underlying cause of death;
 - Cause of death does not always could be determined due to limiting factors (i.e. knowledge, lack of equipment, carcass preservation, etc.).
- b) - immediate cause of death: final disease or condition resulting in death
- c) Mechanism of death: it is defined as the immediate physiologic derangement resulting in death (for example, haemorrhage, cardiac arrhythmia, cerebral hypoxia, sepsis, etc.). A particular mechanism of death can be produced by a variety of different causes of death. In animal stranded alive and dead on the shore, the mechanism is always mechanic compression of the chest acting on breathing;
- d) manner of death: how the death came about; in the case of wildlife and, more in detail, in cetaceans, we could distinguish: natural (due mainly to natural disease processes; related to anthropic activity (accidental - ship strikes, by-catch - and non-accidental or due to a volitional act - direct killing); undetermined: inadequate information regarding the circumstances of death to determine manner.

In order to achieve these goals, it is necessary a very strict and well define procedure to collect data, in order to ensure a good quality of the information. This information obtained from stranded animals depends on a number of factors including:

condition, location and numbers of the carcasses

- quality of human resources: size, skills, organization, interests of the teams involved;
- existence of clear and detailed protocols;
- availability of equipment and supplies;
- time available;
- care in managing samples (packaging, labeling, shipping and storing).

2) Documenting Data

Information has scientific value only when carefully documented data are collected systematically using appropriate terminology. Depending on conditions listed in paragraph 1, data collection, as well as the postmortem procedure, may be basic (Level A), intermediate (Level B), or detailed (Level C) (Appendix I). The use of standardized data sheets and forms is recommended working on the field. Examples are reported herein (Appendices III-V).

Beyond written observations, photographic and video records may bring to life main details as color pattern, distinctive markings, scars or injuries, and the pattern of a mass stranding. Photographic documentation should include pictures of main distinctive pictures as well as a general view: at minimum, a full lateral view of the stranded animals and of the head with exposed teeth or baleen should be attempted. For those species included in photo-ID catalogues, additional pictures of identifying characteristics should be taken. Photographs should include a reference scale of known standard size and, possibly, a label with date and location.

Rare specimens are especially valuable and require an extra measure to ensure a complete body of data. The entire carcass removal to a suitable laboratory or museum for study or preservation should be attempted.

3) Public Health

Dead and decaying marine mammal tissues harbor a variety of potentially harmful organisms, some of which can infect humans (i.e. Brucella, Salmonella, etc.). Dangerous consequences from exposure can be reduced by wearing appropriate clothing (protective overalls and rubber gloves), eye and mouth protection (safety glasses, sunglasses, disposable masks), and by a careful handling of tissues. Persons should protect open wounds with dressings and avoid contact with fluids or airborne droplets. Keep disinfectant solutions at hand.

In implementing the postmortem protocol, a list of equipment and disposal wearing should be prepared. In Appendix VI a list of these tools is presented considering the minimal kit that should be always available in case of emergencies.

4) Evaluation of the carcass

Before beginning postmortem examination, the quality of the carcass must be evaluated to determine its suitability for collateral examinations and further studies. The condition of the carcass should be evaluated by observation of external and internal features.

a. External Features

The condition of a marine mammal carcass cannot be evaluated solely by its outward appearance or estimated by knowing the time since death. The rate of decomposition is influenced more by body temperature which is influenced by blubber layer (higher in more robust animals) and by environmental temperature. Larger, rotund carcasses retain heat longer than smaller, thin ones.

Cetaceans (except mysticetes) sink initially at death, then float days or weeks later when buoyed by decomposition gases (putrefaction gas is produced in 36 hours after death in large whales) and arrive ashore outwardly slightly changed but internally decomposed. At the other extreme, seagulls may begin gouging the eyes and penetrating the skin and blubber of the jaw and body openings of a living dolphin, perhaps already mutilated by shells and rocks during stranding. By the time the animal dies, the carcass may already appear to be spoiled.

Rigor mortis (stiffening of the body after death) is not a valuable indicator of the time of death in cetacean species as it is in terrestrial ones. Also skin, eyes, and exposed mucous membranes dehydration cannot be considered a reliable indicator, since it occurs rapidly after death during air exposure, while these tissues retain their vital appearance longer in water or with humidity or precipitation and then, too, may be unreliable indicators. During buoyancy, sides of the carcass in the water are better preserved than those exposed to sun and air.

Bloating is generally a sign that a carcass is not fresh, though some diseases may cause gas production in tissues even in live animals. Tell-tale signs of decomposition include a protruding tongue and penis. At some point the gases escape, and it may not be obvious whether the process has just begun or ended. The only reliable approach is to examine the carcass internally.

b. Internal Features

The blubber of a fresh carcass is firm, mostly white, and only moderately oily, depending on the species. With time, it may become tinged with blood (imbibition) from underlying tissues. Eventually, the oil begins to separate (delipidation) and pool, leaving behind a lacework of greasy connective tissue fibers.

Fresh muscle is dark (except in fetuses and manatees) and firm, and the bundles are distinguishable and easily separated. As a carcass decomposes, the muscles become soft, pale, translucent, and pasty; fiber bundles become almost indistinguishable.

The rate of decomposition may be increased by the animal's terminal condition, such as a generalized infection with increased body temperature (fever) or wounds that expose the body to rapid bacterial invasion. Because blood tends to promote the process, decomposition is retarded in animals that bleed to death.

The rate of decomposition of an internal organ is related to temperature, the amount and arrangement of connective tissue, and proteolytic enzyme content. Skin, blubber and muscle can remain intact and may even show gross lesions for as long as seven to nine days after death. The heart and lungs maintain their integrity for perhaps two or three days, while adrenal glands, liver, spleen, brain, kidney, and mucosa of the digestive tract decompose with frustrating rapidity.

c. Carcass Classification

Despite uncertainties inherent in determining the stage of decomposition, any study on carcasses requires a system to define the quality of the material. Animals or carcasses are assigned to one of five basic categories, determined by specific characteristics, as specify here below and in Appendix II.

CODE 1: Alive or just died (< 2 hours postmortem).

Uses: morphometrics; limited life history, external gross pathology, parasitology and microbiology; biopsies; blood studies, including DNA analysis and clinical chemistry. If died in two hours same Uses of Code 2.

CODE 2: Fresh carcass (< 24 hours postmortem).

Uses: morphometrics; DNA analysis; life history; parasitology; histopathology; toxicology; microbiology; limited blood studies; gas bubble analysis.

Characteristics: Normal appearance, usually with little scavenger damage, fresh smell, minimal drying and wrinkling of skin, eyes and mucous membranes, eyes clear, carcass not bloated, tongue and penis not protruded. Blubber firm and white; muscles firm, dark red, well-defined; blood cells intact, able to settle in a sample tube; serum unhemolyzed; viscera intact and well-defined; gut contains little or no gas; brain firm with no discoloration, surface features distinct, easily removed intact.

CODE 3: Moderate decomposition. Carcass intact, bloating evident (tongue and penis protruded) and skin cracked and sloughing, possible scavenger damage, characteristic mild odor, mucous membranes dry, eyes sunken or missing. Organs are basically intact.

Uses: morphometrics; DNA analysis; limited life history; parasitology; gross pathology; stomach contents; marginal for microbiology (virology, mycology, molecular analyses for bacteria while is limited for bacterial agents by direct methods) toxicology (useful for metal and organochlorines, poor for biotoxins); histopathology of skin, blubber, muscle (skeletal and heart), lung, and possibly firm lesions. Brain, lymphoid organs, liver and genital tract should be examined in any case since partial information could be collected; GI tract and related glands (i.e. pancreas) can provide limited information.

Characteristics: carcass intact, bloating evident (tongue and penis protruded) and skin cracked and sloughing; possible scavenger damage; characteristic mild odor; mucous membranes dry, eyes sunken or missing; blubber blood-tinged and oily; muscles soft and poorly defined; blood hemolysis, uniformly dark red; viscera soft, friable, mottled, but still intact; gut dilated by gas; brain soft, surface features distinct, dark reddish cast, fragile but can usually be moved intact.

CODE 4: Advanced decomposition

Uses: morphometrics; limited life history (teeth, baleen, bone, claws, some stomach contents, possibly reproductive condition); DNA analysis parasitology, microbiology (virology with sensitive technique) gross pathology and toxicology.
Characteristics: carcass may be intact, but collapsed; skin sloughing; epidermis of cetaceans may be entirely missing; often severe scavenger damage; strong odor; blubber soft, often with pockets of gas and pooled oil; muscles nearly liquefied and easily torn, falling easily off bones; blood thin and black; viscera often identifiable but friable, easily torn, and difficult to dissect; gut gas-filled; brain soft, dark red, containing gas pockets, pudding-like consistency.

CODE 5: Mummified or Skeletal Remains

Uses: morphometrics; limited life history (teeth, baleen, claws, bone), DNA analysis, toxicology; paleopathology.
Characteristics: skin may be draped over skeletal remains; any remaining tissues are desiccated.

5) General Considerations on Necropsy Protocol

The effectiveness of a postmortem examination is increased by following clear and concise protocols. The procedure should be prepared implementing a basic protocol considering main anatomical and physiological feature of the species, main diseases and pathological findings, logistics, number and available economical resources, personnel and equipment. In case of insufficient experience, knowledge and/or means to dedicate at this activity, it is important to standardize a very basic procedure in order to collect useful and comparable information, concentrating on fresh specimens and avoiding losing of resources.

In order to obtain best samples, a careful dissection should be planned, avoiding contamination of tissues by contact with dirty instruments, other organs, or body fluids and ensuring before the type and quality of equipment and packaging materials. With thoughtful planning, it should be possible to obtain morphometric data first, followed by external samples for microbiology.

Once the carcass is opened, tissue samples for microbiology and toxicology take precedence, followed by sampling for histopathology, parasitology, and life history. This order follows the sequence of a routinely performed gross examination as reported in the example in Appendix II.

6) Examining the Carcass

Procedures for dissecting and examining carcasses depend on the size and species of the subject and personal preference of the investigator. The outlines reported in Appendix II is one approach to carrying out systematic examination of a carcass and it is based on specific protocols and personal experience.

This protocol could be varied on the basis of the experience, knowledge and researches of specific diseases or pathological condition, such as Morbillivirus, damages related to sound, mortalities related to by-catch and ship strikes, etc., and it could be implemented on the basis of available diagnostic technique and resources. Here below main steps of the procedures are resume.

- IDENTIFICATION of the species and DETERMINATION of the sex.
- DESCRIPTION and PHOTOGRAPH form, colour pattern, scars, other distinguishing features (e.g., number and position of teeth or characteristics of baleen), injuries, external lesions, etc.; for populations included in photo catalogues, photograph pertinent characteristics in order to identify the individual
- TAKE MEASUREMENTS (at least total length), including blubber thickness; obtain body WEIGHT if possible.
- EXTERNAL AND INTERNAL GROSS EXAMINATION. Note, describe and illustrate any changes, lesions, parasites and discharges considering their:
 - Distribution : focal, multifocal, disseminate, diffuse, segmental, etc. ;
 - location: the region, apparatus, organ and/or tissue involved, mono-lateral or bilateral;
 - volume: increased, decreased, maintained;
 - shape: bi-dimensional or tridimensional description of the lesion (round, spherical, target, irregular, etc.)
 - edges: definition (well defined, not defined, infiltrating), shape and profile;

- surface: smooth, rough, depressed, raised, wet, dry
- dimension: measure the lesion
- texture and consistency: note any changes compared to normal features of the interested tissue and organ;
- smell: if any

These features allow an objective description of the change observed compared to normal anatomical features. In case of inexperienced personnel, this approach is quite simple and it could allow advices of skilled experts, along with pictures taken during examination.

- TAKE PICTURES of any features, changes considered anomalous for the experience of the person carrying out the necropsy
- At each stage of the examination, SAMPLE tissues as soon as they are exposed, starting from virology and microbiology, histopathology and toxicology.

7) Sampling

a) Blood and urine samples.

They provide an opportunity to evaluate the functional capacity of organs, as one approach to determining what processes might have been responsible for or associated with the stranding event. A broad spectrum of analyses can be performed, including plasma chemistry, hematology, antibody titers, and toxicology, as a means of investigating a range of pathologic conditions. Blood samples only have value for clinical pathology when taken from live animals, or within minutes after death. Organs deteriorate rapidly causing progressive changes in concentrations of blood gases, enzymes and electrolytes, among other parameters. Samples collected from animals' dead for more than a few minutes are useful only for serological studies.

b) Morphometrics

Morphometric and descriptive data provide basic biological information and have added value when correlated with factors such as age, stage of maturity, reproductive status. The accumulation of such data results in a better understanding of general population health, demographic trends, and identification of discrete stocks. Every carcass provides some morphometric data, even skeletal remains. The amount available depends on the state of the carcass. Measurements are taken according to the appropriate protocol for the species. All measurements can be valuable, but standard length is consistently useful. It is the straight-line distance from the tip of the snout (or the melon, if more anterior) to the tip of the tail or notch of the flukes. Blubber thickness (does not include skin) is measured from a perfectly perpendicular cut.

c) Life History

This analysis is aimed to obtain information on age, genetics, reproductive status, and feeding habits to understanding the general biology of the species. Certain life history information makes interpretation of pathologic and toxicological data more meaningful.

In general, biological data are additive; the more we can obtain on a given specimen, the more meaningful each element becomes.

d) Gross and Histopathology

Carcasses are a biological record of illnesses endemic in populations, diseases and disorders underlying natural mortality, and conditions that might have led the animal to strand. The information is tapped by careful selection of tissue samples for pathology studies. Injuries such as fractures and lacerations remain evident for long periods of time, as do certain firm lesions (e.g., tumors). Carcasses too decomposed for histopathology may still be useful for describing gross pathologic conditions. Brain, spleen, liver, and other enzyme-rich organs are the first to deteriorate.

e) Microbiology

This sampling procedure is aimed to evaluate factors underlying occurring in mortality. Studies reveal that marine mammals harbor a variety of microorganisms, some of which are known to have pathogenic potential. We now recognize that certain endemic diseases can periodically erupt into epidemics causing large-scale mortalities that have significant influence on the status of populations or stocks.

Even under ideal conditions, it is often difficult to associate bacteria isolated from a carcass with specific lesions. Bacteria associated with active infectious processes tend to endure longer in viable concentrations, and certain species may be isolated from more deteriorated carcasses, even frozen stored specimens.

Most viruses are fragile and have a short life span in decomposing tissue. Viruses that persist long enough to be harvested and identified, however, are generally responsible for some infectious process.

f) Parasitology

Virtually every marine mammal carcass has parasites. Most of these are innocuous and have value as ecological markers. Others, however, may cause serious illness to individuals and, perhaps, ultimately affect populations

g) Contaminants and Biotoxins

Marine mammals are the potential ultimate repository for oceanic contaminants passed through the food chain. Stranded inshore residents provide information on regional conditions and trends. Offshore species signal the extent to which the seas are being spoiled. Both groups reveal the influence of contaminants and toxins on health.

A commitment to collection and long-term storage of marine mammal tissues will enable us to follow patterns of biological toxins, organochlorines, heavy metals and other contaminants, and to recognize the need for change and help guide future policy. To be effective, the collection and preparation of specimens that form this resource must be impeccable, and the samples matched with reliable life history information.

h) Samples for Skeletal Preparations

While photographs and measurements can document the specific identification of some animals, skulls and skeletons can do it much better. In addition, osteological material provides a means of determining physical maturity of a specimen and may document skeletal abnormalities or injuries.

8) Necropsy forms

During postmortem examinations, it is necessary to collect data, observations and samples using a standardized approach. For these reasons, it is useful to prepare specific forms containing all information to be collected during necropsies. These forms are useful tools during the postmortem procedure which could be used both on the fields and in the laboratories. In Appendix III-V, examples of these forms are attached to the present document. In particular, Appendix III is a necropsy form to be filled during gross examination noting any pathological change, peculiar feature or finding; in Appendix IV, are listed all the information necessary to support the hypothesis of an human interaction; Appendix V is a simple checklist to remember all the samples to be collected during necropsy.

9) Specific analyses

These guidelines give information to implement a general and basic necropsy protocol, that could be carry out also by unexperienced and trained personnel with some basic knowledge of animal anatomy. In case of unusual mortality events, specific causes of death and/or threats related to cetaceans' strandings more detailed or different protocols should be applied. In particular:

- dolphin morbillivirus: this is one of the most relevant biological threats for cetacean in the Mediterranean Sea, since it caused several mortality outbreaks. Specific sampling protocols and molecular techniques has been implemented;
- by-catch: interaction with fishing activity is one of the most frequent cause of death of human origin. In order to determine if the animals died entangled in fishing gears, a detailed forensic protocol completed by microscopic analyses has been implemented;
- ship strikes: in order to understand if collision with vessels occurred with an alive animal or the interaction is postmortem, specific techniques has been developed for microscopic observation;
- gas and fat embolic syndrome and other sound related mortalities: mortality related to sound sources became famous after atypical mass strandings occurred spatially and temporally associated to military exercises using mid frequency sonar. Animals exposed to this sound source developed an embolic syndrome that could be diagnosed by gross, microscopic and chemical examination which require a specific sampling protocol. Further sound related

damages could be found analyzing inner ear through electron microscopy examination: also this investigation require specific sampling and preservation protocol.

A list of scientists and/or institutions with specific expertise in the ACCOBAMS area should be provided along with their contacts for advisory service, creating an expert panel to support Countries of the Mediterranean Sea, Black Sea and Riparian Waters in case of necessity. If necessary, these reference laboratories are able to perform investigations and studies and could give specific information on sampling, preservation, packaging and delivery of samples collected during necropsy.

10) Tissue Banks

During postmortem examination tissue samples should be collected, properly preserved and forwarded to reference Tissue Banks as specified in the corresponding Guidelines.

If no national or neighboring tissue bank is available, the Mediterranean Marine Mammals Tissue Bank (www.marinemammals.eu) located in Padua is available for support, storage, and/or distribution of cetacean samples free of charge.

Appendix I - DATA COLLECTION

1. Level A Data: Basic Minimum Data collected on the field

- a. Investigator: name and address (institution)
- b. Reporting source
- c. Species
 - preliminary identification (by qualified personnel)
 - supporting material (photographs; specimens, including tooth counts from odontocetes, or 2 pieces of mid-row baleen from mysticetes)
- d. Field number
- e. Number of animals, including total and sub-groups (if applicable)
- f. Location
 - preliminary description (local designation)
 - latitude and longitude GPS
- g. Date (mm\dd\yy), time of first discovery AND of data and specimen recovery
- h. Length (girth and weight when possible)
- i. Condition (recorded for both discovery and recovery times)

Codes as follows:

 - 1) alive
 - 2) freshly dead
 - 3) decomposed, but organs basically intact
 - 4) advanced decomposition (i.e., organs not recognizable, carcass intact)
 - 5) mummified or skeletal remains only
- j. Sex

2. Level B Data: Supplementary On-Site Information collected by direct observation or reported

- a. Weather and tide conditions
- b. Offshore human/predator activity
- c. Behavior
 - pre-stranding (e.g., milling, directional swimming)
 - stranding (e.g., determined effort to strand, passive, thrashing)
 - after return to sea (e.g., disoriented swimming, listing); note also ID number given after release and color
 - location of sighting
- d. Samples collected for life history studies: if these could not be collected during necropsy, they could be collected on the field
 - teeth, ear plugs or bone for age determination
 - reproductive tracts
 - stomach contents
- e. Samples collected for blood studies
- f. Disposition of carcass

3. Level C Data: Necropsy Examination and Sample Collection

- a. Gross pathological changes noted during necropsy
- b. Sampling of tissues for ancillary examination
 - microscopic examination (i.e. histopathology, fat emboli, electron microscopy)
 - microbiology
 - parasitology
 - toxicology
 - genetics
 - gas emboli
 - research of biotoxins

Appendix II - BASIC NECROPSY PROTOCOL

Before beginning postmortem examination, some biometrical data and life history information concerning the stranded animal should be collected in order to collect as many information as possible about the species and to gain further insight into the cause/s of death. In particular, data and information concerning any interaction with humans and with anthropic activities must be collected. Before handling the carcass, it is important to prepare all opportune protective equipment to prevent any transmission of infectious diseases to humans (zoonoses) and to prevent possible accidents with cutting tools.

1 Preliminary Information

Harmful zoonotic organisms can dwell within the carcasses of marine mammals, and personal and public safety precautions should be taken when handling dead marine mammals and tissues. Protective gear, such as disposable gloves, goggles, face masks, or splash shields should be worn to reduce the risk of contamination. All existing wounds should be well bandaged prior to beginning the necropsy and any injuries sustained during postmortem procedures should be thoroughly cleaned, bandaged and documented. Well stocked first aid kits must be on site at all times. Proper disposal receptacles for blades, knives, and needles as well as chemical spill treatment kits should be easily accessible. All chemicals should be handled in a well-ventilated area. Exposed skin should be thoroughly scrubbed before leaving the lab or site. Equipment should be cleaned and disinfected. Disposal of the carcass should be well thought out in order to avoid exposing the general public to potential hazards. Prior to commencement of the necropsy, all necessary equipment should be set up and accessible.

1.1 Life History

Strandings offer a unique opportunity to study marine mammals. It is thus important to know the history of the stranded animal in order to evaluate any evidence of human interaction and to determine the cause and mechanism of death. It should likewise be remembered that a thorough necropsy begins with the stranding itself. Information that should be collected before the necropsy begins includes:

- The time and date of the stranding;
- Environmental conditions prior to and at the time of the stranding
- Location of stranding, including Global Positioning System (GPS) coordinates and topographic features
- Behavior prior to and during the stranding;
- Single or mass stranding (if the stranding was mass, it should be specified if it was a single or multi-species);
- Time and date of death;
- Euthanized or natural death;
- If there is a current Unusual Mortality Event (UME) under investigation;
- Mode of storage prior to necropsy;
- Details of any ropes, nets, or fragments attached to the carcass during recovery, including gear no longer on the animal at the time it was collected or of the necropsy;
- Record of any trauma known to be inflicted (ante- or post-mortem).

If storage prior to necropsy is necessary, such as overnight, refrigerate the carcass as soon as possible. The carcass must be examined for evidence of human interaction and morphometric data collected before storage. It is best to avoid freezing prior to necropsy as it interferes with microscopic examinations.

Other information that may be useful is the time lapse between the first sighting and the first response as well as any treatment or therapies carried out if the animal was alive. Any photos that taken by the first person on the site should be requested as these may have been taken when the carcass was in better condition.

An age estimate is initially made on the basis of weight and total length (adult, juvenile, adult, and neonate) and then confirmed by more other data such as microscopic teeth examination, ossification of the shoulder, gonadic features and the fatty acids in the crystalline.

1.2 Human Interaction Evaluation

Post-mortem investigations should be carried out scrupulously and carefully, following an established necroscopic protocol. Using this protocol will yield two relevant information: the first is an objective evaluation of an animal or carcass to determine if any evident sign of human interaction, could be ante- or post-mortem, healed or recently inflicted. The second is a subjective analysis by the examiner who will use all available information to evaluate if human interaction could have contributed to the stranding event. Objective findings proving anthropic activities affecting the conservation and management of cetaceans' population, should be promptly communicated to authorities. Documenting this types of interaction and identifying the spatial and temporal patterns associated may shed light on measures that can help to prevent future events. Nonetheless, it is important to avoid misinterpreting strandings and data relative to human interaction and all findings should be recorded as contributory causes.

In cases in which it is opportune or necessary to take legal action, physical evidence must be conserved. This evidence can include nets or fragments that have been removed from the animal, photos, and samples of tissues.

1.3 Relevant issues for a post-mortem examination

Post-mortem investigations need be carried out scrupulously and carefully following an established necropsy protocol. The diagnoses that are formulated may be utilized to review management and political strategies. Then, it is important to be cautious in formulating any hypothesis which need be proven and irrefutable for every animal. If there are any factor that could compromise the possibility of evaluating the carcass in a thorough and appropriate manner, the final report should reflect this uncertainty and the diagnosis could consider that it "could not be determined." The factors that can affect possibility of emitting a certain diagnosis, also for human interaction include but are not limited to: decomposition, damage caused by scavengers, inexperience in conducting these examinations, logistics (large animals that are difficult to manage and to evaluate from all points of view). All individuals/organizations utilizing and implementing this protocol must collect data in the same manner to permit the data to be analyzed on a broader scale.

1.4 Images and video

In addition to describing the physical observed evidences, it is very important to document any observations with images (photographs and videos). Digital pictures and videotaping can be extremely important when human interaction is being evaluated. Iconographic documentation can support any evaluations and the final diagnosis. With regard to documenting physical data, it is important to:

- Photograph or film everything even if there are no evident marks;
- A label and a ruler should be used in all images; the label should include the identification number, the date of the stranding, the species and the organization, close-up views should indicate the lesion/body part;
- Images should be taken from a wide angle to allow a viewer to place close ups in context;
- Care should be taken with regard to shadows, glare and fingers;
- All marks should be drawn and/or described.

Pictures are the virtual support of descriptions of the pathological report. They will also aid the pathologist in identifying the sampling area and to put together microscopic observations with macroscopic evidence. During a necropsy, labels should be used and must contain the following data:

- An identification number;
- The species;
- Date of death and/or necropsy;
- Where the stranding took place;
- Tissue/lesion.

A measurement scale (cm) should always appear in all images to have an idea of dimensions. Both the scale and the identification number must be clearly visible in all images. When photographing/filming wounds caused by propellers

images should be shot with the objective placed perpendicularly with respect to the axis of the surface of the lesions. It is important to photograph the organ or the entire tissue whenever there are lesions; other pictures can then be taken at a closer distance to provide more detailed information. If the tissue or organ have been removed from the carcass it is good practice to rinse and dry it to avoid blood excess or abnormal reflexes.

2 State of Conservation of the Carcass

It is possible to classify the state of conservation of a carcass found along the coastline using the criteria outlined by the most important manuals on the management of cetacean strandings. The following table delineates the criteria, which is based on physical parameters easily identified even by persons without any veterinarian experience, used to classify the state of conservation of a carcass and the code number assigned to each category; it also lists other investigations, depending on its status, that should be carried out.

Code	State of conservation	Description	Possible investigations
1	Alive/just died	Animal found alive or died at most 2 hrs. earlier	Clinical examination, blood and urine exams, Microbiology/histology swabs, cytology, virology (from the tissue/PCR), serology, microbiology (cultures from tissues or PCR), parasitology, contaminants, biotoxins, genetics, biology (life history)
2	Carcass in good condition	Death took place within 24 hrs. of the finding; minimal scavenger damage; normal smell; minimal drying or wrinkling of skin or eyes; eyes clear; no bloating; tongue and penis not protruded	Histology, cytology, virology, (from the tissue/PCR), serology, microbiology (cultures from tissues or PCR), parasitology, contaminants, biotoxins, genetics, biology (life history)
3	Moderate decomposition	Integral carcass with evident bloating (tongue and penis protruding) skin not integral with some sloughing, some damage by scavengers possible, mild odor, mucous membranes dry, eyes shrunken or missing	Histology (limited) virology (PCR) parasitology, contaminants, biotoxins, genetics, biology (life history)
4	Advanced decomposition	The carcass may be integral but collapsed; ample areas of sloughing skin, serious scavenger damage, strong odor, muscles and blubber easily detached from the bone, liquefaction of internal organs	Histology, (limited) virology (PCR), parasitology (PCR), contaminants (limited) biology, paleopathology (on the skeleton) (life history), genetics
5	Mummified or skeletal remains	Dehydrated, dry skin draped over desiccated bones	Biology (life history), genetics, paleopathology (on the skeleton)

Once the classification code has been made authorization has been given by the pertinent health authorities, one of three avenues are possible.

2.1 Category 1

1.a A living animal. A live stranding response unit should be contacted immediately, and the animal should be transported to an appropriate facility if there is any hope that it can be recuperated and returned to the sea. The other possibility is euthanasia if the animal's state of health is seriously compromised.

1.b An animal found dead or one that has been euthanized. In this case the closest appropriate reference center should be contacted immediately. The center should in any case dispose of a veterinarian with some pathology training and experience with marine mammals and a biologist who can collect the necessary samples that will need to be conserved.

The necropsy should be carried out in an accredited facility or by personnel working for an accredited facility which disposes of appropriate equipment and logistics to carry out a thorough necropsy and to prepare for all the analyses listed above or are connected to appropriate organizations which do. In view of the rarity of the event and the perishability of the samples, all actions need be timely and coordinated. Efforts must be made to collect all the samples, possibly multiple ones, to guarantee that material is recuperated for scientific as well as diagnostic research. Again, in view of the rarity and importance the event and maintaining in all cases the role of coordinating the activities involved, the veterinarian/s in charge must carry out the necropsy taking into consideration, if this does not interfere with the protocol, the requests of various research groups to participate directly. When animals of large dimensions/weight are concerned, the extraordinary intervention of the Fire Department and Civil Protection Authorities or the assistance of the City administration may be necessary. Transportation may need to be organized to tow the animal to an appropriate site where the necropsy can be carried out and the skeleton can be recuperated. According to most ordinances, the city where the stranding took place is responsible for covering the cost of disposing the skeleton.

2.2 Categories 2-3

In these cases, the carcass can still furnish useful information about the cause of death for both health and conservation purposes. An expert veterinarian as described in the point above is necessary. The value of the carcass is, however, inferior and as a result all activities can be carried out with greater tranquility and fewer samples will need to be collected. The standard protocol should be followed with the principal objective being that of diagnosing the cause of death, of establishing if any human interaction has taken place, and to furnish tissue samples for further investigations.

2.3 Categories 4-5

In view of the poor state of conservation, the qualified veterinarian of the Local Health Authorities who in any case is responsible for carrying out the samples requested and forwarding them together with photographic documentation to the appropriate centers can delegate personnel to collect the samples.

3 Life history and physiological parameters estimation

3.1 Age estimation

It is useful to estimate the age of beached cetaceans as this can modify the prognosis and all of the operations that need to be carried out.

Age estimation of cetaceans can be based on microscopic evaluation of the exemplar's teeth, but the procedure cannot be carried out on live animals. Age estimates can also be based on the dimensions and on other properties of the layer of dentin (calf, juvenile, young adult, old). The specimen's total length is the physical parameter that help to define both physiologic parameters that is age class and estimated weight. The mean lengths ascertained in particular make it possible to differentiate between neonates (dimensions similar to the mean ones outlined in the literature for the

species) and adults. Neonates a few days old can be identified by the presence of lingual papillae and a patent umbilical cord. Other factors of importance are obviously length and in some species the season.

Animals which are suspected to be dependent maternally should not be liberated unless there is clear evidence of members of that same species in the vicinity.

Intermediate length conditions falling between adult and neonates make it possible to classify the subject as young. That estimate can be confirmed by the color of the livery in some species of odontocetes (Risso's Dolphin, Beaked whale, etc.) and the limited number of signs attributable to intra-specific interaction.

Older specimens are characterized by dimensions comparable to those of an adult cetacean with perhaps some signs of muscular atrophy along the trunk or absent or worn out teeth. The table below outlines typical correlations between approximate lengths and age classes in species that are frequently beached on Mediterranean coastlines.

Species	Total length at birth (cm)	Total length calf (cm)	Total length 1 year (cm)	Total length 2 years (cm)	Approx age weaning (years)	Total length Weaning (cm)	Total length Adult (m)
Striped Dolphin <i>Stenella coeruleoalba</i>	93-100	100	166	180		170	2.2-2.6
Bottlenose Dolphin <i>Tursiops Truncatus</i>	117	100-130	170-200	170-225	1.5-2	225	2.2-3 cost. 2.5-6 pel.
Risso's Dolphin <i>Grampus Griseous</i>	110-150	120-160					3-4
Common Dolphin <i>Delphinus Delphis</i>	80-90	80-100				110-120	2.3-2.5
Rough Toothed Dolphin <i>Steno Bredanensis</i>	100						2.4-2.7
Long-finned pilot whale <i>Globicephalea melas</i>	177	160-200			2-3	240	4.5-5 F 4.5-6 M
Beaked Whale <i>Ziphius cavirostris</i>	270	200-300					6.7-7
Sperm Whale <i>Physeter macrocephalus</i>	300	350-500		670	>2	670	11-13 F 15-18 M

3.2 Weight estimation

It is important to estimate the weight of stranded animals for therapeutic purposes (to calculate drug dosages and other support therapies) or for logistics. The total length is once again used to hypothesize the subject's weight. The table below outlines some estimates underlining the relationship between the two parameters in five species of small cetaceans well represented in the Mediterranean Sea.

Total Length (m)	Maximum estimated weight (kg)		
	Striped Dolphin Common Dolphin	Bottlenose Dolphin Risso's Dolphin	Long-finned pilot whale
1	20		
1.5	60	65	
1.75		150	75
2	125		150
2.5	150	260	
3		370	
3.5		480	
4		600	2000
6			3500

To have more precise estimate it is possible to resort to a linear regression according to the $\log_e M_{\text{media}} = a + b \log_e L_{\text{max}}$ where M is the mass expressed in kg and L is length in centimeters. For a and b coefficients there is a variation linked to the species (there are differences between odontocetes and mysticetes) and sex. The sperm whale has a linear regression similar to that of mysticetes perhaps confirming its phylogenetic relationship to whales. A different formula to calculate weight is outlined for this species given its anatomic peculiarities ($M = 0.218 \times L^{2.74}$). The table below indicates the coefficients for the various typologies.

Family	Sex	a	b
Mysticetes	M	-7.347	2.329
	F	-7.503	2.347
Odontocetes	M	-8.702	2.382
	F	-9.003	2.432

3.3 Sex determination

The sex of a small cetacean can be determined by examining the ventral midline of the animal. Both male and female cetaceans possess a genital slit between the umbilicus and anus. The distance between the centers of the anal and genital openings are generally less than 10 cm for female cetaceans. The distance is generally greater in the male. A single short mammary slit can be seen on either side of the genital slit in most female cetaceans and occasionally males also possess this feature. One of the simplest ways to determine the sex in a cetacean is by blunt-probing the genital slit. If the probe angles forward, it has entered the vagina and it is, thus, a female. If the probe angles backward it has entered the penile opening of a male. Confirmation of gender is of course exposing the penis (in animals in moderate or poor state of conservation) or by internal examination.

4 Nutritional status

The nutritional status of a cetacean can be evaluated by examining the dorsal axis from a slightly inclined perspective in order to verify the profile of the body at the sides of the dorsal fin revealing the dorsal fin muscles formed by the epiaxial muscles. In a healthy, well-fed animal, the profile will be rounded and convex. A thin animal will show some loss of muscle mass and may show bilateral retraction of the dorsal-lateral profile. An emaciated animal will show a greater loss of epiaxial muscle girth and may be concave along the dorsal-lateral body. Cachectic animals will show even greater concavity at the nape.

5 External examination: examining the integumentary system

The external examination should include the investigation and description of the eyes, mouth, blowhole, umbilicus, genital opening, anus and skin. Take note of the dimensions (height x width, height x depth, diameter) shape, color, consistence, localization and distribution of any abnormalities noted.

- When examining the eyes, operators should look for discoloration, injuries and/or discharge;
- All lesions, signs of parasites, the color of the mucus membranes as well as worn, broken or missing teeth should be documented;
- The color and amount of discharge from the blowhole as well as the presence of parasites and/or obstructions must be noted. Culture swabs should be taken (in the case of code 1 or 2 conservation);
- The umbilicus should be examined in neonates for signs of infection and degree of healing;
- Lesions, discharge, or growth around the genital opening and anus should be noted and samples should be taken for histology, microbiology, molecular and ancillary investigations;
- If the animal has mammary glands, operators can attempt to express milk and note its color, consistency and estimate quantities (cc or ml). Milk can be expressed by pressing on the body about 10 cm dorsal and cranial to the mammary slit and massaging downward toward the nipple;
- Any scars, abscesses, ulcerations, erosions, wounds, and parasites on the skin should be thoroughly examined and documented;
- Photograph the dorsal fin in order to permit comparison of individual signs with ID photo records.

Take samples of all tissues mentioned and all lesions following the modality outlined in section 2. In particular, the following samples should be taken:

- Skin: make a sample of the skin of the apex of the dorsal fin (skin without blubber) for genetic analysis, take double samples (frozen and placed under a DMSO solution) and for histology. Select the skin, cleaning it from other tissues.
- Teeth: at least 4-6 teeth should be removed from the center of the lower left mandible to investigate the age and to carry out toxicological investigations (heavy metals). Teeth can be extracted by inserting a tooth extractor or a flat head screwdriver between the tooth and the alveolar wall. In some older animals a knife can be used instead of a scalpel to avoid breaking the blade. It is important to avoid breaking or crushing the tooth as this damage can render it useless for analysis purposes.

6 Removal of the external layers: skin, blubber, muscle

The procedures to evaluate the integumentary system and the muscles of the axial skeleton are outlined below.

6.1 The skin and blubber

The blubber must be removed before the examiners proceed to evaluate the body cavity. In the case of a small cetacean, the animal should be positioned left side up. Using a scalpel or a knife, a longitudinal incision starting just left of the dorsal midline posterior to the blowhole should be made and continued down the entire length of the animal ending at the dorsal tail stock. The incision must not penetrate or damage the skeleton but should cut through only the skin and blubber layers. A dorso-ventral incision perpendicular to the previous body length incision just cranial to the anterior insertion of the left pectoral flipper should then be made. Parallel incisions should be made down the length of the animal every 20-25 cm thus creating a series of flaps along the lateral body. The blubber should be

separated from the muscle by cutting through the fascia or connective tissue at the top of each flap. By remaining between the blubber/muscle interfaces and reflecting the panel of skin down and away from the body in a dorsal to ventral direction, the blubber should easily separate from the muscle.

At this point it is possible to evaluate the thickness, color and texture of the blubber. The thickness of the blubber should be measured at three points (dorsal, midline and ventral) cranially to the cranial insertion of the dorsal fin. Parasites and abnormalities within the blubber layer should be noted. Samples of the blubber and of the subcutaneous tissue should be collected for histology and for analysis of contaminants. In the latter case, it is necessary to collect blubber without skin or muscle being careful to collect samples always from the same area, generally from the mid-thoracic region. Once the blubber has been examined the flaps can be separated from the carcass along the median sagittal line.

6.2 Skeletal muscle

Before removing it, the quality of the fascia and muscle on the body should be examined and all color, texture, thickness and abnormalities should be noted. Signs of hemorrhage, postmortem pooling of blood in vessels (hypostasis or post-mortem lividity) and bruising (hematoma) should all be noted. It is to be remembered that bruising generally result in a deep maroon to purple colour and gelatinous texture.

The large dorso-lateral muscle mass or epiaxial muscle spanning from the occipital ridge down to the tail stock can now be removed using the dorsal and lateral spinal processes as landmark boundaries for this muscle. It is opportune to trim away as much muscle as possible from the backbone and ribs. Samples of muscles for histology and contaminant analysis should be collected.

7 Internal examination

Once the external layers have been examined and removed the next step is the internal examination.

7.1. Removal of the scapula and pre-scapular lymph nodes

The pre-scapular lymph node must be located prior to the complete removal of the scapula, the oval to triangular shaped, beige to peach tissue located just underneath the cranial corner of the scapula proximal to the external ear. Normal lymph nodes throughout the body usually share the same characteristics: a well-defined oval shape, slightly firm texture, color is diffusely beige to peach with slight differentiation between the cortex and the medulla. If the tissue begins to vary from the homogenous peach to tan, it is indicative of a reaction. The size, shape, color and texture of the prescapular lymph nodes should be noted. Samples for histology, microbiology, molecular and accessory investigations should be collected.

The left scapula and appendage should now be removed by cutting through the connective tissue and muscles just underneath the bone. If the scapula is pulled ventro-laterally, reflecting it down, it should detach easily and a crackling sound as the connective tissues and muscles are being pulled and cut confirms that the incision is in the correct spot between the muscle groups.

Before cutting into the body cavity it is important to obtain uncontaminated bacterial and viral samples from the thoracic and abdominal cavities.

7.2 Opening the body cavity

In order to open the body cavity an incision should be made along the costal arch with the flat side of a knife or a scalpel keeping the tissue raised with tongs and leaving the muscle exposed the muscle. Once the peritoneal cavity has been penetrated, the incision should continue in a dorso-caudal direction first and in a caudo-ventral direction later following the muscular axis and moving towards the anus.

A sample of transudates, exudate or liquids, can now be collected with a sterile disposable syringe and can be described and weighed. The abdominal wall can then be folded over ventrally in order to complete the cranial and caudal incisions reaching the median sagittal line, arriving respectively at the xiphoid process and caudally at the anus. Once reaching the ano-genital region the pelvic rudiments can be recuperated dorsally and laterally to the anus in the abdominal wall and easily available in the male whose penis is anchored to the pelvic elements by two crura which are fused in the body of the penis to form a single corpus cavernous.

The organs in the abdominal cavity can now be examined and all its abnormalities (for example, ectopic spleens) can be verified. The intestine encumbers all of the peritoneal cavity and it is best to remove it before examining the other organs after collecting microbiological specimens and evaluating topographic variations of the organs. After having extracted the intestinal bundle using a scissors or the blade of knife, the mesentery should be cut at the point where it is inserted into the intestine in order to liberate the bowel loops. This operation will make it possible to observe the color of the mesentery and to reduce the pressure of the abdominal organs on the diaphragm making it possible to view it by lowering with a hand the stomach chambers and the liver.

The diaphragm is an elastic, expandable, thin, smooth textured dark brown muscular membrane inserted into the caudal ribs separating the thoracic cavity with the abdominal one. Note all variations in consistency and appearance. White streaks are frequent. Samples should be collected for histology.

7.3. Opening and examination of the thoracic cavity

The diaphragm should be punctured with a scalpel or scissors to evaluate the presence of negative intra-thoracic pressure (its absence is a sign of a pneumothorax, thoracic trauma, effusion or pneumonia) which can be verified by the presence of a sucking sound of air. The diaphragm can thus be separated from its insertion into the thoracic wall by resting the blade of the knife on the costal pleural surface and proceeding in a dorso-ventral direction from the spinal column to the xiphoid process following the costal profile.

To open the thoracic cavity, the cutter should start at the caudal end of the left rib cage and feel for the articulation between each individual rib and vertebrae. It is easy to separate the ribs from the costal cartilages without breaking any bones with the blade of the scalpel or a knife. While cutting, virology and microbiology samples and all liquids should be collected using a sterile syringe. Even chondro-sternal articulations can be cut to widen the window facilitating the operations pushing the sternum down. Beginning at the caudal ribs, the cutter can proceed to disarticulate the costo-vertebral articulations without breaking the bones and making the ribs rotate to favor the retrieval of the joints and the separation of the rib from the corresponding vertebra. The cutter should proceed from rib to rib from the diaphragm towards the head maintaining a constant angle of the scalpel on the articulation and cutting the intercostal muscles in order to move and work on the single bones. Both pathologic states and old age can affect the way the joints disarticulate. Since the more cranial ribs present twin costo-vertebral articulation, the cutter must cut the first articulation and then proceed with the scalpel going down along the body of the bone until the second one is found and cut turning the blade in the direction of the animal's longitudinal axis.

The articular surfaces should be smooth and not granular. The cutter can feel with his hand if there are any fractures or bone alterations of the thoracic cage. No matter how labored and long this procedure may seem, it is the only way a skeleton be preserved for use in pathological bone investigations or for a museum collection or other educational uses.

Once the thoracic cage has been completely opened, the topography of the thoracic organs and any possible lesions, color alterations, adherences, fluids or particular odors can be appreciated. At this point the examiners can go on to

evaluate the internal organs using a systematic approach. The organs can first be examined in situ and then extracted for further examination. The collection methodology is based on sampling requirements, the state of conservation of the exemplar, and personal preferences. Internal fluids such as those from the gastrointestinal tract must not be contaminated by other tissues.

7.4 The tongue, larynx and trachea

To extract the tongue connected to the pharynx, larynx and trachea, the cutter cuts the floor of the oral cavity with the blade of a knife following the medial side of the mandible extracting the tongue with his hand. Once the cutter has reached the pharynx and the hyoid bone which sustains the tongue, he must search for the chondral articulations severing them with a scalpel or knife keeping the bones integral for future donation to museums. It is possible to penetrate the pharynx with a hand and dislocate the larynx with a slight amount of traction. As already mentioned, the larynx is elongated in a dorso-cranial direction and is situated in the choanae permitting the separation between the airway and the food passages. The structures of the soft tissues of the short visceral space of the neck together with the esophagus should be separated using a firm traction and helping oneself with a cutting instrument. Once these are dislocated and extracted from their natural location, they appear as elongated, hard, short, whitish, flexible, tubular, slightly dorso-ventrally compressed organs formed by continuous rings.

The pharyngeal mucosa should be examined and possible color and appearance alterations of every lesion, foreign body or exudate should be noted. One penetrates with a scissors the epiglottis lumen continuing the cut on the dorsal side between the two arytenoids highlighting the pharyngeal tonsil and continuing to cut the tracheal wall until reaching the bronchial bifurcation. Luminal contents (foam, fluid, blood, puss), the appearance of the mucous and of the folds of the laryngeal tonsil (hyperemia, edema, hemorrhage, petechiae, erosions) must be examined. Samples should be collected for histology.

7.5 The thyroid and parathyroids

The thyroids, sitting ventrally and the cranial branches of trachea are rather difficult to locate and identify as their aspect and consistency are similar to that of smooth muscle (Fig. 3.34). The parathyroids are small, light colored tissue attached to the thyroid along the cranial margin of the thyroid and can aid in identifying the tissue correctly if found. The tissue must be examined externally and internally using serial cuts, and evaluating the form, dimensions, color and consistency. A sample in formalin for histology, microbiology, molecular and ancillary (toxicologic and molecular profiles of enzyme induction) investigations should be collected.

7.6 The thymus

The thymus is a large, lymphoid organ that is primarily found in neonates and some juveniles. It is situated at the base of the thoracic ilet, cranial to the anterior margin of the heart. The primary function of this organ is to generate T-cells. The thymus is absorbed with time after weaning; thus it is not usually visible in adult marine mammals. The tissue should be examined externally and internally. Its size, shape, color and texture should be noted. A sample in formalin for histology, microbiology, molecular and ancillary investigations should be collected.

7.7 The tracheobronchial (TB) lymph node

The TB lymph node is located along the distal cranial ventral surface of the lung proximal to the bifurcation of the trachea. It can easily be located by reflecting the cranial lung tissue away from the cavity and palpating the connective tissue between the lung and anterior to the trachea bifurcation. This tissue should be identified and removed prior to removing the lung or trachea as it can easily be lost if there are no anatomical landmarks. The lymph node should be examined externally and internally by cutting it into a sandwich and describing the differences between the cortex and the medulla as well as any other variations in size, shape, color and texture. A sample in formalin for histology, microbiology, molecular and ancillary investigations should be collected.

7.8 Lungs

The lungs occupy the greater part of the thoracic cavity and are generally bright pink with a consistent sponge-like texture. Depending on its dimensions, it can be examined attached or detached from the trachea. The plural surface must be examined, and the color pattern and texture noted and possible alterations in consistency can be found by palpation. Normal air-filled lung tissue bounces back immediately after being pressed with a linger (like a sponge) and float when placed in water or formalin. The internal organs should be examined using scissors to trace the trachea from the bifurcation along the bronchi and into the bronchioles of each lung. Note if there are any signs of fluid, froth, and/or parasites and describe the quantities and appearance.

Serial, parallel cuts perpendicular to the long axis of the body into the tissue should be made using a long knife and single sweeping movements to examine the parenchyma. The parenchyma should be examined, and its color pattern and texture noted. A sample in formalin for histology, microbiology, molecular and ancillary investigations should be collected from the cranial lobes of both lungs (four sampling sites).

7.9 Heart and vessels

It is best to examine the heart with the organ still in situ if the dimensions of the animal permit. If this is not possible the heart can be separated maintaining the roots of the vessels cutting the lung arteries and the aorta at least 6-10 cm from their starting points. The pericardium is to be observed and described first and any thickening, increase in liquid, exudate or the presence of gas bubbles within the pericardium vessels (important in freshly stranded animals) should be noted.

Once the pericardium has been removed the external surface of the heart can be observed. Abnormalities in dimension, appearance, color and consistency of every heart structure must be noted. Once the right ventricle has been identified scissors should be used to make a small opening in the cranial right atrium and cut down along the medial edge of the right ventricle down to the apex. The operator should continue cutting along the right ventricle side of the septum until this chamber joins the pulmonary artery and cut up through the vessel.

The left side of the heart can be examined using a knife or scissors and making a cut on the ventricular wall perpendicular to the septum from the apex to the base of the heart, cutting also the atrial wall. In this way the flaps of the mitral, the atrial valve, the atrial cavity, and the venous sinuses and the descending branch of the ventricle can be viewed. By cutting the atrial flap of the bicuspid inserting the point of the cutting instrument under it, one reaches the bulb of the aorta, exposing the origin of the coronary arteries above the semilunar and the aorta whose wall can be cut following the first bifurcations. Operators must look for signs of thrombi, endothelial plaques, whitish mineralization, aneurysms, or breaks and the consistency of the ductus arteriosus should be evaluated. The other alternative is to proceed as in the right part of the heart, by penetrating the atrium and following the coronary sulcus and the interventricular septum.

It is thus possible to evaluate the endocardium and to examine both chambers of the heart for the presence of nematodes or other abnormal material. The width of the ventricular chambers should be measured to verify their ratio (the normal ratio between left and right is 3-4:1 in adults and 2:1 in neonates or fetuses). Variations in width, thickness, appearance and consistency of the atrioventricular valves, which are normally homogeneously thin and slightly opaque, should be noted and described. Once the endocardium has been examined the muscle part can be evaluated by making bread-slice cuts, in particular in the subvalvular apparatus, in order to detect any variations in color, consistency, and to verify if there are any abscesses or granulomas. The right and left ventricles and the atria, septum, apex, atria and aorta should be sampled for histology.

7.10 The spleen

The shape and size of the spleen vary among cetacean species. The spleens of most dolphins are palm-sized, spherical and mottled dark purple to white with a smooth external texture. In other species it can be similar or smaller and elongated. Normally the spleen is located close to the main stomach chamber on the left side. The organ can be removed by detaching it from the omentum (thin, web-like, connective tissue). The shape, dimensions and appearance

both externally and internally should be described. Verify and note the presence of smaller, accessory spleens on the visceral side. The organ should be sampled for histology, microbiology, and molecular investigations.

7.11 The adrenal glands

The right and left adrenal glands are located just anterior to the cranial pole of each kidney and are attached to the dorsal abdominal wall. The adrenal glands are small, oblong, light maroon tissues. Locating and extracting the adrenals prior to removing the kidneys is highly recommended as they can be difficult to locate without an anatomical landmark. The adrenals can be removed by gasping and pulling the tissue away from the body wall and cutting the surrounding connective tissue. Before sectioning, each adrenal should be measured and weighed (length x width x depth). Each adrenal should be cut with parallel cuts perpendicular to the longest axis. When cut, a normal adrenal will present a distinct darkened center (medulla) with a lighter perimeter (cortex). All alterations in shape, dimensions, color and appearance of the external and internal tissue as well as in ratios regarding the cutting surfaces (cortex:medulla equal to 1:1) should be noted and described. The presence of cavities, cysts and hemorrhages should be noted and the organs should be sampled for histology and secondary investigations.

7.12 The kidneys and the ureters

The kidneys are maroon, ovoid tissues immediately evident when the abdominal cavity is opened and made up of numerous, clustered reniculi (miniature kidneys) attached to the caudal dorsal abdominal wall. The kidneys can be detached using traction against their connective tissue after having identified and isolated the adrenal glands endeavoring to maintain the links with the bladder and the entire urinary system examining them after having removed them from the carcass.

The external capsule should be examined for the presence of fluid, hemorrhage or gas bubbles and their color, thickness, and opacity should be described and noted. The capsule should be cut and using tongs the cutter should attempt to separate the capsule while evaluating the degree of adhesion and the presence of sub-capsular alterations. The dimension, size, external color and appearance of the kidneys should be examined and then these should be cut longitudinally like a sandwich to examine the internal structure. The presence of stones and the differentiation between the cortex and medulla as well as the medulla:cortex ratio within each reniculus should be evaluated (the normal ratio is equal to 1:2). Each reniculus should be well demarcated but clustered together within the kidney itself. Samples for contaminants, histology, and microbiology, molecular and ancillary investigations should be collected.

7.13 The liver

Normally dark red, the liver is large and occupies a large part of the abdominal cavity adhering for the most part to the cupola of the diaphragm and covering the stomach. Once it has been separated from the abdominal organs and from the diaphragm together or after the gastrointestinal package, it is possible to examine the diaphragmatic and visceral surfaces of the organ and to note alterations in color, consistency and the sizes of the hepatic lobes. The organ should be weighed and the ratio with the weight of the rest of the carcass calculated: normally it is approximately 2-2.5%. Parallel cuts should be made of the parenchyma to detect any alterations in color and consistency in particular corresponding to lesions found externally. At the same time, the bile ducts should be examined for the presence of parasites. Samples for contaminants, histology, and microbiology, molecular and ancillary investigations should be collected. Note that all cetaceans lack a gall bladder.

7.14 The pancreas

The pancreas is a peach colored, irregularly shaped, pyramidal, softer tissue that is attached to the mesentery and sits in the curve of the duodenum. It can be removed from the cavity by detaching it from the connective tissue and duodenum. Its size, shape, color and texture of the surface should be noted and described. The parenchyma should be cut with two or three parallel cuts so that changes in color or texture can be noted. The ducts should be examined for parasites. Samples for histology, microbiology, molecular and ancillary investigations should be collected.

7.15 The stomach chambers

The stomach of most odontocetes are composed of three chambers: the fore stomach, main stomach and the pyloric stomach. The omentum is the thin, net-like connective tissue that is attached to the visceral side of the stomach. To avoid contaminating the remaining tissues in the body cavity or losing contents, it is necessary to tie off both ends of the stomach prior to extracting it. A tight, secure knot should be made at the location of the attachment of the esophagus to the fore stomach. A second one should be made just below the base of the pyloric stomach where the small intestines begin. The stomach can be extracted from the carcass by cutting beyond both knots. The serosal (external) surface of the stomach should be examined for discoloration and lesions. A gastric pathology can generally be suspected when the peri-gastric lymph nodes attached to the stomach are noticeably enlarged. Samples for histology, microbiology, molecular and ancillary investigations should be collected and a note about this should be made on the inventory list. Otherwise all excess attached tissue should be removed from the exterior of the stomach and it should be weighed.

Using a scalpel an incision should be made through the wall along the greater curvature of each stomach large enough to allow examination of the contents and the entire mucosal surface. Each compartment should be described as well as the composition of the stomach contents (fluid; whole or partially digested fish; fish bones; parasites; foreign objects) and their quantities, color and appearance. Before going on to further investigations, a sample of contents must be collected for biotoxins. The remaining contents can be emptied and rinsed into a sieve to ensure solid material is not lost and is thoroughly examined. All foreign objects must be saved for human interaction evaluation.

Once empty, the mucosa of the stomach should be examined and the color and texture of the mucosa of each compartment must be noted and described. The mucosa of the fore stomach is composed of squamous tissue and is usually white. The wall of the main stomach is stratified and usually thicker than that of the fore stomach and the mucosa is usually dark red. The pyloric stomach tends to be thin walled, glandular, and the mucosa is pink or stained (yellow) with bile. The presence of ulcers, areas of discoloration and other abnormalities should be noted and described. The stomach should be weighed empty and samples of each compartment should be taken for histology.

7.16 The intestines

Examination of the intestines is preferably left until the end of the necropsy, even if it has already been extracted, in order not to contaminate the other organs. There is not a clear demarcation of the small and large intestines and as such the two can be examined together.

The transition from the colon to the rectum is indicated by the presence of a rectal lymph node near to the intestinal wall. It is to be remembered that cetaceans have anal tonsils near to the mucous-epithelial tissue junction near the anus.

The serosal surfaces of all the pieces should be examined for the presence of signs of hemorrhage, discoloration or parasites. The intestinal lumen can be inspected by making five to ten longitudinal cuts about 20-30 cm long. The colour, consistency, and appearance of the contents, the diameter of the lumen, the color and the appearance of the enteric mucosa and the wall thickness should be noted and described. Samples should be taken for histology. Feces should be collected for biotoxin analysis.

7.17 Mesenteric lymph nodes

Once called the pseudo-pancreas, the mesenteric lymph nodes are gray to cream colored finger-like connective tissue bands that are centrally attached to the mesentery. The lymph nodes should be removed from the mesentery and their form, dimensions, color and consistency should be noted and described. As these lymph nodes tend to have a more defined cortex and medulla, all of their parts and structures should be described. Samples for histology, microbiology, molecular and ancillary investigations should be collected.

7.18 The bladder

The bladder is a small, light pink organ that is found along the central body wall. It may appear as a thick walled, muscular organ, but if distended with urine, the walls may be thinned and semi-translucent. Before removing the bladder from the body, the contents should be extracted using a sterile syringe and a medium gauge needle. If none are available, the attempt should be made to clamp the bladder before removing it and to recuperate its contents without dissipating or contaminating them. The color, consistency and amount of urine must be described. Any stones detected must be described. Once the bladder is removed it should be examined internally by cutting along its length to expose the mucosal surface whose color and texture must be described. A sample of the cranial tip of the bladder should be taken for histology.

7.19 The reproductive tract

Female: Ovaries and uterus

The uterus and ovaries can most easily be identified by following the reproductive tract from the vagina to the uterus where it bifurcates to a right and left horn, each ending at the attachment of the ovaries. The uterus is a tan to pink tissue that varies in size and thickness depending on the maturity of the animal and its reproductive history. The size, shape, color and texture of the external and internal surfaces of the organ should be noted and described. The vagina and the lumen of the vagina should be examined and alterations in the mucous and/or the presence of lesions, foreign bodies or exudate should be noted.

If a fetus is present but is too small for a sufficient individual necropsy, the abdomen should be incised and microbiology and molecular samples should be taken and the fetus should be preserved whole in formalin. If the lung tissue floats in formalin or water this signifies that bronchiole expansion of the fetal lungs has taken place.

Off-white spindle-shaped ovaries are attached to the end of each uterine horn and their dimension, shape, color and appearance should be described. A mature ovary possesses random darkened notches or scars (corpora albicans) which signify previous ovulations. The ovary of a pregnant female possesses a corpus luteum or a large yellow mass attached to the ovary. Before examining the organs internally the ovaries should be measured and weighed (length x depth x height), the scars should be counted, and the presence or absence of a corpus luteus should be recorded. The tissue should be examined internally and its color and texture should be recorded. Both the uterus and ovaries should be sampled for life history, histology, microbiology molecular and ancillary investigations.

Male: The testis and penis

The elongated off-white paired testes are located within the caudal abdominal cavity along the ventral wall, posterior to the kidneys and near to the midline. The testes (with the epididymis attached) should be removed from the body and measurements (length x depth x height) should be taken and the organs should be weighed. The size, shape, color and texture should be examined internally and externally. The epididymis should be sectioned to evaluate the presence/absence of sperm. Samples of each testis should be obtained for life history, histology, microbiology, molecular and ancillary investigations. The penis should be examined externally and evaluated for the presence/absence of discharge, papillomas or other lesions.

7.20 The central nervous system

As the brain is the most fragile and easily disrupted tissue in the entire body, extreme care should be taken when it is being removed from the skull. Before removing it, a sample of the cerebrospinal fluid should be taken for cytology and culture. To do so the overlying soft tissue at the back of the head and neck must be removed to gain access to the atlanto-occipital joint. Then a sterile needle and syringe should be used to collect the clear, viscous fluid.

The head should first be detached from the body to safely remove the brain. This can be done by cutting behind the blowhole down to the joint between the skull and cervical vertebrae, and then completing the cut ventrally. Then the articular capsule of the atlanto-occipital joint can be cut severing transversally the spinal cord, the meninges, and the ligaments in the vertebral canal. It is then possible to remove all excess skin, blubber, muscle and connective tissue from around the dorsal and caudal skull. Using a stryker saw or a hacksaw, transversal cuts can be made both to the

left and to the right on the occipital condyles, then going up laterally to the cranium and crossing dorsally the cranial vault just posterior to the marked transverse ridge at the apex of the skull. It is important to be extremely careful and to fully penetrate the bone while avoiding contact with the brain. A chisel should be carefully placed in the incision between the cut bone and then turning the instrument in more than one place until the last bone fragments become detached and the skull comes away in one piece. Once again, the operation must be carried out cautiously and being careful not to penetrate the encephalic tissue and not to use edges or borders as levers so that the bony shelf (the tentorium cerebelli) does not damage the underlying tissue. Using their fingers, the cutters should try to separate the meninges from the cranium and to work under the brain to sever the cranial nerves. At times inversion of the head allows the brain to gently descend into the palm of the cutter's hand.

The brain should not be handled excessively. The external surface and any asymmetries of any of the structures (right and left cerebral hemispheres, cerebellum and brain stem) should be observed. The color, texture and presence of parasites or lesions should be noted and described. Samples should be taken for microbiology, molecular and ancillary investigations. The brain in toto should be placed in formalin for histology. It should be kept immersed in the fixative solution for an hour at -20° to achieve consolidation of the encephalic mass and cutting it in transversal parallel sections 1 cm thick permits a rapid and correct fixation of the nervous tissue.

Once the brain has been removed, the pituitary which is situated in a recessed bone at the base of the brain next to the optic chiasm, is exposed. It can be recuperated by lifting it out with tongs and/ utilizing a scalpel.

8 Samples management

The necropsy of a stranded cetacean is carried out to gain further insight into the species and into the cause of death. As a necropsy produces a series of gross observations, these can be utilized to establish not only the cause of death but, at times, also the cause of the stranding. Subsequent investigations such as histopathology are part of this process and can help to formulate the final diagnosis. Laboratories can also screen specific tissues for a wide array of potential pathogenic agents. It is important in any case that while meeting the objectives of ordinary screening regimens, samples are taken to ensure that a full differential diagnosis can be attained. The entire process requires a precise sampling protocol. A necropsy sample inventory list is necessary to ensure that all the samples needed for the planned analyses have been taken and that the quantity of tissue/material needed and the opportune modality of taking and storing samples have been provided for/organized. It is thus of utmost importance that all involved understand the priority that should be giving to collecting samples. As a general rule, when in doubt, it is better to take unnecessary samples which can be disposed of at a later time. The table at the end resume sampling and preservation for each investigation it is possible to carry out on stranded cetaceans.

8.1 Sampling for Histopathology

Histopathology is the microscopic examination of tissue samples which leads to the diagnosis of disease. Histopathology is most effective when collected from the freshest (code 2) carcasses. Decomposition significantly alters the structures of tissue cells and diminishes the value of histopathological investigations. Only a limited reading can thus be expected from carcasses of later codes.

Two sets of samples should be collected for histological analysis: one for analysis and the other to archive. As a rule, the tissues should be fixed using a ratio of 10:1 of 10% neutral-buffered formalin to tissue. A lower ratio will prevent adequate fixation causing the tissues to decompose. It is helpful to rinse excessively bloody samples with a light stream of water to allow for more efficient fixation.

When sampling tissue for histological analysis, only a small 1 to 2 cubic cm sized section of the tissue is required in view of the fact that formalin penetrates at a velocity of 0.8-1 cm/24 hours, a parameter that varies depending on the tissue and the quantity of blood that are present. If the tissue is larger, it is helpful to make one or two parallel incisions to allow the formalin to adequately penetrate and to fix the tissue.

It is important to avoid altering the surface layers or mucosa of tissues intended for histology as these could cause artifacts that will be evident under the microscope. The best way to ensure that the highest tissue quality is submitted for histology is to trim tissues on a cutting board with a sharp knife or scalpel and to avoid using scissors.

Plastic, wide-mouth, screw-top jars are preferred for storing histology samples. Ideally the fixative should be changed after the first hour of exposure.

The list of histological samples includes the greater part of all of the tissues. Unless an abnormality is observed in lymph nodes in other locations throughout the body, only the tracheo-bronchial, prescapular, and mesenteric lymph nodes are suggested for histology. If tissues appear abnormal, it is important to obtain a single section that includes both normal and abnormal tissue. All samples should be clearly labeled. Representative samples from all sections (caudal, cranial, medial and distal) of larger, major tissues (i.e. Lung and liver) should be collected. Any additional tissues collected for histology should be listed at the bottom of the inventory list.

8.2 Sampling for cytology

Simple impression smears can furnish real time feedback to help formulate possible hypotheses. Impression smears are collected by pressing a clean microscope slide on a cut surface of interest, leaving it to dry, and staining it with one of the common staining protocols. It can then be examined under a microscope, if available.

8.3 Sampling for virology

For most virology screening protocols, the basic reference samples are: serum, lung, liver, spleen, lymph nodes and brain. Additional samples can include skin, muco-cutaneous junctions or the oral cavity, rectum, and urogenital tract. If a fetus is present, the same samples outlined above should be collected, as well as the adrenal glands and placenta. Tissues to collect and suggested storage media with regard to Morbillivirus screening tests are itemized on the sample inventory list provided in the appendix. For other specific tests, the reference laboratory should be contacted for the tissues they require and the proper storage protocols.

The most accurate virology results are derived from code 2 carcasses. Code 3 carcasses can, however, be successfully screened for virology by Polymerase Chain Reaction (PCR) analysis. Fresh tissue should be stored in sealed, sterile whirl-pack bags and transported on ice to the receiving laboratory as soon as possible. If fresh tissues will not be sent for immediate analysis, these should be stored at -80°. Virus isolation from frozen samples can be detected through PCR. Samples should be transported to the receiving laboratory on dry ice.

In some cases, fixed tissue can also be utilized for specific antigen detection by means of immunohistochemistry (IHC). Viruses can also be detected morphologically using electron microscopy.

8.4 Sampling for microbiology

- Culture Swabs: it is of utmost importance that the necropsy unit be in agreement with the microbiology laboratory about the nature of the swabs and storage and transportation media to use to ensure the best results and the greatest diagnostic capacity for aerobic and anaerobic bacteria. Modalities guaranteeing sterility while samples are being taken are essential to prevent contamination of tissues for microbiology culture swabs. Samples of internal organs should be carried out in situ. A new sterile stainless steel scalpel blade can be sterilized using a butane torch and the intended incision site can be flamed for one to two seconds. Then a single straight incision can be made to the tissue or cavity. The culture swab can then be inserted into the incision and rotated to facilitate imbibition. Fluids can be aspirated into a sterile syringe and microbiology, cytology and PCR cultures can be undertaken. Swabs should then be placed in appropriate transportation containers to decrease the chances of contamination and if possible sent for analysis to the laboratory on the same day. If the analysis must wait until the next day, the swabs should be stored at room temperature.

- Results from culture swabs should be interpreted with caution as bacteria tend to multiply and travel through multiple organs soon after death. For this reason, culture swabs are preferably taken from fresh carcasses (codes 1-3) unless an unusual lesions is observed in a carcass of a later code.
- Tissue samples and PCR: PCR analysis can be utilized to identify the pathogenic agents found in the tissue samples of carcasses of varying conditions. Target tissues for these analyses can vary but generally include: liver, kidney, lung, spleen, pancreas, gonads, brain, lymph nodes, conjunctiva, and muco-cutaneous junctions of the oral and urogenital tracts. It is of utmost importance to consult with laboratory technicians in advance to come to an agreement about the tissues to sample. Only a small amount of tissue which can be collected in centrifuge tubes is needed. Sterile dry swabs can also be used to collect DNA for analysis. The swabs should then be placed in collections tubes. Swabs and tissues should be stored at -80° C.

8.5 Sampling for parasitology

The collection of parasites is important not only for species identification and documentation of specific parasites in marine animals, but they may also harbor pathogens and could be useful in viral isolation, such as morbillivirus. After fully rinsing the dead parasites with saline, these can be stored in ethanol at room temperature. If an in-house parasitologist is available and able to examine the parasites while they are still alive within a short time, samples should be stored in saline. The parasitologist can, in any case, furnish further information.

8.6 Sampling for toxicology

Toxins and other chemicals that exist in the marine environment, be they naturally occurring or human produced, can be ingested by marine life and incorporated into their tissues. Contaminants can bio-accumulate in the tissues of marine life during the lifetime of the animal and, as they are the top of the food chain, marine mammals have the potential to retain high levels of toxins in their tissues. High contaminant levels can have numerous, negative impacts on the health of marine mammals, including compromising their immune system and affecting their behavior and/or development through hormonal disruption. Sampling tissues for the presence of contaminants can, therefore, lead to a better understanding of the factors involved in the deterioration of the general health conditions of these animals. The tissues collected for the analysis of contaminant levels are blubber, muscle, liver and kidneys. The laboratory may require that the skin and muscle attached to the blubber be removed. Each tissue section should weigh at least 100 grams and be wrapped completely in acetone washed aluminum foil and placed in ziplock bag and stored in a freezer at -20°C.

8.7 Sampling for biotoxins

Biotoxins are naturally occurring toxins produced by dinoflagellates and other marine algae that accumulate in animals and which are transmitted by the food chain. Fish and invertebrates contain biotoxins which, when ingested in large quantities, prove to be harmful in larger predators such as marine mammals. The most frequent algal biotoxins include domoic acid, brevetoxin, and saxitoxin, which are all neurotoxins. Biotoxin samples should be collected when an algal bloom is suspected in the surrounding area and/or the live animal exhibited neurological symptoms.

Biotoxin samples include tissues and fluids such as: liver, kidney, serum, aqueous humor, stomach contents, intestinal contents, feces, urine. Tissue samples can be stored in plastic, zip-lock bags. Stomach and intestinal contents, feces and urine can be collected in appropriate sized vials, usually 10-20 ml. Five to ten ml of urine and one to two ml of aqueous humor – the thick, watery substance that is located in front of the lens of the eye – should be collected using sterile syringes and needles and stored in appropriate sized vials. These samples should be stored at -80°C unless being shipped immediately on dry ice.

8.8 Life history and genetics

On the basis of data that is collected and information that is registered it is possible to evaluate the biologic parameters of the exemplar being investigated. Age, genetics, trophic position, habitat, and the reproductive status of a stranded

animal can be assessed by collecting teeth, skin, stomach contents, gonads and skeleton. This information not only helps us to understand the dynamics of the specific exemplar and its species but it can also aid us to interpret other findings such as those concerning histopathology and contaminants. More can also be learned with regard to the impact and vectors of potential threats to the marine environment at large.

- Life history data

- Four to six teeth from the mid-lower left mandible of an odontocete should be collected and placed in a ziplock bag; half of these should be frozen and the other half should place in formalin.
- Any discharge from the mammary glands should be collected in a tube and frozen at -20°C.
- Sections of both gonads of both sexes and the uterus of the female should be fixed separately from all other tissues intended for histology clearly labeling the right and left sections.
- If a fetus is present and not large enough for a separate necropsy, the entire body should be placed in formalin.
- Collect the stomach contents and freeze it at -20°C for analysis. Diet scientists generally request an unopened stomach but this may compromise microbiology analyses.
- The entire skeleton should be conserved for osteological analysis, cleaning and museum archiving. It should be stored at -20° C until it can be cleaned.

- Genetics

Two, full thickness skin samples should be taken from each animal for genetic analysis. One sample should be conserved entire in a ziplock bag at -20° while the other can be diced into 1 mm cubic pieces and placed in 20% dimethylsulfoxide (DMSO) solution.

8.9 Labelling and grouping

It is wisest to use a double labeling system so that there is a legible, complete label available both within the container and another outside of it. The one on the inside should be written on waterproof material in indelible ink. Each label should indicate the animal's field number, genus, and species ID, its sex, the date of death and/or stranding, its conservation code, how it died (use E for euthanasia and D for natural death), the place it was stranded and the tissue type. For histology samples it is possible to attach the label directly to the container or to write the information with an indelible pen on a dry surface.

Once the samples have been collected and placed in appropriately labeled containers, these should be grouped together and placed in larger containers according to the type of storage they require; frozen samples taken for life history or genetics can, for instance, be placed in larger containers and labeled as life history and genetics. All samples for contaminants can be grouped together in larger containers, etc.

8.10 Tracking Samples

It is extremely important that all samples archived or sent for analysis are well documented in view of the fact that these animals are to be considered property of the state and are protected by the Convention of Washington.

DIAGNOSTIC INVESTIGATION	ORGAN OR TISSUE	COLLECTION MODE	CONSERVATION MODE
Virology	Lung	2 cm3 of aseptic sample	Freeze, -20°C
	Liver		
	Spleen		
	Brain		
	Intestine		
	Kidney		

	Muscle Placenta and fetal tissue		
Microbiology	Lung Liver Heart Blowhole Spleen Kidney Brain Other pathological tissue	Aseptic sample or swab	Refrigerated, +4°C
Brucella spp.	Spleen Lymph node Blubber lesions Prostate Testicles Epididymus Uterus Placenta	Aseptic sample	Refrigerated, +4°C
Hystopathology	All organs and lesions	1 cm ³ of tissue	10% Formalin
Parasitology	Parasites		70% Ethanol
	Intestine Liver Lung Organs with parasites	5 cm ³ of aseptic sample	Freeze, -20°C
Age estimate	Gonads	At least one	10% Formalin
Diet and life history	stomach content	Plastic box	Freeze, -20°C
Serology	Blood	From right ventricle with a sterile syringe	Spin-dry the blood at 3000 rpm and freeze the serum at -20°C
Contaminants	Muscle Fat tissue Liver Spleen	15x20 cm of aseptic sample	Freeze, -20°C
Algal biotoxins	Stomach content Urine Faeces	Plastic box	Freeze, -20°C
Life history and morphometric studies	Skeleton, skull		Freeze, -20°C

Genetic	Muscle	1 cm ³ of aseptic sample	Freeze, -20°C
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Appendix III - NECROPSY FORM

Event Info
Stranding Date: _____
Recovery Date: _____
Euthanized / Died
Date : _____
Necro Date & Time: _____
Storage Prior to Necropsy: _____

Animal Info
Sex: M F CBD
Length: _____ cm / in / ft
Weight: _____ lbs / Kg
Pup / Calf / Young / Sub-adult / Adult
Condition at Stranding: 1 2 3 4 5
Condition at Necropsy: 1 2 3 4 5

CARCASS DISPOSITION:

HISTORY:

COMMENTS:

Necropsy Observations: Please note general observations of color, condition, textures, etc. even when utilizing NA= not applicable, NE= not examined, NSF= no significant findings, NVL= no visible lesions. List weights (g) next to each organ examined.

EXTERNAL EXAM

Body Condition: Robust 5 - Normal 4 - Moderate 3 - Thin 2 - Emaciated 1

Skin / Hair Coat (color, condition):

Wounds / Scars:

Lesions:

Parasites:

Nostrils / Blowhole:

Mouth (tongue, teeth condition, ulcers) / Mucous membranes (color)

Eyes (discharge, color, ruptures):

Ears:

Genital slit / anus:

Umbilicus: Pink Open Healed:

INTERNAL EXAM**MUSCOLO/SKELETAL SYSTEM**

Blubber:

Muscle:

Diaphragm:

Skeletal:

CIRCULATORY SYSTEM

Pericardium:

Heart:

Vessels:

PULMONARY SYSTEM

Trachea:

Bronchi:

Lungs (colour, condition, edema, congestion, consolidation, granulomas, emphysema, lesions):

(R)

(L)

GASTROINTESTINAL SYSTEM*Esophagus:**Stomach (contents, ulcers, mucosa, parasites):*

Weight Full: _____ Weight Empty: _____

Small Intestine:

Large Intestine:

Colon:

Omentum, Mesentery, Peritoneum:

Liver (colour, congestion, lesions, size):

Gall Bladder / Bile Duct / Pancreaticoduodenal Duct (colour, amount):

Pancreas:

LYMPHATIC SYSTEM

Thymus:

Spleen:

Scapular Lymph Node:

Tracheobronchial Lymph Node:

Mesenteric Lymph Node:

Other Lymph (list location):

URINARY/REPRODUCTIVE SYSTEMS**ENDOCRINE SYSTEM****CNS**

Thyroid:

Adrenals:

(R)

L x W x H cm:

(L)

L x W x H cm:

Other:

Kidneys (reniculi differentiation, colour, condition):

(R)

(L)

Bladder:

Testes / Ovaries: Immature / Mature

(R)

L x W x H cm:

(L)

L x W x H cm:

Mammary glands:

Uterus / Cervix / Vagina:

Pregnant? : Y N NA (male)

Spinal Cord:

Brain:

Pterygoid Sinuses:

OTHER FINDINGS

Thoracic Cavity:

Abdominal Cavity:

Head:

Internal Parasites (location, type, number):

Differential Diagnosis from Gross Exam:

Appendix IV - NECROPSY FORM FOR HUMAN INTERACTION

1. GENERAL INFORMATION					
N. ID			Species		
Sex	Length		Examiner		
Cause of death				Date of death	
Location of necropsy examination				Date of exam	
Video	YES	NO	Photo	YES	NO
Conservation Code			Fresh o frozen		
1	2	3	4	5	
Note					

ND: Not Determined – NE: Not Evaluable

2. EXTERNAL EXAM			
a. Body condition			
Emaciated	Not emaciated	ND	NE
b. Signs of fishing net or lines. (indicate if YES, NO, ND, NV for each area and in the positive case describe the lesion)			
Head	Dorsal fin		
Pectoral fin left	Pectoral fin right		
Caudal peduncle	Other		
c. Presence of fishing nets on the animal			
	YES	NO	
Fishing nets have been preserved?			
	YES	NO	
d. Penetrating wounds			
YES	NO	ND	NE
Describe gunshot wounds, puncture wounds, from harpoon, etc.			
e. Mutilations			
YES	NO	ND	NE

2. EXTERNAL EXAM			
Describe cuts, tears, cracks in the body wall, missing appendages, etc.			
f. Hemorrhages and hematomas			
YES	NO	ND	NE
Describe extension and area.			
g. Post-mortem damage from scavengers and opportunists			
YES	NO	ND	NE
Describe extension and area.			

3. INTERNAL EXAM				
a. Sub-epidermal haemorrhages				
YES	NO	ND	NE	
Describe extension and area.				
b. Fractures				
YES	NO	ND	NE	
Describe.				
c. Content of airway and lung				
AIR	FLUID	FOAM	ND	NE
Describe lungs' appearance (heavy, consolidated areas, colour variations, etc.) and airway's content.				
d. Stomach content				
Describe stomach content, amount, presence of parasites and foreign bodies.				
Stored in frozen		YES	NO	
e. Histopathology		YES	NO	
f. Presence of macroscopically visible lesions				
YES	NO	ND	NE	
Describe.				
g. DIAGNOSTIC HYPOTHESIS:				

Appendix V - STANDARD SAMPLES

	Standard Samples						
	Life History	Genetics	Contam.	Histo.	Morbilli	Brucella	Biotox
Tissue	(Frozen or fixed)	(Frozen &/or DMSO)	(Foil wrapped and frozen)	(10% Formalin)	(Frozen)	(Frozen)	(Frozen)
Adrenal (R)	///	///	///		///	///	///
Adrenal (L)	///	///	///		///	///	///
Aqueous humor	///	///	///		///	///	
Bladder	///	///	///		///	///	///
Blood/Serum	///	///	///		///	///	
Blubber	///	///			///	///	///
Brain	///	///	///				///
Colon	///	///	///		///	///	///
Diaphragm	///	///	///		///	///	///
Esophagus	///	///	///		///	///	///
Feces	///	///	///		///	///	
Heart	///	///	///		///	///	///
Intestine	///	///	///		///	///	///
Kidney (R)	///	///			///		
Kidney (L)	///	///			///		
Liver	///	///			///		
Lung (R)	///	///	///				///
Lung (L)	///	///	///				///
Mesenteric Lymph.	///	///	///				///
Milk/Mammary Discharge		///	///		///	///	
Muscle	///				///	///	///
Oral Mucosa	///	///	///		///	///	///
Ovary		///	///		///		///

Pancreas	///	///	///		///		///
Prescapular Lymph.	///	///	///				///
Skin	///		///		///	///	///
Spleen	///	///	///				///
Stomach	///	///	///		///	///	///
Stomach Contents		///	///		///	///	
Teeth		///	///		///	///	///
Testis		///	///		///		///
Thyroid	///	///	///		///	///	///
Trachea	///	///	///		///	///	///
Tracheobronchial Lymph.	///	///	///				///
Urine	///	///	///		///	///	
Uterus		///	///		///		///

Appendix VI - LIST OF EQUIPMENT FOR NECROPSY ON THE FIELD

Here below is a complete list of instruments and equipment, besides individual protection tools (overall, gloves, glasses and facemasks, possibly disposable). Those items considered indispensable are written in bold form.

- First aid kit with multiple small and large bandages and disinfectant;
- Kit for severe injuries including large compression bandages, tourniquets, and shock treatments; eyewash canisters containing sterile solution; thermal blankets;
- blade guards;
- necropsy jumpsuit (canvas and disposable kinds);
- a portable GPS;
- Digital camera (w/ disc space for at least 100 images);
- A video camera and video tape for 8 hours;
- Photo ID board to insert in all photo images;
- 2- metric tapes, 30 m long;
- A portable blackboard to write out communications/data;
- 30 m of 2 cm braided line;
- 30 m of 1 cm line;
- 1 very heavy (10cm wide) nylon towing strap;
- 4-6 high quality knives w/ 30 cm blades;
- 4-6 high quality knives w/ 20 cm blades;
- 4-6 high quality knives w/ 15 cm blades;
- 2 diamond "flat" steels;
- 2 normal "draw through" knife sharpeners;
- 2 ball shears or large boning shears;
- 4 30 cm metal meat hooks;
- 4 15 cm metal meat hooks;
- 4 n.4 scalpel handles and a box of blades;
- 4 large rat-tooth forceps;
- 4 small forceps;
- 2-4 15 cm plastic rulers;
- 2 30 cm plastic rulers;
- 2 plastic "turkey basters" for collecting urine and fecal samples;
- a meter long bow saw used for trimming tree branches;
- aerobic and anaerobic swabs;
- 100 tyvek labeling tags;
- Fine and large point indelible ink markers;
- Permanent ink pens;
- Pencils for recording data on datasheets and cassettes;
- Some 5 liter plastic containers to wash the jumpsuits;
- 2 rolls of scotch tape;
- Heavy garbage bags;
- 2 large plastic cutting boards to cut and photograph tissues;
- One box each of large, medium and small latex gloves;
- 4 pairs of fish cutting gloves in each of the above sizes;
- Boots, overalls and rain gear
- 2 torches;
- 5 medium to large coolers: 2 for dry equipment storage; 2 for tissue containment on site and during transport; one for food cooler for drinks and food
- A large plastic transport box for rain gear and boots;
- A large plastic transport box for plastic trash bags and ziplock bags;
- Soap and scrub brushes for cleaning;
- Safety glasses and facemasks;
- 20 litre container of 10% buffered formalin with pour spigot;
- 10 litre container of 95% alcohol;

- 2 bread box size waterproof plastic boxes for gross tissue collection;
- 2 packages of extra-large ziploc 5 liter bags;
- 4 packages of large ziplock 1 liter bags;
- 6 packages of medium ziplock .5 liter bags;
- 10 packages of small ziplock .1 liter bags;
- 2 packages of ziplock bags for macroscopic samples;
- Histo cassettes;
- 10 20 cc plastic syringes;
- 5 50 cc plastic syringes;
- Roll of aluminum foil;

ANNEX 3 COMMON DATA COLLECTION FOR ALIVE STRANDINGS

Sandro Mazzariol
DVM, PhD

One of the expectations arise during the joint ACCOBAMS/PELAGOS workshop on common transboundary procedures on alive animals organized in Monaco in 2014 (October 29th-30th) is a clear need of capacity building to create a common sense and common strategy through specific trainings and exchange of experiences and information.

Since the experience with alive animals are limited to few cases per year and, in most of the countries of the ACCOBAMS area, there are no established protocols or skilled personnel, sharing of procedures and guidelines built on the experience of rescue teams or experts has been considered fundamental in order to increase knowledge on this delicate topic. For this reason, the first step towards a common approach should be the circulation of information on strandings involving alive cetaceans. Data and information exchange could be done on the basis of a common way to collect them. These feelings has been discussed also with ASCOBAMS and IWC and further cooperation among these International Agreements have been recommended

The main aim of this document is a first standardization of data collection in case of cetaceans stranded alive within the ACCOBAMS area. These information should be compared and assess also with ASCOBAMS and IWC with the main goal of ameliorate and share internal procedures in case of live animals strandings and to create a common database where it should be possible to compare practices, approaches and results. When other international agreements will define their own procedure, the present standardize approach could be revise.

1. Preliminary information

In order to establish which are main data and samples to collect during a stranding involving alive cetaceans, we should think to the main steps in the management of this kind of events. Environmental and logistic factors (during stranding, rehabilitation and release efforts), features of the species involved, results of a physical examination on the stranded cetacean stranded and its clinical parameters should at least collected. More in detail, the previously mentioned items should be resume in a proper triage matrix in order to facilitate the decision process and define the final destiny of the stranded animal (release, rehabilitation or euthanasia) with the possible follow-up.

The triage procedure should be implemented for any country under veterinarian expert supervision and it should be applied only by trained personnel.

1. **Logistic:** several logistic factors including the availability of means of transportation, weather conditions, features of the stranding site and chances of rehabilitation and release must be taken into consideration. Human safety in the rescue operations must in any case be guaranteed. International guidelines and conventions recommend that all efforts should be directed to release the animal rather than attempting prolonged rehabilitation which could be a useless dispersion of energy and resources making later liberation impossible as the animal has become conditioned or no longer accustomed to life in nature. Lacking of trained veterinarians, volunteers and/or facilities impair any rehabilitation effort and possible choices could be limited to an immediate release or euthanasia. Also the absence of a post-release monitoring is a limiting factor.
2. **Stranded animal information:** it is important to know how long the specimen has been stranded, the species involved, and the subject's physiological features, as all these details may influence the outcome of rescue attempts. Knowing these parameters may help responders to select the animals with higher chances of a successfully release. Independent juvenile and young adults of small dimensions are good candidates since they are easy to move and to transport and respond to veterinary procedures. Coastal species certainly have more chances in respect to pelagic ones. Large size cetaceans could lay for shorter period on the shore due to circulatory impairment and subsequent hypoxic changes. In cases of mass strandings and mass mortalities, rescuers should use even greater caution in releasing single individuals to avoid further strandings of the same subject or to avoid

transmitting infective agents to wild animals possibly responsible for the event.

3. Physical examination: the clinical examination for cetaceans does not differ greatly from the clinical evaluation carried out on terrestrial mammals; it should be performed by a veterinarian.

a. General examination: before carrying out the other parts of the examination, the veterinarian should observe the exemplar closely to evaluate its general physical condition and how it reacts to the environment, human exemplars, and other members of its species (if there should be any). Any external signs as well as the animal's attitude towards the external world should be evaluated. Nutritional status (i.e. malnutrition and cachexia), any skin lesions (i.e. wounds and traumas) and mucous membranes (possible inflammatory discharges and hemorrhages) changes should be reported.

b. Buoyancy: If the animal is in the water or has been observed while it was in the water, it is possible to note if there are problems with floating and/or swimming. In particular it is important to note if floating appears to be normal taking into consideration the surface during both the apneic and inspiration phases and during rest. An increase in the buoyancy is generally the consequence of an accumulation of gas (intestinal bloating, pneumothorax etc.). Impairment in swimming is generally associated to a reduction in lung capacity. Another parameter to evaluate is equilibrium and possible rotation respect the longitudinal axis.

c. Behavior: behavioral alterations may not be relevant at first glance unless the subject is in the water with others of its species or if it is compared with animals being rehabilitated. In the case of stranded animals, these should be evaluated in relation to their behavior towards humans and towards other members of their species and, above all, in relation to potential risks for operators. The animal's attitude toward the water and the beach should be evaluated; the exemplar, could, for example, appear lethargic or reactive. An ill animal may seem to be resting. It is important to note if the animal seems bright and alert or depressed and unresponsive.

d. Clinical Evaluation: once the exemplar's life history data has been collected and a general and behavior evaluation has been made, the physical part of the examination should be carried out and biological fluids for collateral examinations should be collected even if there are no signs indicating pathological states. These operations should be carried out as quickly as possible to avoid stressing the animal even further. The appearance of the mucous membranes, an assessment of main reflexes and muscular tone, associated the animal's breathing rate should be evaluated and reported. Temperature should be assessed in order to evaluate any relevant changes due to stranding or ongoing pathological condition. Respect to terrestrial mammals palpation of lymph nodes and heart's auscultation is limited due to their anatomy.

e. Collected Samples: blood samples can provide useful information about living, stranded exemplars and should be taken, whenever possible, and sent to the reference laboratory; the results may be useful when decisions about releasing the exemplar are being made. Even if there is little time to collect the samples and to have them analyzed in cases in which a healthy cetacean is released immediately, laboratory results can in any case be of retrospective value.

Samples from the blowhole are taken with the intention of carrying out culture tests and cytological examinations which can be conducted indirectly by positioning agar plates over the operculum or taking biological material with swabs. This kind of sampling makes it possible to evaluate the conditions of the upper airways although it does not provide extensive information about the entire respiratory system. Other samples that should be collected are those of urine, feces and milk.

Further information and data useful to be collected shared are those related to any diagnosis coming from the diagnostic procedure, results of any related therapy and the destiny of the animal after the triage and rehabilitation efforts. If any, the outcomes of a post-release monitoring should be collected in order to understand the success of different approaches. Specific protocols and procedures namely dedicated to

- first aid and stabilization of the animal/s
- diagnostic and laboratory analyses
- therapeutic and euthanasic procedures

- movement and transportation

should be implemented in any country according to national and/or EU legislation involving the supervision of expert veterinarians and biologists. International mentors and existing guidelines (i.e. British Divers Marine Life Rescue and NOAA protocols - listed in Annex I) could help in preparing these documents. Best practices and guidelines prepared by International Agreements (IWC, ACCOBAMS and ASCOBAMS) to support their implementation in each country could be useful.

2. Common data collection

Similarly to stranding events involving dead animals, data collection in case of cetaceans stranded alive may be basic (Level A), intermediate (Level B), or detailed (Level C) considering the capability of the stranding network to intervene in reasonable times and the involvement of trained personnel and/or veterinarians. The use of standardized data sheets and forms is recommended working on the field. Samples of these forms are suggested by already existing guidelines, as those proposed by the British Divers Marine Life Rescue (BDMLR) which already implemented in the UK well-structured protocols with the relative datasheets and forms to collect proper data.

2.1 Level A Data: Basic Minimum Data collected on the field

This level is aimed to report any stranding event to national and/or international Stranding Databases. Geographic information, as well as biological and logistics details concerning the stranding should be recorded and national datasheets concerning measures should be filled out. Once the event has been recorded, a unique identification number (ID), which should be used at all subsequent contacts, will be assigned to it. Information relative to the following data must be collected.

This level allow to know exactly how many stranding events involve alive cetaceans and how many animals strand alive; furthermore, main features of these events could be understand in order to focus properly any possible procedure and support for this relevant problem.

- a. Investigator: name and address (institution)
- b. Reporting source
- c. Responsible Veterinarian/Rescue Team
- d. Location
 - preliminary description (local designation)
 - latitude and longitude, GPS
- e. Date (mm\dd\yy), time of first discovery and of intervention of the rescue team
- f. Weather and tide conditions
- g. Offshore human/predator activity
- h. UME/Diseases outbreak ongoing
- i. Species
- j. Number of animals, including total and sub-groups (if applicable)
- k. Length
- l. Sex
- m. Refloating efforts attempted by person not being part of the stranding network/rescue team

2.2 Level B Data: Information collected by direct observation or reported and/or clinical examination by trained personnel.

This level of data collection allows to collect information in similar events: more in detail, data on physical parameters of the involved animals could help to assess and improve any procedure of clinical evaluation as well as features of cetaceans stranded alive. This level requests basic skills on animal physiological parameters and management. Veterinarian is preferred for physical examination but also trained biologists could carry out the examination.

- a. Veterinarian/biologist responsible for physical evaluation
- b. Behavior

- pre-stranding (e.g., milling, directional swimming)
- stranding (e.g., determined effort to strand, passive, thrashing)
- after return to sea (e.g., disoriented swimming, listing); note also ID number given after release and color; location of sighting

b. Reaction to environmental stressors

c. Buoyancy

d. Nutritional condition

e. Skin conditions; evidences of wounds and traumas

f. Orifices and Mucosal discharges and hemorrhages

g. Reflexes and muscular tones

h. Abnormality in breathing (i.e. rate and smell)

i. Samples collected

j. Diagnosis

k. First aid and rehabilitation procedures attempted.

l. Release/euthanasia/rehabilitation

m. Time lapse between first reporting/first intervention/release or euthanasia

3. Level C Data: Veterinary Physical Examination, Samples Collection, Therapy and Follow-Up

This last step foresees the involvement of trained and skilled personnel able to perform advance diagnostic procedures, propose therapeutic approaches and follow the animal after the release into the wild. The collected data could be shared in order to increase knowledge, approaches and possible procedures in order to increase the knowledge on first aid and rehabilitation efforts for cetaceans stranded alive.

a. Veterinarian/rescue team leader involved

b. Results of any blood samples analysis

c. Results of any urine analyses

d. Results of any microbiological examination considering also DMV

e. Results of any diagnostic imaging investigations (x-ray, TAC) and ultrasonography

f. Diagnosis

g. Final decision: release/euthanasia/rehabilitation

h. Summary of any therapy and procedures adopted during rehabilitation

i. Time of rehabilitation efforts.

j. Logistics of rehabilitation efforts

k. Procedure for release efforts

l. Follow-up

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British Divers Marine Life Rescue Marine Mammal Medic Handbook, 6th Ed., 2005

ACCOBAMS Guidelines for the release of captive cetaceans into the wild

Report of the IWC Workshop on Euthanasia Protocols to Optimize Welfare Concerns for Stranded Cetaceans

<http://www.nmfs.noaa.gov/pr/health/publications.htm>

RESOLUTION 7.14 - Best Practices in Monitoring and Management of Cetacean Stranding

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling its previous resolutions relevant for cetacean stranding, in particular Resolution 1.10 on cooperation between national networks of cetacean strandings and the creation of a database, Resolution 2.10 on facilitation of exchange of tissue samples, Resolution 3.25 on cetacean live stranding, Resolution 4.16 on guidelines for a coordinated cetacean stranding response and Resolution 6.22 on cetacean live strandings,

Considering that common best practices in case of cetacean stranding have been discussed in several fora, including the International Whaling Commission (IWC), the Agreement on the Conservation of Small Cetaceans of the Baltic and North Seas (ASCOBANS) and the European Cetacean Society (ECS),

Taking note of the joint ACCOBAMS/ASCOBANS/SPA-RAC Workshop on marine debris and cetacean stranding that was held on 8 April 2018 in La Spezia, Italy, and the joint ACCOBAMS/ASCOBANS Workshop held on 24-25 June 2019 in Padua, Italy,

Recognizing the importance of strandings data in addressing population biology and threats to cetaceans, such as entanglement in, and ingestion of, marine debris,

Recalling Recommendation 12.7 “Strandings and Marine Litter” of the 12th ACCOBAMS Scientific Committee Meeting,

Referring to Resolution 7.15 on marine litter in link with cetacean necropsies, adopted at this Meeting of the ACCOBAMS Parties,

1. *Stresses* that evaluating and addressing threats generating cetacean stranding, is a key part of the ACCOBAMS objectives and is relevant to past decisions related to, inter alia, the ACCOBAMS Conservation Plan;
2. *Asks* the Scientific Committee to identify pilot areas covered by existing stranding monitoring networks, where the “level A” basic tiered guidelines on necropsies approach (Appendix 1 of the Annex 2 of the ACCOBAMS Resolution 6.22 “Cetacean live stranding”) can be adopted and systematically implemented to gather a *de minimis* set of data, including presence/absence of ingested and entangling debris, species, sex and total length of the animals;
3. *Takes note* of:
 - a. The recommendations from the joint workshop ACCOBAMS, ASCOBANS and ECS towards the identification of standardized best practices in cetacean stranding monitoring and management presented in ACCOBAMS-MOP7/2019/Inf29;
 - b. The report of the Joint ACCOBAMS and ASCOBANS Workshop on harmonisation of the best practices for necropsy of cetaceans and for the development of diagnostic frameworks ACCOBAMS-MOP7/2019/Inf28;
 - c. The document on Best Practices on cetacean postmortem investigation and tissue sampling resulted from the harmonization process in ACCOBAMS and ASCOBANS (ACCOBAMS-MOP7/2019/Doc33)

4. *Adopts* the Annex “Evidence-based diagnostic assessment frameworks for cetacean necropsies on specific issues/threats” to the present Resolution. This annex constitutes an operational summary of the Best Practices for cetacean postmortem investigation and tissue sampling and for the development of diagnostic frameworks for specific threat to be investigated during cetaceans’ strandings, namely bycatch, marine debris effects, sound related mortalities, pollution, infectious diseases and others;
5. *Asks* the ACCOBAMS Permanent Secretariat to widely disseminate information contained in Annex;
6. *Reiterates* the importance of effective strandings networks throughout the ACCOBAMS Area;
7. *Encourages* Parties to grant, in compliance with relevant national legislation, the necessary sampling permits to those institutions involved in strandings networks which have a recognized expertise;
8. *Encourages* Parties to assist other Parties in establishing or strengthening such networks through cooperation, capacity building and sharing of best practices;
9. *Recommends* the re-establishment of an ACCOBAMS expert panel on strandings to assist with emergencies and unusual mortality events, as well as to assist in the establishment and strengthening of networks throughout the ACCOBAMS Area;
10. *Recommends* Parties that, with respect to data on marine litter:
 - a) all stranding networks adopt at least the basic level of the tiered common best practices on macro-litter to collect de minimis information on marine debris;
 - b) ingested and/or entangling marine macrolitter recovered during post-mortem examinations is collected and preserved for further identification analysis including retrospective studies;
 - c) rates of debris ingestion and entanglements in stranded/bycaught cetaceans are collated and submitted via national progress reports and/or other reporting mechanisms;
 - d) efforts be increased to quantify the relevant contributions of abandoned, lost or otherwise discarded fishing gear (ALDFG) and active gear to cetacean entanglement;
11. *Encourages* the updating of a well-documented, searchable database on entities involved in stranding networks, databanks, such as MEDACES, and tissues banks (NETCCOBAMS) and *calls upon* the Scientific Committee and other scientists involved in stranding networks to provide the ACCOBAMS Permanent Secretariat with relevant information using the templates available on NETCCOBAMS;
12. *Encourages* the development of new tools and the use of existing tools for citizen science participation in the ACCOBAMS Area having a potential for strandings early warning and/or preliminary action (*e.g.*, OBSenMER, WhatsApp groups).

ANNEX
EVIDENCE-BASED DIAGNOSTIC ASSESSMENT FRAMEWORKS FOR CETACEAN NECROPSIES ON SPECIFIC ISSUES/THREATS

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Interpreting post-mortem findings and evidences collected during a thorough necropsy, not limited to gross examination, needs specific skills and expertise. More in detail, these data should be elaborated by skilled professionals to properly hypothesize the possible cause, mechanism and manner of death.

A necropsy is a specialized medical procedure comprising of a thorough examination of a carcass by dissection. Sampling and testing should be complete and not be driven by any previous hypothesis or speculation; interpretation of evidences should be based on the best existing literature and protocols already published and/or used, ruling out any possible causes of death without bias. Even if it depends on the specific country's legal framework, post-mortem investigations with diagnostic aims should be performed by a veterinarian trained in animal pathology with an experience in marine mammal diseases.

In the present document, best practices and criteria associated with diagnoses of the most relevant threats for marine mammals (i.e. bycatch, marine litter ingestion, underwater noise) found during cetacean post-mortem examinations are resumed along with the most recent pertinent literature. These set of findings constitute an evidence-based diagnostic assessment framework and could support the interpretation of data and observations collected during a thorough and complete necropsy by a veterinary pathologist and/or a governmental veterinarian.

It should be stressed that the following frameworks are not shortcuts that justifies rapid diagnoses from inexperienced personnel; rather they are a support tool for trained and authorized professionals to harmonize interpretation and evaluation. Total or partial presence or absence of the reported evidences obtained through the reported best practices should be considered along with the other results from the entire necropsy in order to gain the final diagnosis, and evidences should be interpreted by the experienced veterinarian or biologist involved after a complete necropsy. Without a complete post-mortem investigation, carried out according to a standardized procedure by expert and trained personnel, final diagnoses are not supported and have no value.

The following issues are herein resumed:

- a) [bycatch](#)
- b) [entanglement](#)
- c) [marine litter ingestion](#)
- d) [underwater noise](#)
- e) [ship strikes](#)
- f) [infectious diseases](#)

All the most relevant findings and diagnostic criteria for each single issue and reported in the most relevant literature will be summarized in tables including the type of examination, the tiers at which it could be detected according the European Cetaceans post-mortem investigations best-practices and some notes. It is not necessary that all the listed evidences are contemporary present, but they should be interpreted with the results of the complete necropsy and all the other possible causes of death should be ruled out. Since this information is included in the most recent literature, it is highly recommended a periodic update.

a) Bycatch

The challenge of identifying the cause of death in bycaught cetaceans arises from the nonspecific nature of the lesions of drowning/asphyxiation, lack of previous history of the dead animal and the varied nature of fishing gear, with no pathognomonic changes recognized for acute underwater entrapment. Several publications recognize signs of acute external entanglement, bulging or reddened eyes, recently ingested gastric contents, pulmonary changes, and decompression-associated gas bubbles as most commonly reported changes, but these findings cannot be surely related to acute bycatch and many others could support the interpretation and final diagnosis.

All these findings should be collected during a standardized, thorough necropsy performed by skilled personnel. The necropsy could allow to interpret all the reported findings, to exclude any other cause of death and to advance a final diagnosis.

Investigation	Evidences	Tier	Notes	Literature
External examination	Nutritional condition: very good to sub-optimal	1	difficult to detect in case of interaction with gillnets and trawling	<ol style="list-style-type: none"> 1. Bernaldo de Quiros et al., 2018 2. Moore et al., 2013 3. Kuiken et al., 1994
	In vivo evidence of entanglement: <ul style="list-style-type: none"> . contact with fishing gear (superficial: impressions, depigmentation etc.) . presence of fishing gear . physical injuries (amputation, laceration, fracture etc.) . haemorrhagic findings 			
	Bulging/red eyes			
Pathological examination (gross and/or microscopic)	Evidence of undigested gastro-oesophageal contents	1	nonspecific and/or pathognomonic	<ol style="list-style-type: none"> 1. Bernaldo de Quiros et al., 2018 2. Moore et al., 2013 3. Kuiken et al., 1994 4. Bernaldo de Quiros et al., 2016
	Multi-organ congestion	2		
	Multi-organ gas bubbles with high score in coronary, renal, iliac, subcutaneous vessels and perirenal tissues	2	requires training	
	Pulmonary oedema	2	nonspecific finding associated to many other pathological conditions	
Chemical analyses of gas bubbles	Gas bubbles are not consistent with post-mortem gases.	3	sampling requires training and very few laboratories are skilled in this type of analyses	<ol style="list-style-type: none"> 5. Bernaldo de Quiros et al., 2013 6. Bernaldo de Quiros et al., 2011
Microscopic and immunohistochemical examination	Muscle changes consistent with stress	3	sampling requires training and very few laboratories are skilled in this type of analyses	<ol style="list-style-type: none"> 7. Sierra et al., 2017.
Pathological and microbiological examinations	Absence of infectious agents impairing animal health	3	results from microbiology should be compared to microscopic examination	<ol style="list-style-type: none"> 2. Moore et al., 2013 3. Kuiken et al., 1994
Diatoms research technique	Diatoms in the long bones	3	not pathognomonic; may support diagnosis	<ol style="list-style-type: none"> 8. Rubini et al., 2018

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2. Moore MJ, der Hoop Jv, Barco SG, Costidis AM, Gulland FM, Jepson PD, Moore KT, Raverty S, McLellan WA. **Criteria and case definitions for serious injury and death of pinnipeds and cetaceans caused by anthropogenic trauma.** *Dis Aquat Organ.* 2013 Apr 11;103(3):229-64. Kuiken T, Simpson VR, Allchin CR, Bennett PM, Codd GA, Harris EA, Howes GJ, Kennedy S, Kirkwood JK, Law RJ, et al. **Mass mortality of common dolphins (*Delphinus delphis*) in south west England due to incidental capture in fishing gear.** *Vet Rec.* 1994 Jan 22;134(4):81-9
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b) Entanglement

Entanglement refers to the wrapping of materials of anthropogenic origin like lines, ropes or nets around the body of an animal and differs from bycatch, which refers to the unintentional capture of species such as small cetaceans in fishing nets.

Entangled animals do not die immediately after wrapping but the materials around the cetacean's body could injure it and impair its swimming, diving and feeding, inducing a chronic condition. In these conditions, death could be due to progressive starvation due to a reduction in food intake and an increase of energetic cost. Possible secondary infections could infect wounds associated with entanglement or affect the animal due to an impairment of the immune system. The following table resumes the main finding that could be reported during post-mortem examinations on entangled cetaceans.

Investigation	Evidences	Tier	Notes	Literature
External examination	Nutritional condition: poor to cachectic	1		1. Moore et al., 2006 2. Moore et al., 2013
	In vivo entanglement evidence: . contact with anthropogenic materials around the body of the animal (superficial changes) . presence of anthropogenic materials around the body of the animal . chronic physical injuries (laceration, scars, etc.)			
Gross examination	Muscular atrophy	2	possible findings that may be detected singularly or associated with muscular atrophy	1. Moore et al., 2006 2. Moore et al., 2013
	Absence of food remains in the stomach	2		
	Pale discoloration of muscle and tissues	2		
	Severe parasitic infestation	2		
	Gelatinous atrophy of the subcutaneous tissues	3		
	Haemorrhagic changes to subcutaneous and serosal surfaces (petechiae, bruises, etc.)	3		
	Opportunistic infections	3		
Microscopic examination	Muscular atrophy with scattered fiber necrosis	3	described in terrestrial mammals; only in single case reports in cetaceans	3. Sierra et al., 2017.
	Liver steatosis and/or hemosiderotic pigment in Kupffer cells	3		4. Gerdin et al., 2016
	Splenic hemosiderophages	3		
	Opportunistic infections	3		2. Moore et al., 2013
Microbiological investigations	Possible infectious diseases	3		2. Moore et al., 2013

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c) Marine litter

The ingestion of marine litter can occur in many cetacean species and the number of reports of foreign bodies found in the stomachs of stranded marine mammals is increasing. Despite these numbers, it should be noted that findings of plastic debris are not often deemed to be the main cause of stranding and are poorly reported in pathology literature. Recent papers published in the Canary Islands (Díaz Delgado et al., 2018; Puig-Lozano et al., 2018) underline that only a few species seem to be lethally affected by plastic ingestion, with deep divers such as sperm whales and beaked whales more affected than others; young age and poor nutritional condition seems to be another relevant factor. With regards to the nutritional condition, it is not yet clear if it is a predisposing factor for the ingestion of marine litter, or a consequence thereof.

While, during necropsy, it is easy to state the possible ingestion of marine debris, it is more difficult to assess the impact it has on the animal's health. The findings summarized in the above table could be observed, alone or associated, and they can support the interpretation of the pathologist in the assessment of the cause of death during the complete necropsy.

Investigation	Evidences	Tier	Notes	Literature
External examination	Nutritional condition: normal to poor	1		
Gross examination	Plastic debris	1		1. Puig-Lozano et al., 2018 2. Díaz-Delgado et al., 2018
	Gastric perforation	2	may lead to acute death	
	Ulcerative gastritis	2		
	Gastric impaction/obstruction	2		
	Muscular atrophy	2	only when a poor nutritional condition has been determined	
	Severe parasitic infestation	2		
	Opportunistic infections	3		
Microscopic examination	Muscular atrophy	3		3. Sierra et al., 2017.
	Opportunistic infections	3		
Microbiological investigations	Possible infectious diseases	3		

1. Puig-Lozano R, Bernaldo de Quirós Y, Díaz-Delgado J, García-Álvarez N, Sierra E, De la Fuente J, Sacchini S, Suárez-Santana CM, Zucca D, Câmara N, Saavedra P, Almunia J, Rivero MA, Fernández A, Arbelo M. **Retrospective study of foreign body-associated pathology in stranded cetaceans, Canary Islands (2000-2015)**. *Environ Pollut.* 2018 Dec;243(Pt A):519-527.
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d) Underwater impulsive noise-related strandings

The diagnostic assessment framework for the investigation of underwater impulsive noise as a possible cause of strandings is not as complete as for other causes due to lack of knowledge. In fact, only a spatial and temporal association of middle and low frequency military sonar to a gas and fat embolic syndrome developed in beaked whales has been reported, while for any other species and/or sound sources there is not yet enough literature to draw possible diagnostic criteria. Investigations performed on the inner ear conducted according to a specific protocol could support the diagnosis of cochlear damage.

Due to these limitations, to date, it is only possible to exclude any other possible cause through a complete and detailed necropsy. The stranding pattern (active vs. passive, location of strandings, marine currents etc.), the number of animals involved (individual or multiple animals in good nutritional condition stranded within hours or a few days of a military exercise), the spatial and temporal association with a functioning impulsive noise source are fundamental to support the diagnostic hypothesis. From a pathological point of view, the post-mortem findings included in the following table may be observed.

Investigation	Evidences	Tier	Notes	Literature
External examination	Bleeding from main orifices	1		1. Fernandez et al., 2005 2. Bernaldo de Quiros et al., 2019 3. Jepson et al., 2013 4. Bernaldo de Quiros et al., 2011
	Good nutritional status	1		
Gross examination	food remnants in the first gastric compartment ranging from undigested food to squid beaks	2		
	abundant gas bubbles widely distributed in veins (subcutaneous, mesenteric, portal, coronary, subarachnoid veins, etc.)	2	requires training	
	gross subarachnoid and/or acoustic fat hemorrhages;	2		
	absence of other relevant diseases	2		
Microscopic examination	microscopic multi-organ gas and fat emboli associated with bronchopulmonary shock	3		
	diffuse, mild to moderate, acute, monophasic myonecrosis (hyaline degeneration) in fresh and well-preserved carcasses	3		
	multi-organ microscopic hemorrhage of varying severity in lipid-rich tissues such as the central nervous system, spinal cord, and the coronary and kidney fat (when present)	3		
	Hemorrhage in the inner ear visible with HE-stain after decalcifying tympano-periotic complex	3	decalcification process may alter microscopic findings	
	absence of other relevant diseases	3		
Chemical analyses of gas bubbles	mainly N ₂	3	requires training to collect bubbles from veins and perform chemical analyses	

Electron microscopy	scars and damage to the cochlear hair cells of the inner ear	3	requires training to collect and preserve inner ear; possible until 30 hours after death	5. Morell et al., 2017
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e) Ship strikes

In the last decades, collisions between vessels and cetaceans have significantly increased worldwide and they are deemed to be a major threat for large cetaceans living in the ACCOBAMS area. In case of collisions, external features may be pathognomonic with extensive subcutaneous, muscular and visceral hemorrhage and hematomas, indicating unequivocal *ante-mortem* trauma. However, when carcasses are highly autolyzed, it is challenging to distinguish whether the trauma occurred *ante-* or *post-mortem*. The presence of fat emboli within the lung microvasculature is used to determine a severe “*in vivo*” trauma in other species, and they can be used also in these cases. These aspects are summarized in the following tables.

Investigation	Evidences	Tier	Notes	Literature
External examination	Sharp traumas with one or more linear to curvilinear laminar incising wounds that cause damage to axial muscles, skull and vertebral column	1	mainly on the back and sides	1. Moore et al., 2013 2. Campbell-Malone et al., 2008
Gross examination	Blunt traumas with hemorrhage and edema in the blubber, subcutaneous tissue, and skeletal muscle	2		
	fractures and luxations	2		
Microscopic examination	Muscular hemorrhages and edema	3		3. Sierra et al., 2014.
	flocculent, granular or/and hyalinised segmentary degeneration; contraction band necrosis; discoid degeneration or fragmentation of myofibres	3		
	Fat emboli in the lung tissue	3	not relevant if death is immediate after trauma	4. Arregui et al., 2019

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f) Infectious diseases

Cetaceans can be affected by many infectious agents that can cause diseases and death. Among these pathogens, Cetacean Morbillivirus (CeMV), *Brucella* spp. and *Toxoplasma gondii* are the most relevant ones.

As in terrestrial mammals, the diagnosis of a disease is supported by the contemporary evidence of pathological changes, immunohistochemical and microbiological findings. If all three are not present at the same time, the diagnosis is weak, and it should be interpreted in accordance with other findings. In the following table, main findings for CeMV diseases are reported in order to aid pathologists in their diagnosis for this virus considered as the more dangerous for the cetaceans' conservation in the ACCOBAMS waters. Other pathogens are often reported as single case reports.

Investigation	Evidences	Tier	Notes	Literature
Gross examination	Meningeal congestion	2	not always present at the same time	1. Van Bressem et al., 2014
	Lymph node enlargement	2		
	Bronchopneumonia	2		
	Secondary infections and parasitic infestation	2		
Microscopic examination	Chronic meningoencephalitis with astrogliosis and possible demyelination	3		
	Interstitial bronchopneumonia	3		
	Lymphoid depletion with multinucleated giant cells	3		
	Secondary infections and parasitic infestation	3		
Immunohistochemistry	Positive using anti-CDV antibodies	3		
Molecular analyses	Positive target organs (brain, lymph nodes, spleen, thymus, lungs)	3	highly specific but limited by conservation code	
		3	time-consuming but highly sensitive for large cetaceans and conservation codes 3-4	3. Centelleghé et al., 2016
		3	all CeMV strains	4. Rubio-Guerri et al., 2013

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RESOLUTION 8.15 - Cetacean Stranding Networks

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Resolutions 1.10 “Cooperation between National Networks of Cetacean Strandings and the Creation of a Database”, 2.10 “Facilitation of Exchange of Tissue Samples”, 3.25 “Cetacean Live Stranding”, 4.16 “Guidelines for a Coordinated Cetacean Stranding Response”, 6.22 “Cetacean Live Strandings” and 7.14 “Best Practices in Monitoring and Management of Cetacean Stranding”,

Recalling the document on “Best Practices on Cetacean *post-mortem* Investigation and Tissue Sampling” resulting from the harmonization process in ACCOBAMS and ASCOBANS (ACCOBAMS-MOP7/2019/Doc33),

Taking into consideration Recommendation 14.14 “Cetacean Stranding Networks (CSNs)” from the 14th meeting of the Scientific Committee,

Recognizing that:

- Cetacean Stranding Networks (CSNs) are an important source for complementing data on cetacean mortality, including bycatch occurrences,
- CSNs widely vary, depending on scientific requirements, political drivers, resources, infrastructure and personnel experience,
- a tiered approach to carcass triage allows investigations to be conducted at different levels, depending on the resources, facilities or experience of the stranding network, and offers a framework for data collection and interpretation appropriate and optimized to the resources available,
- in a large number of cases examined by the existing CSNs, the cause of death could not be identified, which indicates that there is still room for expertise improvement,

Acknowledging the significant efforts done by the Secretariat and both coordinators (University of Liege, Belgium, and University of Padua, Italy) to organise, despite the Covid-19 pandemic, online and in-presence trainings to forty ACCOBAMS experts on necropsy, following best practices on the investigation of causes of death, including incidental catches during fishing operations (bycatch) and marine litter ingestion, entanglement, noise, ship strikes and infectious diseases (“Best Practices on Cetacean *post-mortem* Investigation and Tissue Sampling” resulting from the harmonization process in ACCOBAMS and ASCOBANS),

Recalling the Action Plan for the Conservation of cetaceans in the Mediterranean Sea (IG25/13),

1. Encourages:

- Parties to establish and /or to ensure the continuous functioning of stranding networks,
- the Secretariat to continue supporting the establishment of such networks in collaboration with the Sub Regional Coordination Units;

2. Requests the Secretariat, in coordination with the Scientific Committee, to:

- promote the use of new technologies, such as virtual reality and tele-necropsy, in order to increase the possibility of remote training, support and advice, in case of cetacean strandings,

- increase capacity-building efforts to perform detailed necropsies and analyse tissues in order to determine the cause of death,
 - increase capacity-building efforts in developing tissue banks;
3. *Requests* the Scientific Committee to test these new approaches and technologies in selected pilot areas, in order to implement a continuous training programme, connecting experts with local scientists dealing with cetacean strandings, and to ensure a standardized approach to *post-mortem* investigations, data collection, tissue sampling, and analyses;
 4. *Stresses* the need for the improvement of data collection on cetacean population genetics and pathology;
 5. *Encourages* Parties to submit their relevant national data in MEDACES;
 6. *Encourages* Parties to further collaborate at a regional level between tissue banks, so to facilitate the exchanges of tissue samples for joint analyses.

6.1.8 Marine Litter

Resolution 8.20 Marine litter and chemical pollution

RESOLUTION 8.20 - Marine Litter and Chemical Pollution

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Stressing that marine litter (or marine debris) pollution is a global environmental concern that heavily affects the Mediterranean Sea, and a recognized threat to the welfare, biology and ecology of marine wildlife, in particular cetaceans, which are being harmed or killed by marine litter ingestion, entanglement and its toxic effects,

Deeply concerned by the fact that such threat heavily affects areas overlapping with the distribution and habitats of several cetacean species, as demonstrated, *inter alia*, by the ACCOBAMS Survey Initiative, and strongly impacts on all ecological compartments of the ACCOBAMS Area, like the sea-surface, water column, seafloor and coastal shores,

Aware of the related ongoing work under the Convention on the Conservation of Migratory Species of Wild Animals (CMS), and *recalling* its related decisions, in particular CMS Resolution 12.20 on Management of Marine Debris, as well as other ongoing work, *inter alia*, in the framework of the United Nations Environment Assembly (UNEA), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Stockholm Convention on Persistent Organic Pollutants, Annex V to the International Convention for the Prevention of Pollution from Ships (MARPOL), the Protocol to the London Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter and the FAO's Voluntary Guidelines for the Marking of Fishing Gear,

Recalling that litter and micro-litter ingested by marine animals is addressed by Descriptor 10 and its related criteria under the European Union Marine Strategy Framework Directive and Commission Decision 2017/848/EU, as well as by Ecological Objective 10 of the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP) of the Barcelona Convention,

Considering that common best practices for stranding events have been drafted and discussed in several fora, in order to contribute to the evaluation of the current and potential harmful effects of marine litter, including entanglement in abandoned, lost or otherwise discarded fishing gear (ALDFG) and direct ingestion of both macro- and micro-plastics, and other threats posed to cetaceans,

Recalling the joint ACCOBAMS/ASCOBANS/SPA-RAC Workshop on Marine Debris and Cetacean Stranding held on 8 April 2018 in La Spezia, Italy, and the joint ACCOBAMS/ASCOBANS Workshop on Harmonization of Best Practices for Necropsy of Cetaceans and the Development of Diagnostic Frameworks, held on 24-25 June 2018 in Legnaro, Italy,

Recalling the Workshop on Marine Debris held by the Scientific Committee of the International Whaling Commission from 13 to 17 May 2013 at the Quisset Campus of the Woods Hole Oceanographic Institution, United States; the International Whaling Commission Workshop on Mitigation and Management of the Threats Posed by Marine Debris to Cetaceans, held on 5-7 August 2014 in Honolulu, United States; and the Workshop on Marine Debris held by the International Whaling Commission on 3-5 December 2019 in La Garriga, Spain,

Taking into account the recently adopted Resolution on Marine Plastic Pollution, adopted by the International Whaling Commission meeting held in October 2022 in Slovenia,

Aware that chemical contamination is detrimental for cetaceans' health, because it induces negative effects on their immune, nervous and reproductive systems,

Deeply concerned by the high occurrence and concentrations of legacy persistent organic pollutants and emerging contaminants, such as organochlorine pesticides (OCPs), polycyclic aromatic hydrocarbons (PAHs), polybrominated diphenyls (PBDEs), per- and polyfluoroalkyl substances (PFASs), heavy metals, plastic additives and pharmaceutical and personal care products (PPCPs), in the Mediterranean Sea and the Black Sea,

Recalling Recommendation 14.9 of the Scientific Committee on marine litter and chemical pollution,

Considering that macro- and micro-plastics represent particularly harmful kinds of marine litter and sources of chemical pollution,

Referring to Resolution 7.14 on Best practices in monitoring and management of cetacean stranding,

Emphasizing that a multi-disciplinary approach delivered across different spatial and temporal scales is necessary to tackle the threat of marine litter effectively,

Marine litter

1. *Invites* Parties and all organizations that are competent in the field of marine pollution, such as the European Union, the International Maritime Organization and the Meeting of the Parties to the Barcelona Convention, as well as other relevant bodies, to improve and enforce their management measures regarding land- and ship-related litter pollution, considering that its harmful effects on cetaceans are already fully demonstrated and mitigation actions are urgently needed;
2. *Urges* Parties:
 - a. to support the ongoing work under the United Nations Environment Assembly Intergovernmental Negotiating Committee towards the development of an internationally legally binding instrument on plastic pollution, including in the marine environment, encompassing both land- and sea-based sources of plastic pollution and the whole life cycle of plastics to end plastic pollution; and
 - b. to engage all levels of stakeholders, from producers and users to decision-makers, to implement actions that can contribute to address plastic litter at source and stop plastics entering into the Mediterranean Sea, the Black Sea and the contiguous Atlantic area;
3. *Encourages* the Parties:
 - a. to undertake *post-mortem* investigations according to the best practice guidelines;
 - b. to support:
 - collective scientific efforts on the development of standardized methods to detect the occurrence and effects of marine litter, including micro-plastics, in cetacean species; and
 - the use of standardized formats to report results across the ACCOBAMS Area in synergy with existing frameworks and relevant multilateral environmental agreements that request periodic reporting from *post-mortem* investigations;
 - c. to support the identification of hot-spot areas for marine litter accumulation and, through modelling of exposure to plastic ingestion and entanglement, identify the threat to cetacean species occurring in those areas to design targeted mitigation measures; and

- d. to propose cetacean species as indicators of marine litter in the ACCOBAMS Area, in particular focusing on macro-litter effects on deep-diving species, such as sperm whale and Cuvier's beaked whales, and on micro-plastic effects on filter feeders, such as fin whales;
4. *Invites* the Scientific Committee to consider the results and recommendations from relevant projects, initiatives and workshops, including the Workshop on Marine Debris held by the International Whaling Commission on 3-5 December 2019 in La Garriga, Spain, as well as the Resolution on Marine Plastic Pollution, adopted by the International Whaling Commission meeting held in October 2022 in Slovenia;
5. *Encourages* increased international cooperation on this subject with other bodies, in particular those relevant for cetaceans, as well as regional initiatives on marine litter;

Chemical pollution

6. *Asks* the Parties:
 - a. to develop a transboundary health monitoring network for stranded and free-swimming cetaceans in the ACCOBAMS Area, which can facilitate the establishment of a common database on diseases and chemical burdens and cooperation among existing tissue banks for the assessment of the 'Favourable Conservation Status' of marine mammals under the European Union Habitats Directive, and equivalent national and regional legislation;
 - b. to develop an inventory of the institutions and laboratories within the ACCOBAMS Area that are willing to receive and analyze samples for legacy and emerging pollutants from those institutions that do not have appropriate facilities and expertise;
 - c. to ensure that existing measures for the mitigation of toxicological contamination in the ACCOBAMS Area are enforced, including through full compliance by Parties with the Stockholm Convention on Persistent Organic Pollutants; and
 - d. to focus on the assessment of cumulative effects and multiple stressors, including chemicals, marine litter, climate change, and emerging pathogens, on cetaceans in the ACCOBAMS Area, including new techniques, taking into consideration the recommendations from the International Whaling Commission Intersessional Workshop 'Pollution 2025' held on 1-4 November 2021.
7. *Decides* that the present Resolution replaces Resolution 7.15.

TA6 - CONCERNING THE DEVELOPMENT OF CONSERVATION ACTIVITIES AND OF MANAGEMENT MEASURES

6.2 - Identify cetaceans' critical habitats and based on the existing pressures propose changes in the national legislation (environment, fisheries, maritime transport, etc.) and support the implementation of area-based conservation measures

6.2.1 *Species Conservation Plans*

6.2.2 *Protected Areas for Cetaceans*

6.2.3 *Citizen Science*

6.2.1 Species Conservation Plans

Resolution 1.12	Conservation of the Black Sea <i>Tursiops truncatus</i> : Bottlenose Dolphin
Resolution 3.11	Conservation Plan for Black Sea Cetaceans
Resolution 4.13	Conservation of the Mediterranean Short-Beaked Common Dolphin
Resolution 5.12	Work Towards a Conservation Plan for Fin Whales in the Mediterranean Sea
Resolution 5.13	Conservation of Cuvier's Beaked Whales in the Mediterranean
Resolution 6.21	Species Conservation Management Plans
Resolution 8.14	Conservation Management Plans

RESOLUTION 1.12 - Conservation of the Black Sea *Tursiops truncatus*: Bottlenose Dolphin

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area:

Recalling Article II.1 of the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area, stating that Parties shall prohibit and take all necessary measures to eliminate, where this is not already done, any deliberate taking of cetaceans,

Taking note of the report of the status of the Black Sea *Tursiops truncatus* (MOP1/inf 8) and the figures concerning its international trade,

Concerned that *Tursiops truncatus* is severely threatened in the Black Sea due to multiple anthropogenic pressures,

Aware of the obligations towards this species under the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) and the Barcelona Convention Protocol relating to Specially Protected Areas and Biological diversity in the Mediterranean,

Recognizing that domestic and international commercial trade in Black Sea *Tursiops truncatus* may increase the stress on its population,

Recognizing also that the trade pressure could impede the conservation measure taken by the range States in respect of this population,

Recalling that the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is the competent body to regulate international trade in endangered species, but that its efficacy is reliant upon efficient control tools and enforcement of its provisions in exporting and importing states, and,

Recalling further that CITES Article XV 2.b) provides that, in order to determine the appropriate level of protection for marine species in international trade, CITES shall consult inter-governmental Bodies having a function in relation to those species especially with a view to obtaining scientific data these bodies may be able to provide and to ensuring co-ordination with any conservation measures enforced by such bodies,

Having in mind the CITES Decisions 11.91 and 11.139¹ on the Black Sea *Tursiops truncatus* calling for a co-ordination of measures with relevant international Organization and specifically ACCOBAMS,

Acknowledging that the genetic identification of this population is not yet well established and that this increases the difficulties of implementing trade control measures, but

Aware that Article II. 4 of the ACCOBAMS Agreement appeals for the application of the precautionary principle in implementing such measures,

¹ : see MOP1/Inf.10 : CITES Decisions 11.91 and 11.139.

Having also in mind the Bern Convention recommendation n°86 (2001)²,

1. *Invite* the Parties to make every effort to strictly enforce the prohibition of deliberate taking and keeping of Black Sea *Tursiops truncatus*;
2. *Invite* also the Parties to ban importation, exportation and re-exportation of *Tursiops truncatus* from the ACCOBAMS area Range States and particularly Black Sea riparian countries;
3. *Advises* Parties who are also Parties to the CITES to notify this prohibition to the Secretariat and to the other Parties to the CITES³.
4. *Calls* upon other countries and especially other range states of *Tursiops truncatus* to implement the same measures;
5. *Supports*
 - The CITES Secretariat, and Parties to CITES that have not yet done so, to ensure the full implementation of CITES Decision 11.139;
 - The CITES Animals Committee, and Parties to CITES that have not yet done so, to ensure the full implementation of Decision 11.91;
6. *Calls* upon the CITES Parties to provide better protection to this population by inter alia upgrading it to appendix I;
7. *Requests* the Scientific Committee:
 - to advise on further research to be carried out on this topic;
 - to consider to the status review of *Tursiops truncatus* by the International Whaling Commission's Small Cetaceans Sub Committee of the Scientific Committee in 2002
8. *Urges* the Sub Committee to consider the status of *Tursiops truncatus ponticus* at this time, rather than in 2003;

² : see MOP1/Inf.10: Bern Convention Recommendation n°86 (2001)

³ : see MOP1/Inf.10: example of Argentina (Notification to Parties 2001/029)

RESOLUTION 3.11 - Conservation Plan for Black Sea Cetaceans

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

On the recommendation of the ACCOBAMS Scientific Committee,

Aware that all three Black Sea cetacean species, the harbour porpoise (*Phocoena phocoena*), the short-beaked common dolphin (*Delphinus delphis*) and the common bottlenose dolphin (*Turpsiops truncatus*), experienced a dramatic decline in abundance during the twentieth century,

Taking into account that the International Union for the Conservation of Nature (IUCN)-ACCOBAMS workshop on the Red List Assessment of Cetaceans in the ACCOBAMS Area (Monaco, March 2006) concluded that the Black Sea populations of the harbour porpoise, common dolphin and bottlenose dolphin are endangered,

Conscious that most of the factors responsible for their decline, such as current fisheries by-catches, extensive habitat degradation and other anthropogenic impacts, pose continuous threats to the existence of cetaceans in the Black Sea and contiguous waters, represented by the Sea of Azov, the Kerch strait and the Turkish straits system (including the Bosphorus strait, the Marmara Sea and the Dardanelles straits),

Convinced that the plan is an integral component of discussions on Black Sea regional and national strategies, plans, programmes and projects concerned with the protection, exploration and management of the Black Sea environment, biodiversity, living resources, marine mammals and cetaceans,

Considering that the principal goals of the plan are to provide a framework for and priority actions whereby the Black Sea community can in the short-term (2008-2012) improve the conservation status of Black Sea cetaceans practically and, in particular, obtain the necessary scientific information for a full, long-term conservation plan;

Recalling:

- Resolution 1.12 on conservation of the Black Sea *Turpsiops truncatus*: bottlenose dolphin,
- Resolution 2.11 on facilitation of scientific research and programme campaigns,
- Resolution 2.14 on protected areas and cetacean conservation, and
- Resolution 2.21 on assessment and mitigation of the adverse impacts of interactions between cetaceans and fishing activities in the ACCOBAMS area,

1. *Strongly* welcomes the development of the Conservation Plan for Black Sea cetaceans as presented in Annex I to this Resolution;
2. *Thanks* the authors for their considerable work;
3. *Invites* Black Sea Parties and non-parties to implement appropriate parts of the conservation plan for Black Sea cetaceans without prejudice to other international obligations; introduce relevant activities into their national plans; and report on that effort to the ACCOBAMS and Black Sea Commission secretariats.

4. *Urges* that those actions that require a coordinated effort and full institutional support from the ACCOBAMS Secretariat, the Black Sea Commission and the national authorities be addressed as a matter of urgency, the actions comprising:
 - completion of the basin-wide survey;
 - establishment of a regional by-catch network integrated into a regional stranding network; and
 - continuation of work towards establishment of a network of marine protected areas.

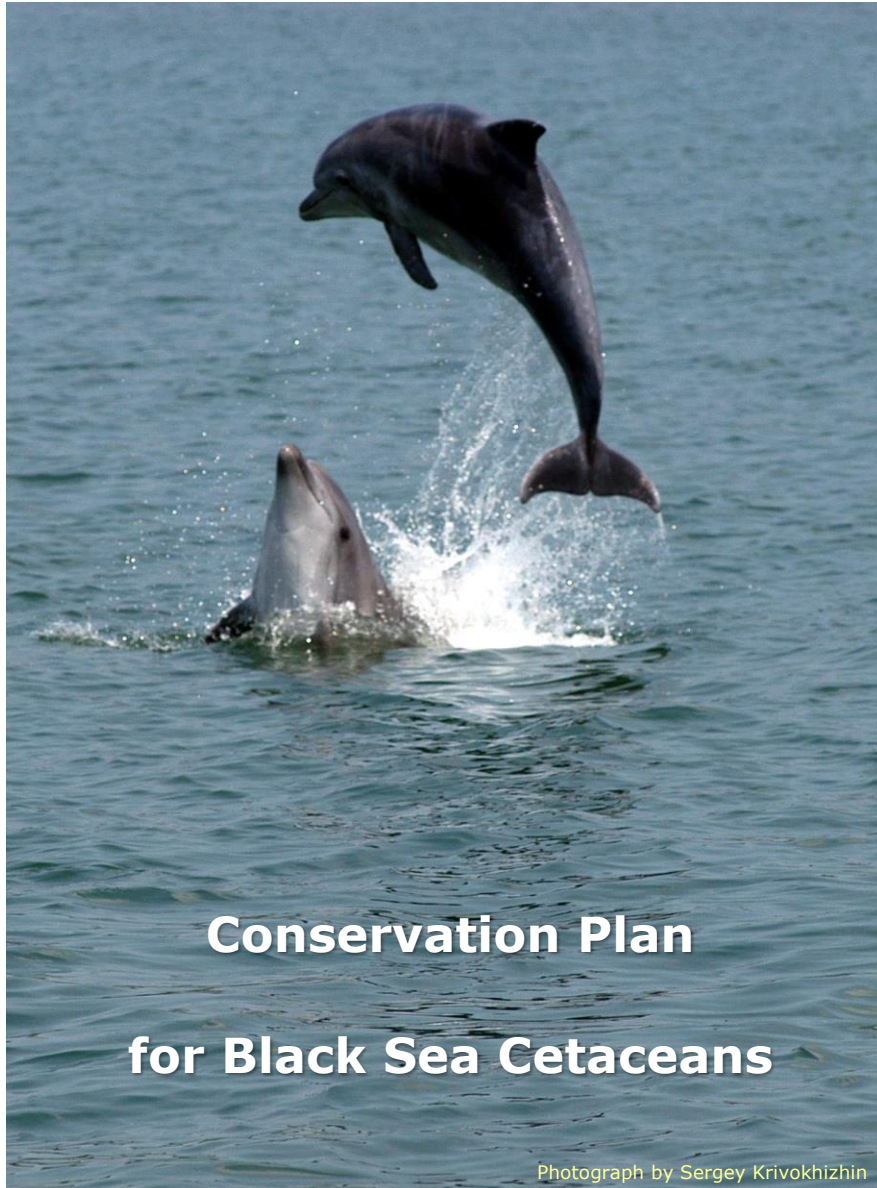
5. *Charges* the ACCOBAMS Scientific Committee to:
 - review, further develop and propose amendments to the conservation plans, as appropriate; and
 - ensure regular assessment of the adequacy of the provisions of the conservation plan for Black Sea cetaceans, on the basis of advances in scientific knowledge and feedback from countries.

ANNEX 1

Agreement on the Conservation of Cetaceans
of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS)

and

the Commission on the Protection of the Black Sea Against Pollution
(the Black Sea Commission)



Compiled by Alexei Birkun, Jr. (Brema Laboratory)

in consultation with Ana Cañadas, Greg Donovan, Drasko Holcer, Giancarlo Lauriano, Giuseppe Notarbartolo di Sciara, Simone Panigada, Gheorghe Radu and Marie-Christine Van Klaveren

November 2006

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V. References

Annex 1. Excerpt from the ACCOBAMS International Implementation Priorities for 2002-2006: Action 6

Annex 2. Excerpt from the Report of the 2nd Meeting of the ACCOBAMS Scientific Committee: Recommendation 2.4

Annex 3. Examples of cetacean research and conservation projects implemented in the Black Sea region in 2002–2006

Annex 4. Excerpts from the Checklists for Red List Assessment of Black Sea cetaceans (IUCN/ACCOBAMS Workshop, Monaco, March 2006)

Annex 5. Minutes of the Round Table on the Conservation of Black Sea Cetaceans (Istanbul, Turkey, May 2006)

Annex 6. Recommendation of the 4th Meeting of the ACCOBAMS Scientific Committee (Monaco, November 2006)

Correct citation of this document: Birkun A., Jr., Cañadas A., Donovan G., Holcer D., Lauriano G., Notarbartolo di Sciara G., Panigada S., Radu G., and van Klaveren M.-C. 2006. Conservation Plan for Black Sea Cetaceans. ACCOBAMS, Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area. 50 pp.

Expertise:

The Conservation Plan was considered at the 3rd Meeting of the ACCOBAMS Scientific Committee (Cairo, Egypt, May 2005) and the *ad hoc* Round Table on the Conservation of Black Sea Cetaceans (Istanbul, Turkey, May 2006). The improved plan was adopted and commended by the 4th Meeting of the ACCOBAMS Scientific Committee (Monaco, November 2006).

I. INTRODUCTION

First attempts

At the 1st Session of the Meeting of the Parties to ACCOBAMS (Monaco, February–March 2002), a series of analytical reviews has been presented [1-6, 11]²⁰⁵ addressing main gaps in conservation and research of Black Sea cetaceans. Besides, regional conservation needs and strategies were considered in general [12], and a number of actions have been proposed as ACCOBAMS International Implementation Priorities for 2002-2006 [10]. Among those 18 priorities, adopted by the Parties in Resolution 1.9, most actions (##2–5 and 11–18) concern Black Sea cetaceans to a greater or lesser extent, but one action (#6) is specifically dedicated to preparation of the Conservation Plan for Cetaceans in the Black Sea.

According to above priority #6 (see Annex 1), a comprehensive conservation plan should be developed as a result of a certain Black Sea region-wide project prepared in co-operation between the ACCOBAMS and the Black Sea Commission and (hypothetically) funded by the Global Environmental Facility (GEF). A draft concept paper for the initial project proposal [8] was presented at the same meeting in Monaco and countenanced by the Parties. Soon afterwards, the concept was supported in the documents related to the 9th Ministerial Meeting of the Black Sea Commission (Sofia, June 2002), particularly, in recommendations included in the Report on the implementation of the Strategic Action Plan for the Rehabilitation and Protection of the Black Sea [16]. The project's concept was also supported by the 1st Meeting of the ACCOBAMS Scientific Committee (Tunis, October 2002) and by the meeting of the Black Sea Commission's Advisory Group on the Conservation of Biological Diversity (Istanbul, November 2002).

Since then, the concept paper underwent considerable modification aimed to improve it in conformity with suggestions offered from UNEP, potential implementing agency regarding this project. A new version of the project's concept [9] has been approved by the 2nd Meeting of the Scientific Committee of ACCOBAMS (Istanbul, November, 2003). The Recommendation 2.4, addressed to the Black Sea countries, was adopted to support as a matter of high urgency the GEF project with human and financial resources (see Annex 2). In spite of negotiation efforts, undertaken by the ACCOBAMS Permanent Secretariat, no noticeable progress in the development of the GEF project was achieved in 2004 and later on. Thus, this way towards the preparation of the *Conservation Plan for Black Sea Cetaceans* reached a deadlock.

Realizable alternative

In 2002-2006, several events potentially important for the development of the *Conservation Plan for Black Sea Cetaceans* have occurred on international and national level. In particular, the 2000-2010 Conservation Action Plan for the World's Cetaceans was published by IUCN [15]. Three specific initiatives concerning Black Sea populations of dolphins and porpoises are identified and described in this document for the promotion of conservation-related research and education:

46. Assess abundance and threats to survival of harbour porpoises in the Black Sea and surrounding waters;
47. Investigate the distribution, abundance, population structure, and factors threatening the conservation of short-beaked common dolphins in the Mediterranean and Black Seas;
48. Investigate the distribution and abundance of bottlenose dolphins in the Mediterranean and Black Seas and evaluate threats to their survival.

Furthermore, the status of small cetaceans in the Black Sea has been reviewed in detail by the Scientific Committee of the International Whaling Commission, IWC (Berlin, May–June 2003), and by the IUCN/ACCOBAMS Workshop on the Red List Assessment of Cetaceans in the ACCOBAMS Area (Monaco, March 2006). Clear recommendations have been issued in respect of conservation-oriented research activities required to gain more knowledge on Black Sea cetaceans abundance, distribution, migrations, population structure, life history, ecology, habitat, and anthropogenic threats [17].

²⁰⁵ Figures in square brackets correspond with numbers of references placed at the end of this plan, (see Section V before annexes).

In addition, some projects, implemented in the Black Sea countries in 2002-2005 (see examples in Annex 3), contributed to better understanding what should be done in the near future for the conservation of cetaceans. Helpful suggestions applicable to the *Conservation Plan for Black Sea Cetaceans* were offered via the Black Sea Commission for the enforcement of international and national legislation, monitoring, assessment and management of human-cetacean interactions as well as for capacity building, training and public awareness [16]. National action plans for the conservation of Black Sea dolphins and porpoises have been developed in Ukraine (2001) and Romania (2004).

One more strategic document [7], aimed to move the preparation of the *Conservation Plan for Black Sea Cetaceans* out the dead point, was compiled during the first ACCOBAMS training course on cetacean photo-identification (Kalamos, Greece, July 2003). That meeting provided opportunities for the trainees from three Black Sea countries (Ukraine, Russia and Georgia) and their trainers from Italy to discuss the most appropriate actions and prioritize them in order of four categories: management, capacity building, education and awareness, and research and monitoring. The conclusive paper was encouraged at the 2nd Meeting of the ACCOBAMS Scientific Committee (Istanbul, November 2003) and supplemented with additional suggestion offered by Turkish researchers [13].

Insistent need in the *Conservation Plan for Black Sea Cetaceans* was emphasized again at the 2nd Meeting of the Parties to ACCOBAMS (Palma de Mallorca, November 2004). It was repeatedly stressed that this plan should be based on research and monitoring actions which can fill gaps in the knowledge on present abundance and distribution of Black Sea cetaceans as well as on human-induced threats facing them. The lack of reliable scientific information causes detriment to correct planning of conservation and management activities. The plan presented here has been developed following a request from the ACCOBAMS Permanent Secretariat in accordance with various ideas and suggestions arose from above events and contained in above sources.

II. CONSERVATION status of Black Sea cetaceans

It is generally recognized that all three Black Sea cetacean species – the harbour porpoise (*Phocoena phocoena*), short-beaked common dolphin (*Delphinus delphis*) and common bottlenose dolphin (*Tursiops truncatus*) – experienced a dramatic decline in abundance in the 20th century as a result of large directed catches. Commercial hunting of Black Sea cetaceans was banned in 1966 in the former USSR (present Georgia, Russia and Ukraine), Bulgaria and Romania, and in 1983 in Turkey. However, current fisheries bycatches, extensive habitat degradation and some other anthropogenic impacts pose permanent threats to the continued existence of cetaceans in the Black Sea and contiguous waters represented by the Sea of Azov, Kerch Strait and Turkish Straits System (including the Bosphorus Strait, Marmara Sea and Dardanelles Straits).

The riparian states assumed international obligations to protect Black Sea cetaceans as contracting parties of the Convention on Biological Diversity (CBD), Convention on the Conservation of Migratory Species of Wild Animals (CMS), Convention on the Conservation of European Wildlife and Natural Habitats (Berne Convention), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Convention on the Protection of the Black Sea Against Pollution (Bucharest Convention), and ACCOBAMS. These instruments should contribute to Black Sea cetacean conservation, especially, the ACCOBAMS and Bucharest Convention. All three Black Sea cetacean species are included in the Indicative list of cetaceans to which ACCOBAMS applies (2002) and in the Provisional List of Species of the Black Sea Importance (2002) annexed to the Black Sea Biodiversity and Landscape Conservation Protocol of the Bucharest Convention. The Strategic Action Plan for the Rehabilitation and Protection of the Black Sea (1996) envisages some cetaceans-oriented conservation and research actions in its Paragraph 62 [18]. The harbour porpoise and bottlenose dolphin are listed in Annex II and the common dolphin is mentioned in Annex IV of the EC Directive No. 92/43/EEC on the conservation of natural habitats of wild fauna and flora.

The Berne Convention's Recommendation No.86 (2001) and Resolution 1.12, adopted by the 1st Meeting of the Parties of ACCOBAMS (2002), are intended to strengthen prohibition measures for deliberate catch, keeping and trade of Black Sea bottlenose dolphins. At the 12th Conference of the Parties to CITES (Santiago, November 2002), a quota

of zero for mercantile export of live bottlenose dolphins wild-captured in the Black Sea has been secured. This measure prohibits transboundary transport of captive Black Sea bottlenose dolphins for 'primarily commercial purposes'.

Particular concern was expressed by the 1st Meeting of the ACCOBAMS Scientific Committee (Tunis, October 2002; Recommendation 1.2) in view of large and potentially unsustainable bycatches of harbour porpoises in bottom-set gillnet fisheries throughout the Black Sea shelf area. It was concluded that the conservation status of these animals would be greatly improved if existing fisheries regulations restricting fishing effort and the use of certain gear types are enforced.

The IWC Sub-Committee on Small Cetaceans (2003) [17] reviewed the status of Black Sea cetaceans in details and concluded that these populations of harbour porpoises, common dolphins and bottlenose dolphins, which are almost completely isolated from their conspecifics in the northeastern Atlantic and Mediterranean Sea, should be considered as the separate and discrete units for conservation purposes. At the same time, it turned out impossible to evaluate fully the status of Black Sea cetaceans due to a lack of basic information. In this respect, the Sub-Committee strongly recommended to improve the conservation-related cetacean research in the region by means of developing the region-wide (a) line-transect surveys, (b) photo-identification programme, (c) genetic analyses of population structure, (d) studies on cetacean life history, (e) comprehensive assessments of man-made threats including the incidental captures in fishing activities, disturbance caused by marine traffic, and past cetacean losses due to the directed catches.

The IUCN status

In 1996, Black Sea population of the harbour porpoise was inserted as Vulnerable (VU) in the IUCN Red List of Threatened Animals. The conservation status of Black Sea common dolphins and bottlenose dolphins is not evaluated by IUCN until now, although global status, assigned to *D. delphis* and *T. truncatus*, is Least Concern (LC) and Data Deficient (DD), correspondingly.²⁰⁶ However, all three Black Sea cetacean populations are supported by the IUCN 2002-2010 Conservation Action Plan for the World's Cetaceans [15].

In May 2005, the 3rd Meeting of the ACCOBAMS Scientific Committee encouraged the initiative proposed by the Cetacean Specialist Group of the IUCN Species Survival Commission (IUCN/SSC/CSG) concerning the development of the IUCN Red List of Mediterranean and Black Sea cetaceans. As a result, the IUCN/ ACCOBAMS Workshop on the Red List Assessment of Cetaceans in the ACCOBAMS Area (Monaco, March 2006) assessed the conservation status of Black Sea populations of the harbour porpoise, common dolphin and bottlenose dolphin as Endangered (EN) and confirmed their belonging to the Black Sea subspecies *Phocoena phocoena relicta* Abel, 1905; *Delphinus delphis ponticus* Barabasch-Nikiforov, 1935; and *Tursiops truncatus ponticus* Barabasch, 1940.

The excerpts from the Checklists for Red List Assessments containing the justification summaries of the status of Black Sea cetacean subspecies/populations are enclosed as Annex 4 to this Conservation Plan. The summaries represent a quintessence of thorough expert evaluation of current knowledge regarding Black Sea cetaceans and major threats affecting them, and thus, would help to put the Conservation Plan into context of available scientific data making more intelligible the need of different actions proposed. According to the IUCN Red List procedure, these assessments should be further reviewed by independent evaluators from IUCN/SSC/CSG and then submitted to IUCN/SSC for final consideration. It may be expected that this process will take about one year or somewhat more, so, hopefully, the new IUCN status of Black Sea cetaceans will be established before the end of 2007.

III. GENERAL APPROACH, GOALS AND OBJECTIVES

The Conservation Plan for Black Sea Cetaceans

²⁰⁶ Since 2003, the neighbouring population of common dolphins in the Mediterranean Sea is included as Endangered (EN) in the IUCN Red List of Threatened Animals.

- is created based on a strategy designed by ACCOBAMS and reflected in its Annex 2, the Conservation Plan;
- is intended to complement the existing ACCOBAMS Implementation Priorities for 2002-2006, and Priority #6 in the first place, addressing cetacean conservation, management and research in the Black Sea. It is fully corresponds to the ACCOBAMS Working Programme 2005-2007, Resolutions of the 1st and 2nd Meetings of the Parties to ACCOBAMS, Recommendations and decisions of the 1st, 2nd and 3rd Meetings of the ACCOBAMS Scientific Committee;
- is aimed to facilitate the co-operation among Black Sea riparian states and enhance their abilities essential for the conservation of cetaceans and their habitats;
- envisages common mechanisms aimed to promote cetacean conservation and research actions, as well as capacity building, education and public awareness in the Black Sea subregion under the co-ordination role of ACCOBAMS institutions including the Meeting of the Parties, Permanent Secretariat, Bureau, Scientific Committee and, last but not least, Black Sea Co-ordination Unit represented by the Commission on the Protection of the Black Sea Against Pollution (the Black Sea Commission);
- expects that it will be adopted and promoted by all Black Sea countries, including those which are still not the Parties of ACCOBAMS, regardless of existing national differences in the available expertise, level of organization, scientific backgrounds and logistical constraints among areas;
- expects also that its implementation will derive adequate support from national, regional, European and global agencies, intended for nature protection and sustainable development, and thus, will be provided with various sources to fund collaborative projects focused on the Black Sea cetaceans conservation.

The principal goals of this plan are to provide a framework and priority actions whereby the Black Sea Community (scientists, fishermen, industry, NGOs, local and national governments, and appropriate intergovernmental organisations) can in the short-term (2006-2010) begin to practically improve the conservation status of Black Sea cetaceans, and in particular obtain the necessary scientific information to allow a full long-term conservation plan to be developed at the end of the period and effective management decisions to be made.

The actions presented below are grouped into six sections in accordance with basic **objectives** wholly correspondent with appropriate items of the ACCOBAMS Conservation Plan:

- Consolidation of international and national legal system
- Assessment and management of human-cetacean interactions
- Habitat protection
- Research and monitoring
- Capacity building, collection and dissemination of information, training and education
- Responses to emergency situations

IV. ACTIONS

All 18 actions proposed (their descriptions are presented on pp. 11-34) are important for the conservation of Black Sea cetaceans. The order of the actions follows above objectives (i.e. corresponds to a format of the ACCOBAMS Conservation Plan) and their numbering does not indicate priorities. These actions consist of 57 smaller actions or sub-actions (activities) which were prioritized according their significance (primary and secondary) in the relation to each other (some actions are clearly more urgent or definitely propaedeutic to others). The priority scores are included in separate cell of the descriptions. Besides, some actions are already on the way of their implementation and that is also underlined in the descriptions.

Special attention to the prioritization of the actions was devoted at the Round Table on the Conservation of Black Sea Cetaceans (Istanbul, Turkey, May 2006; see the minutes in Annex 5). The actions and sub-actions of primary priority are listed in Table 1.

It should also note the interactive nature between the various categories of actions and the actions within categories. In particular, the Research and Monitoring section is absolutely crucial to provide the necessary background to almost all of the other groups of actions (particularly to the Assessment and Management of Human-Cetacean Interactions). In its turn, the Basic Cetacean Surveys action is the most important within the Research and Monitoring category. Synoptic Table 2 listing the main 18 actions (see next page) helps to understand the synergies of different actions and functional links between them.

The implementation of the *Conservation Plan for Black Sea Cetaceans* is estimated for a five-year period (2007-2011; see Recommendation of the ACCOBAMS Scientific Committee in Annex 6). This term seems to be realistic under the stipulation that proper planning, coordination and monitoring of the actions proposed is established and adequate methodological, financial and logistical support is provided. This can be ensured under auspices of the ACCOBAMS, Black Sea Commission and their institutions. The establishing a position of this plan coordinator could be helpful.

Table 1. Conservation Plan for Black Sea Cetaceans: Actions and activities of high priority**URG** – activities addressed as a matter of urgency (Istanbul Round Table, May 2006)

Actions	Activities (sub-actions)
1 Broadening the ACCOBAMS scope	(a) promotion of accession of the Russian Federation and Turkey to ACCOBAMS
2 Proper conservation status of cetacean populations	(a) proper listing Black Sea cetaceans in the IUCN Red List of Threatened Animals (b) providing correct references to the IUCN status of Black Sea cetaceans in relevant international instruments
3 Cetacean conservation approach in fishery regulations	(a) adopting the Black Sea legally binding document for fisheries and conservation of marine living resources
4 Improvement and harmonization of national legislation	(a) improvement of national legislation in respect of international requirements on the conservation of cetaceans
6 Strategy for reducing cetacean bycatches	(a) establishment of a regional bycatch network URG (b) estimation of bycatch levels and temporal and geographical distribution of bycatches (c) evaluation of sustainable bycatch levels for each cetacean species (d) investigation of effects causing by mitigation measures including pingers and acoustically reflective nets (f) developing management objectives for reducing bycatches in the Black Sea region
8 Elimination of live capture of Black Sea cetaceans	(a) improvement of control assigned to eliminate live capture of cetaceans (b) preparation and adoption of national legal acts banning any intentional capture of Black Sea cetaceans
11 Network of existing protected areas eligible for cetaceans	(a) assessment of existing protected areas with regard to their relevance to cetacean conservation (b) developing the regional network of eligible protected areas URG (c) preparation of the network's cetaceans-oriented strategy, action plan and guidelines (d) protected areas involved in the network should restrain human activities potentially harmful for cetaceans
12 Special marine protected areas for cetacean conservation	(a) developing management plans and creating <i>ad hoc</i> marine protection areas in the defined localities
13 Basic cetacean surveys	(a) carrying out region-wide survey and assessment of cetacean abundance, distribution and hot spots URG (b) carrying out cetacean survey in the Turkish Straits System
15 Regional cetacean stranding network	(a) developing the existing national CSNs with their functional fusion into the basin-wide network URG (b) developing a Black Sea regional database of cetacean strandings (c) establishing cetacean tissue bank(s) accumulating samples from stranded and bycaught cetaceans (d) multidisciplinary study of samples collected from stranded and bycaught animals
18 Measures for responding to emergency situations	(a) assessment of emergency situations demanding special response (e.g. rescue-and-release operations) (b) developing guidelines on how to respond to emergency situations affecting Black Sea cetaceans (c) developing regional strategy (contingency plan) and national teams for responding to emergency situations

Table 2. Conservation Plan for Black Sea Cetaceans: Links between actions proposed

Actions	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Broadening the ACCOBAMS scope	Proper conservation status of cetacean populations	Cetacean conservation approach in fishery regulations	Improvement and harmonization of national legislation	Retrospective analysis of human-induced cetacean mortality	Strategy for reducing cetacean bycatches	Mitigation of conflicts between cetaceans and fishery	Elimination of live capture of Black Sea cetaceans	Mitigation of disturbance caused by shipping	Management of threats from gas-and-oil producing industry	Network of existing protected areas eligible for cetaceans	Special marine protected areas for cetacean conservation	Basic cetacean surveys	Cetacean photo-identification programme	Regional cetacean stranding network	Strategies for capacity building and raising awareness	Access to information and cetacean libraries	Measures for responding to emergency situations
1 Broadening the ACCOBAMS scope		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2 Proper conservation status of cetacean populations	X		X	X	X	X		X	X	X			X	X	X	X	X	X
3 Cetacean conservation approach in fishery regulations	X	X		X	X	X	X	X								X	X	X
4 Improvement and harmonization of national legislation	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
5 Retrospective analysis of human-induced cetacean mortality	X	X	X	X		X	X	X		X			X		X	X	X	
6 Strategy for reducing cetacean bycatches	X	X	X	X	X		X						X	X	X	X	X	X
7 Mitigation of conflicts between cetaceans and fishery	X		X	X	X	X							X			X	X	X
8 Elimination of live capture of Black Sea cetaceans	X	X	X	X	X								X			X	X	
9 Mitigation of disturbance caused by shipping	X	X		X								X	X	X		X	X	X
10 Management of threats from gas-and-oil producing industry	X	X		X	X							X	X	X		X	X	X
11 Network of existing protected areas eligible for cetaceans	X			X								X	X	X	X	X	X	X
12 Special marine protected areas for cetacean conservation	X			X		X			X	X	X		X	X	X	X	X	X
13 Basic cetacean surveys	X	X		X	X	X	X	X	X	X	X	X		X	X	X	X	X
14 Cetacean photo-identification programme	X	X		X					X	X	X	X	X		X	X	X	
15 Regional cetacean stranding network	X	X		X	X	X					X	X	X	X		X	X	X
16 Strategies for capacity building and raising awareness	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
17 Access to information and cetacean libraries	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
18 Measures for responding to emergency situations	X	X	X	X		X	X		X	X	X	X	X		X	X	X	

CONSOLIDATION OF REGIONAL AND NATIONAL LEGAL SYSTEM (Actions 1 – 4)

ACTION 1: Broadening the ACCOBAMS scope				
Aim	Targets	Recommended actions	Priority	Responsible actors
Achieve that all six Black Sea riparian states are the Contracting Parties to ACCOBAMS; disseminate the ACCOBAMS process in the countries which have indirect outlet to the Black Sea through the rivers and exert their influence on the Black Sea environment and biota (including cetaceans) by means of fluvial discharges and marine-riverine traffic.	Accession of the Russian Federation and Turkey to ACCOBAMS. States of the Black Sea basin, which have no direct outlet to the Black Sea, are involved in negotiations concerning their possible participation in ACCOBAMS.	(a) Promote accession of the Russian Federation and Turkey to ACCOBAMS. This action should have positive influence on the concerted region-wide implementation of all other activities proposed in this plan (links to Actions 2–18).	Primary	ACCOBAMS Secretariat and Secretariat of the Black Sea Commission (Black Sea SRCU of ACCOBAMS)
		(b) Initiate the ACCOBAMS awareness process in those European states which are connected with the Black Sea via rivers. Note: States where the Danube is flowing through (most of which are EU Member States) should be made aware of the effects on Black Sea cetaceans and their habitat of discharging certain substances in the river. It could be helpful if the Black Sea Commission is involved in promoting such awareness in cooperation with the European Commission.	Secondary	
Rationale / Background	Up to date, four Black Sea coastal states ratified the ACCOBAMS. They are Bulgaria, Georgia, Romania and Ukraine. The rest two riparian countries, Russia and Turkey, are not the Contracting Parties yet. Both states did not sign the Final Act of the Negotiation Meeting to adopt the ACCOBAMS. Nevertheless, they show willingness to protect Black Sea cetaceans by means of national legislation and in the framework of the Bucharest Convention and some other relevant multilateral treaties. Thus, those states should be considered as potential partners within the ACCOBAMS process. A total of 22 countries belong to the Black Sea drainage basin. Except above six riparian states, most of them (e.g. Austria, Czechia, Germany, Hungary, Switzerland, etc.) are connected with the Black Sea via Danube and Dnieper rivers. It could be envisaged, that these European countries are able, in theory, to affect the Black Sea ecosystem and cetaceans as its hierarchs (top predators) due to river-borne pollution and disturbance caused by the navigation between the sea and rivers. Thus, the involvement of such states in the ACCOBAMS seems to be reasonable.			

ACTION 2: Proper conservation status of cetacean populations				
Aim	Target	Recommended actions	Priority	Responsible actors
Ensure that Black Sea cetacean species – the harbour porpoise, the short-beaked common dolphin and the common bottlenose dolphin – are properly classified in the international documents aimed to protect the Black Sea environment, ecosystems, living resources and biodiversity.	Correct evaluation and application of the IUCN conservation status of Black Sea cetacean populations.	(a) The evaluation of the IUCN conservation status of Black Sea cetacean subspecies/populations should be finalized and proper listing assured in the IUCN Red List of Threatened Animals. (b) Correct references to the IUCN status of Black Sea cetaceans should be provided in relevant documents of international and Black Sea regional significance.	Primary	ACCOBAMS Scientific Committee, IUCN/SSC Cetacean Specialist Group, IUCN Species Survival Commission, Secretariat of the Black Sea Commission, ACCOBAMS Secretariat
		(c) The status of Black Sea cetaceans should be periodically re-evaluated in the future in accordance with the updated knowledge of their biology, ecology and threats, including results of the anticipated basin-wide survey aimed to gain reliable information on cetaceans abundance and distribution. Links to Actions 3–6, 8–10, and 13–18 are anticipated.	Secondary	
Rationale / Background	<p>Since 1996, the Black Sea population of harbour porpoises is inserted as Vulnerable (VU) in the IUCN Red List of Threatened Animals, while the conservation status of Black Sea common dolphins and bottlenose dolphins was not assessed by IUCN till recently, and globally these two species – <i>Delphinus delphis</i> and <i>Tursiops truncatus</i> – are listed by IUCN, correspondingly, as Least Concern (LC) and Data Deficient (DD). Nevertheless, all three Black Sea cetacean species/populations are listed as DD in the regional Black Sea Red Data Book (1999) and, at the same time, as Endangered (EN) in the Provisional List of Species of the Black Sea Importance – the document constituting integral part (Annex 2) of the Black Sea Biodiversity and Landscape Conservation Protocol (2002) to the Bucharest Convention. Both latter appraisals were not examined by international cetacean experts. In May 2005, the 3rd Meeting of the ACCOBAMS Scientific Committee encouraged the initiative proposed by the Cetacean Specialist Group of the IUCN Species Survival Commission (IUCN/SSC/CSG) concerning the development of the IUCN Red List of Mediterranean and Black Sea cetaceans. As a result, the IUCN/ACCOBAMS Workshop on the Red List Assessment of Cetaceans in the ACCOBAMS Area (Monaco, March 2006) assessed the status of Black Sea populations of the harbour porpoise, common dolphin and bottlenose dolphin as EN and confirmed their belonging to the Black Sea subspecies of small cetaceans (<i>Phocoena phocoena relicta</i>, <i>Delphinus delphis ponticus</i> and <i>Tursiops truncatus ponticus</i>). According to the IUCN Red List procedure, these assessments should be further reviewed by two independent CSG evaluators and then submitted to IUCN/SSC for final consideration.</p>			

ACTION 3: Cetacean conservation approach in fishery regulations				
Aim	Target	Recommended actions	Priority	Responsible actors
Ensure that Black Sea intergovernmental agreements and national regulations, purposed to manage Black Sea living resources and their exploitation, include items concerned in the conservation of cetaceans.	Regional and national instruments regulating fisheries are in full correspondence with a goal to protect Black Sea cetacean populations.	(a) The Legally Binding Document (LBD) for Fisheries and Conservation of Living Resources should be adopted by the Black Sea states.	Primary	Black Sea Commission and Black Sea Range States represented by appropriate authorities (including ACCOBAMS national focal points)
		(b) The riparian countries should ensure compliance of their national fisheries regulations with above document stating the necessity of prohibition of any harvesting of marine mammals; reduction of incidental catches of cetaceans at least to sustainable level; and tight cooperation with ACCOBAMS. Links to Actions 1, 2, 4–8, 16 and 17 could be helpful.	Secondary	
Rationale / Background	Black Sea international and national legislation on the management and use of marine living resources is not adequately developed yet. The overfishing and devastating illegal fishing became common region-wide problems causing mass accidental mortality of harbour porpoises in fishing gear and depletion of cetaceans forage sources. In order to rehabilitate the Black Sea ecosystem and achieve sustainable fisheries in the Black Sea, the fisheries management policies need to be improved. The Strategic Action Plan for the Rehabilitation and Protection of the Black Sea [18] envisages that the Black Sea coastal states should expedite the development of the Fisheries Convention and improve their national regulations on fisheries. On the way towards the Black Sea Fisheries Convention, the intermediate Legally Binding Document (LBD) for Fisheries and Conservation of Living Resources of the Black Sea has been drafted by the Black Sea Commission (2002). This draft document includes some meaningful items devoted to the conservation of cetaceans.			

ACTION 4: Improvement and harmonization of national legislation				
Aim	Target	Recommended actions	Priority	Responsible actors
Ensure that in the Black Sea states their laws intended to regulate conservation activities, sustainable use and management of marine environment and resources are brought in accordance with international legislation standards related to cetacean conservation.	National legislative acts are in compliance with international treaties protecting Black Sea cetaceans and their habitats.	(a) National legislation should be improved paying due respect to international requirements concerning the conservation of cetaceans.	Primary	Black Sea Range States represented by appropriate authorities, ACCOBAMS focal points and experts. The co-ordination role of the Secretariat of the Black Sea Commission is expected
		(b) All species/populations of Black Sea cetaceans should be properly classified in national instruments bearing on the management and conservation of marine organisms and their habitats. Appropriate research data should provide solid base for the (re-)assessment of national conservation status of Black Sea cetaceans in all six riparian countries. Note: Links to Actions 1–3, 5–11, and 13–18 will be useful. In particular, see Action 2 as a pattern of similar activity on the regional level. It is envisaged that national conservation status of cetacean species may be diverse in different countries and may differ from the regional one.	Secondary	
Rationale / Background	In the Black Sea countries cetaceans are protected by national laws and appropriate subordinate acts. For instance, in Ukraine these species are protected by the Animal World Law and the Law on the Red Data Book of Ukraine. At the same time, all riparian states are contracting parties to the Convention on the Conservation of Biological Diversity (CBD), Bucharest Convention and CITES. Some Black Sea states are parties to the ACCOBAMS, Bonn Convention (CMS), Berne Convention and Whaling Convention managed by the International Whaling Commission (IWC). In accordance with their specific goals, the above multilateral instruments protect cetaceans and cetacean habitats and should strengthen the conservation status of dolphins and porpoises in the Black Sea states. Meanwhile, at present there is no comprehensive assessment of the conservation status of any Black Sea cetacean species in any riparian state. National laws are in need to be brought in full correspondence with international obligations of the Black Sea countries.			

ASSESSMENT AND MANAGEMENT OF HUMAN-CETACEAN INTERACTIONS (Actions 5 – 10)

ACTION 5: Retrospective analysis of human-induced cetacean mortality				
Aim	Target	Recommended actions	Priority	Responsible actors
Investigate the feasibility of obtaining meaningful estimates of human-induced cetacean mortality over the 20th century with the view of historical reconstruction of the 'initial' population sizes and, thereby, more clear evaluation of present status and trends of Black Sea cetacean populations.	Adjusted understanding of population dynamics in the past and at present.	<p>(a) Preliminary study should be carried out to check up potential realizability of detailed assessment of human-induced cetacean mortality in bygone years.</p> <p>(b) If the revealed archival datasets appear to be accessible and suitable for such examination, the assessment should be performed and then the acquired information on cetacean removals will serve the reconstruction of past population sizes via modelling.</p> <p>(c) Assessment of historical data with their reference to the current status of the three Black Sea cetacean species would provide better understanding of population dynamics.</p> <p>Note: These activities are linked to Actions 1–4, 6–8, 13 and 15–17. In case of direct kills, above approach will require estimation of species ratios, product conversion factors and methods to account for hunting loss, so that aggregate data on total cetaceans landed by weight can be converted to removals by species, area and year.</p>	Secondary	Cetacean experts and relevant national authorities (including ACCOBAMS focal points) in co-operation with the Secretariat of the Black Sea Commission (Black Sea SRCU of ACCOBAMS)
Rationale / Background	Uncontrolled directed takes were the major threat to cetaceans in the Black Sea until a total ban on this harvest was imposed in 1983. All three species were harvested for oil, meal and other products from the 1830s (as minimum) throughout most of the 20th century. As many as four to five million individuals may have been removed during this time. Besides, other sources of human-induced mortality (mainly bycatch in fishing gear, but also accidents at sea and fatal live-capture operations) contributed to cetacean losses.			

ACTION 6: Strategy for reducing cetacean bycatches				
Aim	Target	Recommended actions	Priority	Responsible actors
Develop a system of concordant measures able to decrease cetacean mortality in fishing gear at least to sustainable levels, with ultimate long-term goal of reducing it to zero if possible.	Regional strategy for reducing bycatches adopted by Black Sea countries on the base of valid scientific reasoning and clarification dialog with fishing 'stakeholders'.	<p>(a) Establishment of a regional bycatch network.</p> <p>(b) Estimation of bycatch levels (by fishing gear type and cetacean species) and the temporal and geographical distribution of bycatches (and fishing effort by gear type) for legal fisheries and for illegal, unreported or unregulated (IUU) fishing, and for ghost fishing by abandoned nets.</p> <p>(c) Evaluation of sustainable bycatch levels for each cetacean species with regard to their present distribution and abundance (link to Action 13) and past human-induced removals (link to Action 5) analysed, in particular, by means of population modelling.</p> <p>(d) Investigation of potential mitigation measures from scientific and socio-economic perspective, including practicality and implications of using pingers and acoustically reflective nets and their possible effects on other components of the ecosystem.</p> <p>(f) Developing agreed management objectives for reducing bycatches in the Black Sea region, with a focussing on co-operation with fishing community.</p> <p>Notes: These activities should be implemented in accordance with ACCOBAMS BYCAMS project. On application of the activities, the first priority should be given to harbour porpoise bycatches caused by bottom-set gillnet fisheries. Actions (a), (d) and (f) could be implemented by respective workshop(s). Among other management objectives, the time/area closure option and development of marine protection areas (link to Action 12) should be considered. Cetacean carcasses found in fishing gear should be available for postmortem examination and sampling; links to cetacean stranding networks and tissue banks (Action 15) as well as to cetacean rescue teams (Action 18) are recommended. The connection with Actions 1–4, 7, 16 and 17 is also envisaged.</p>	Primary	Cetacean experts and relevant national authorities in co-operation with the Secretariat of the Black Sea Commission and its Advisory Group on the Environmental Aspects of Management of Fisheries and Other Living Resources, and ACCOBAMS Scientific Committee
Rationale / Background	Bycatches are the major source of human-induced mortality of Black Sea cetaceans. All three species are known to be taken as bycatch, although incidental takes of harbour porpoises evoke the greatest concern. Porpoises are caught in a variety of fisheries, but for all that the bottom-set gillnets for turbot, spiny dogfish and sturgeon pose particular threat to their population. Such bycatches occur in the Azov Sea and Kerch Strait and throughout shelf area of the Black Sea including territorial waters of all six riparian countries. Preliminary indications suggest that annual rate of harbour porpoise bycatches can be numbered in thousands, with a peak in April–June during the turbot fishing season. It is known that illegal, unreported or unregulated (IUU) fishing is widespread in the Black Sea suggesting that significant part of bycatches takes place due to this kind of human activity. So far, no special attempts have been made to mitigate cetacean bycatches in the Black Sea region. The acoustic deterrent devices (pingers) and acoustically reflective fishing gear were never used here.			

ACTION 7: Mitigation of conflicts between cetaceans and fishery				
Aim	Target	Recommended actions	Priority	Responsible actors
Address the problem of adverse cetacean/fisheries interactions (other than bycatches) and develop measures for this problem solution.	Regional approach to the mitigation and prevention of conflict interactions between fishery and cetaceans including dolphin depredation and prejudicial actions of fishermen.	<p>(a) Evaluation of the magnitude, temporal and geographical scope of adverse cetacean/fisheries interactions (by fishing categories and cetacean species), including clarification of roles of the involved parties in:</p> <ul style="list-style-type: none"> - prey competition and depletion of fish resources; - deterioration of fishing grounds/cetacean foraging areas; - confinement of fishing operational capabilities and living conditions of cetaceans; - so-called dolphin depredation and retaliatory measures from fishermen. <p>(b) Socio-economic study and modelling of adverse cetacean/fisheries interactions on the base of above action and results of basin-wide cetacean survey (link to Action 13).</p> <p>(c) Developing strategies for mitigating conflict interactions in collaboration with fishery specialists. Link to Action 6 may be particularly helpful, although links to Actions 1, 3–5, 16 and 17 are also reasonable.</p> <p>Note: These actions should be implemented in accordance with ACCOBAMS BYCAMS project. Recommendations of the ACCOBAMS Workshop on Interactions between Dolphins and Fisheries in the Mediterranean: Evaluation of Mitigation Alternatives [14] should be taken into consideration.</p>	Secondary	Cetacean experts and relevant national authorities in co-operation with the Secretariat of the Black Sea Commission and its Advisory Group on the Environmental Aspects of Management of Fisheries and Other Living Resources, and ACCOBAMS Scientific Committee
Rationale / Background	Anecdotal notes of beneficial cooperation between Black Sea fishermen and cetaceans are quite dubious, whereas conflicts between them, causing troubles to the both sides, appear to be a real problem. Along with bycatches (see Action 6), fisheries provoke a number of other effects on bottlenose dolphins, common dolphins and harbour porpoises including: changes (diminution or increase) of their foraging potentiality; modification of feeding strategy and behaviour; deterioration of habitats; alteration of distribution pattern and migration ability. These impacts are poorly studied and understood. No reliable data have been presented to refute or support speculations on suspected prey competition between dolphins and humans, although some cases are known when bottlenose dolphins raised trouble to fishermen by damaging their nets or catch, or stealing caught fish from the nets. No statistics are available on such conflicts and respective financial losses, and no appropriate compensation is stipulated for fishermen from their governments. In the Black Sea region there is no management procedure or even approach to address and mitigate dolphin depredation as well as eliminate cruel retaliatory actions resulting sometimes in dolphin deaths.			

ACTION 8: Elimination of live capture of Black Sea cetaceans				
Aim	Target	Recommended actions	Priority	Responsible actors
Restrain intentional removal of live cetaceans from the wild.	Complete ban on live captures for commercial, military and other purposes except urgent needs concerned with the conservation of cetaceans according to ACCOBAMS objectives. ²⁰⁷	(a) Improve the control to eliminate any live capture of cetaceans in the Black Sea and contiguous maritime areas. (b) Prepare and adopt relevant national legislative acts (or make appropriate amendments to existing laws) banning any intentional capture of Black Sea cetaceans.	Primary	Cetacean experts and relevant national authorities in co-operation with the Secretariat of the Black Sea Commission, ACCOBAMS Secretariat and CITES Secretariat
		(c) Evaluate the level, time/location characteristics, legality and biological features (sex, age, etc.) of bottlenose dolphin removals in the past. (d) Evaluate the impact of past removals on Black Sea bottlenose dolphin population in general and on local communities of this species which were the objects of capture operations. Links to Actions 1–5, 13, 16 and 17 could be helpful.	Secondary	
Rationale / Background	Directed lethal takes of Black Sea cetaceans are banned in the entire region, and cetacean live captures are prohibited (or cannot be permitted) in the countries-parties of ACCOBAMS (Bulgaria, Georgia, Romania and Ukraine) in concordance with Article II.1 of the Agreement. However, the live captures still may take place in other two Black Sea states which are not contracting parties to ACCOBAMS. At present (2001-2005), only Russia uses this opportunity issuing permits for the catching live bottlenose dolphins in its internal waters. There have been a number of initiatives to eliminate such practice, including the Berne Convention's Recommendation No.86 (2001) and Resolution 1.12 adopted by the 1st Meeting of the Parties of ACCOBAMS (2002). In 2002, CITES set a zero annual export quota for live specimens of Black Sea bottlenose dolphins removed from the wild and traded for primarily commercial purposes, and the Black Sea Commission adopted the Biodiversity and Landscape Conservation Protocol as an annex to the Bucharest Convention. Both last instruments do not address directly the issue of cetacean live capture, however, they create the necessary prerequisites for respective improvement of national legislation.			

²⁰⁷ As consistent with Article II.2 of the ACCOBAMS, any Party may grant an exception to the prohibition of deliberate taking of cetaceans **only in emergency situations** (major pollution events, important strandings or epizootics) as provided for paragraph 6 (Responses to Emergency Situations) of the ACCOBAMS Conservation Plan (Annex 2 to the Agreement), **or, after having obtained the advice of the ACCOBAMS Scientific Committee, for the purpose of non-lethal *in situ* research aimed at maintaining a favourable conservation status for cetaceans**; the Party concerned shall immediately inform the ACCOBAMS Bureau and Scientific Committee, through the Agreement Secretariat, of any such exception that has been granted; the Secretariat shall inform all Parties of the exception without delay by the most appropriate means.

ACTION 9: Mitigation of disturbance caused by shipping				
Aim	Target	Recommended actions	Priority	Responsible actors
Address the problem of adverse impact of heavy marine traffic on Black Sea cetacean populations and develop appropriate conservation/management measures.	Regional strategy for reducing negative effects of shipping/cetacean interactions.	<p>(a) Evaluation of the magnitude, temporal and spatial characteristics of marine traffic levels by shipping categories and integrally in comparison with past and present data on cetacean distribution, migrations and abundance. Links to the results of basin-wide cetacean survey (Action 13) and photo-identification programme (Action 14) would be particularly helpful for this analysis.</p> <p>(b) Assessment of shipping/cetacean interactions (including direct collisions and disturbance caused by vessel noise) in the areas representing important cetacean habitats affected by intense marine traffic. Research schemes should be designed in collaboration with specialists experienced in hydro- and bioacoustics, and cetaceans behaviour.</p> <p>(c) Developing management strategies for reducing adverse impact of the marine traffic on Black Sea cetaceans, with strong emphasis on co-operation with Black Sea shipping companies and other 'stakeholders'. Links to Actions 1, 2, 4, 12, and 16–18 could be helpful.</p> <p>(d) As long as above strategies are completed, in order to start the mitigation of cetacean disturbance as early as possible, certain guidelines should be prepared and disseminated among shipping companies, vessel crews, harbor authorities and other identified audiences (link to Action 16).</p>	Secondary	Institutions involved in cetacean research and conservation in co-operation with agencies and services protecting the Black Sea and managing the navigation
Rationale / Background	<p>The intensity of navigation increased dramatically in recent decades throughout the Black Sea, but mainly – in coastal waters representing primary habitat of harbour porpoises and bottlenose dolphins. In general, the marine traffic has a strong tendency to increase along the predetermined shipping lanes and in the areas surrounding big harbors; it shows annual trend to rise during warm season with a summer peak due to the growth of tourist activities. Marine traffic in the Turkish Straits System is particularly heavy with an obvious hot spot in the Bosphorus Strait. The Kerch Strait is another area where impacts of vessel traffic on cetaceans may be especially acute. It could be suspected that the shipping is important source of cetacean disturbance causing a series of negative effects such as possible extrusion of dolphins and porpoises from preferable habitats, alteration of their migration ways and modification of their behaviour resulting ultimately on population level in the reducing of foraging and reproductive success. However, to date there was no any study of adverse impact of the shipping on Black Sea cetaceans and no special measures have been proposed to mitigate this potential threat. The Bosphorus and Kerch Strait seem to be preferable pilot areas where this conservation problem could be addressed.</p>			

ACTION 10: Management of threats from gas-and-oil producing industry				
Aim	Target	Recommended actions	Priority	Responsible actors
Address the problem of potential threats to cetaceans from gas and oil industry operating at sea, and develop pertinent management measures.	Regional strategy for restraining negative influence on cetacean populations of the offshore gas and oil exploring, extraction and transportation.	<p>(a) Evaluation of maritime areas inhabited by cetaceans and, at the same time, exploited or projected for exploitation by gas and oil industry including its exploring, extractive and transporting components. The analysis should be supported by basic data on cetacean distribution, migrations and abundance (links to Actions 13 and 14) and provided with a list of potential specific threats to cetaceans in each area.</p> <p>(b) Assessment of the impact of gas and oil industry on cetaceans in the areas of their seasonal aggregation or preferential occurrence. The research schemes should envisage visual and acoustic observations gaining the knowledge on effects of seismic exploration, boring, gas/oil extraction and transport, etc. on cetacean distribution, abundance, behaviour, health status and food accessibility.</p> <p>(c) Developing measures for the controlling and mitigation of adverse influences of the offshore gas and oil industry on cetacean populations (including the improvement of national legislation regulating this sphere of human activity). Links to Actions 1, 2, 4, 5, 12 and 16–18 seem to be useful.</p> <p>Note: Successful implementation of these actions to a considerable degree depends on close and transparent collaboration with gas and oil companies operating in the Black Sea region.</p>	Secondary	Institutions involved in cetacean research and conservation in co-operation with agencies protecting the Black Sea, and companies managing gas and oil producing industry in the region
Rationale / Background	<p>Certain areas of the Black and Azov Seas are subjected to gas and oil industry, and its rapid growth is expected in the near future in all six riparian countries. This kind of human activity can disturb cetaceans during different stages of its technological chain, starting with geological/ geophysical reconnaissance of deposits by means of trial boring and undersea bursts and ending with transportation of extracted gas and oil by bottom pipelines and tankers. Drilling and seismic exploration is widely spread on the Black Sea shelf. Bulgaria, Romania and Ukraine started commercial gas and oil extraction from the sea bottom some tens years ago. Major centres of this industry, which could be considered as areas of permanent risk for the marine environment, are situated in the northwestern Black Sea (Bulgaria, Romania and Ukraine) and in the northwestern corner of the Sea of Azov (Ukraine). Those waters are known as important breeding, calving and feeding grounds for Black Sea cetaceans during warm season. Last decades Ukraine exploited seven gas and gas condense deposits in the Black Sea and three gas deposits in the Azov Sea; in August 1982, the explosion of drilling platform in the Azov Sea caused death of over 2,000 harbour porpoises. It was announced that 150 other sites across the Ukrainian shelf are on offer for further exploitation. Georgia and Turkey recently commenced on gas exploring in the southeastern Black Sea, important wintering area of harbour porpoises and common dolphins. At the same time Russia develops tanker loading terminals on the Caucasian coast and pipelines for subsea gas transit to Turkey. So far the impact of gas and oil industry on Black Sea cetaceans was not studied at all, and no specific conservation and management measures were implemented or even suggested.</p>			

HABITAT PROTECTION (Actions 11 and 12)

ACTION 11: Network of existing protected areas eligible for cetaceans conservation				
Aim	Target	Recommended actions	Priority	Responsible actors
Develop regional network of already operating protected areas containing cetacean habitats within their boundaries, taking into account the ACCOBAMS 2010 targets and the ACCOBAMS Criteria for Protected Areas of Importance for Cetacean Conservation.	Existing coastal and marine protected areas, consolidated as a network, are focused on, prepared for and involved in the conservation and monitoring of Black Sea cetaceans.	<p>(a) Regional assessment of existing coastal and marine protected areas with regard to the presence of cetacean habitats within their boundaries and their relevance to cetacean conservation. Basic data on the distribution and abundance of dolphins and porpoises (links to Actions 13 and 14) could be helpful for evaluation of those protected areas which are fit for setting into cetacean monitoring activities.</p> <p>(b) Developing the regional network of eligible protected areas represented mainly by biosphere reserves, nature reserves and national parks. It is essential to ensure that sufficient awareness exists among the operating staff concerning cetacean monitoring and conservation. The relationship with existing cetacean stranding networks (Action 15) and rescue teams (Action 18) could be helpful.</p> <p>(c) Preparation of the network's cetaceans-oriented strategy and action plan as well as guidelines on cetacean monitoring, conservation and management procedures. The documents should be agreed by members of the network and secured on proper provisions for their implementation. Training of specialists, unconstrained exchange of information and competent co-ordination of the network should be envisaged. Links to Actions 1, 4, 12, 16 and 17 are envisaged.</p> <p>(d) Marine protected areas involved in the network should restrain within their boundaries any human activities potentially harmful for cetaceans.</p>	Primary	Coastal and marine protected areas, cetacean experts, Secretariat of the Black Sea Commission, ACCOBAMS Secretariat
Rationale / Background	Coastal and marine protected areas are generally recognised as a primary tool for conservation of the marine environment and biodiversity. At present, over 60 protected areas and sites are established along the coastline of the Black and Azov Seas by riparian states, and additional 40 areas are suggested for further development [12]. Some of them contain cetacean habitats within their boundaries, and could thus serve for cetacean monitoring and conservation, if appropriate management objectives are set, and the personnel is specifically trained. In this context, the most promising protected areas are represented by existent biosphere reserves, nature reserves and national parks which have relatively well-developed infrastructure and research capabilities. The Romanian Danube Delta Biosphere Reserve and 'Vama-Veche – 2 Mai' Marine Reserve are involved in cetacean research and conservation in Romania. In 2003-2005, nine coastal protected areas joined the Ukrainian National Network for Cetaceans Conservation co-ordinated by the Brema Laboratory (Simferopol). They are (from west to east): the Dunaisky (Danube) Biosphere Reserve, Chernomorsky (Black Sea) Biosphere Reserve, Swan Islands Branch of the Crimean Nature Reserve, Cape Martyan Nature Reserve, Karadag Nature Reserve, Opuk Nature Reserve, Kazantip Nature Reserve, Azov and Sivash National Park, and Meotida Landscape Park. The inventory of cetacean habitats has been completed and common methodology for cetacean monitoring was introduced in these protected areas. Other Black Sea countries so far do not follow this initiative supported in 2005 by the UK Department of Environment, Food and Rural Affairs and British Council–Ukraine (NNCC-project).			

ACTION 12: Special marine protected areas dedicated to cetacean conservation				
Aim	Target	Recommended actions	Priority	Responsible actors
Set up particular cetacean protection modes in well-defined key areas containing cetacean habitats which are vitally important, first of all, for harbour porpoises and bottlenose dolphins, taking into account the ACCOBAMS 2010 targets and the ACCOBAMS Criteria for Protected Areas of Importance for Cetacean Conservation.	Marine protected areas specialized in cetacean conservation are established protecting the recognized cetacean critical habitats.	(a) Developing management plans and creating <i>ad hoc</i> marine protection areas for the conservation of already defined cetacean critical habitats in the Ukrainian (off the south-western Crimea) and Georgian (off the Adjara Autonomy) territorial sea, with regard to their preferential use during cold season by accumulations of bottlenose dolphins (Crimea), common dolphins (Adjara) and harbour porpoises (Crimea and Adjara).	Primary	Cetacean experts, relevant national authorities (including ACCOBAMS focal points), Secretariat of the Black Sea Commission in co-operation with public administrations and other relevant 'stakeholders', ACCOBAMS Secretariat
		(b) Evaluation of other critical habitats, used by cetaceans for resident habitation, reproduction, feeding and migrations, for the purpose of making up a comprehensive list of areas which are eligible for the creation of new marine protected areas (including transboundary ones), introduction of time/area fishing closures, etc. The list should be accompanied with the systematized information on specific threats identified in those areas. Links to Actions 1, 4, 6, 9–11, and 13–18 must be taken into consideration. (c) Preparation of proposals and pushing them forward to establish special protection modes in the areas recognized as expedient for cetacean habitats conservation in accordance with above action. Notes: Management plans should include the monitoring of cetacean communities, targeted research, regulation of impacting human activities, education efforts directed at the fishermen and recreational users, and promotion of more compatible, alternative activities (<i>e.g.</i> , dolphin watching) and resource uses. Time/area fishing closures could be envisaged where bycatch is the greatest concern, and where the problem is highly localised and predictable in time and space.	Secondary	
Rationale / Background	According to the ACCOBAMS Implementation Priorities for 2002-2006 [10], particular concern exists for the future of two Black Sea cetacean species, the harbour porpoise and bottlenose dolphin. Both species are listed in Annex II of the EC Directive No.92/43/EEC, implying that special protected areas have to be created for the conservation of these animals. The Action #4 of above Priorities envisages selection of one proper area in the Black Sea (namely, the coastal area of southern Crimea, Ukraine, comprised between Cape Sarych and Cape Khersones) in which a pilot conservation and management project "be developed and implemented immediately". Bottlenose dolphins and harbour porpoises annually aggregate during the fall, winter and spring in this relatively small area. The 1st Meeting of the ACCOBAMS Scientific Committee (Tunis, October 2002) recommended that more areas be investigated for identification of critical habitats. In 2005, another cetacean wintering area, including important feeding grounds of harbour porpoises and common dolphins, was identified in the Georgian Black Sea.			

RESEARCH AND MONITORING (Actions 13 – 15)

ACTION 13: Basic cetacean surveys

Aim	Target	Recommended actions	Priority	Responsible actors
Obtain and periodically refresh reliable basin-wide information on cetacean abundance and distribution.	Population sizes and distribution patterns of Black Sea harbour porpoises, bottlenose dolphins and common dolphins are known and their temporal and spatial population trends are monitored.	<p>(a) Carrying out basic region-wide survey with subsequent synoptic assessment of cetacean abundance and distribution, and identification of potential hot spots. The Black Sea proper, Azov Sea and Kerch Strait should be included in the survey scope and adequate methodology, agreed with international experts, should be applied for data recording and analysis. This study must also focus on spatial modelling and on the recognition of critical habitats. The results will contribute to the implementation of Actions 1, 2, 4–12 and 14–18.</p> <p>(b) Carrying out similar survey using the same methods in the Turkish Straits System (including the Bosphorus Strait, Marmara Sea and Dardanelles) to complete cetacean assessment in the area connecting the Black and Mediterranean Seas.</p> <p>(c) Developing long-term monitoring scheme(s) based on periodic surveying throughout the entire range of Black Sea cetaceans in the Black Sea, Azov Sea and Turkish Straits System. Standard methods should be used so that results could be compared over time (different years and seasons) and from one area to another.</p>	<p>Primary</p> <p>Secondary</p>	<p>Joint research team, represented by specialists from all Black Sea countries, in co-operation with international experts and under the auspices of the Black Sea Commission, ACCOBAMS and national authorities.</p> <p>In the Turkish Straits System the responsibility lies mainly or exclusively with Turkish researchers and government</p>
Rationale / Background	<p>No credible information exists on the abundance and distribution of cetaceans in the Black Sea in whole, although massive directed killing which continued to the early 1980s is believed to have considerably reduced the populations sizes. Such baseline research data, gained primarily and then monitored on regular base, are indispensable for all key sectors of cetacean management. A few line-transect cetacean surveys implemented recently in some Black Sea areas could be considered in this context as important introductory initiatives. In particular, aerial surveys were conducted in the Azov Sea, Kerch Strait and northeastern shelf area of the Black Sea (July 2001, August 2002); vessel-based surveys were performed in the Turkish Straits System (October 1997, August 1998), Kerch Strait (August 2003), entire 12-miles-wide zone of the Ukrainian and Russian Black Sea (September–October 2003), offshore waters of the northwestern shelf area (September 2004), Georgian territorial sea (January, May, August and November 2005), and central part of the Black Sea (September–October 2005). Thus, at present certain abundance estimates and cetacean distribution data are available for relatively small portions of the basin. The necessity of multi-national synoptic basin-wide assessment of cetacean populations was enunciated in the Strategic Action Plan for the Rehabilitation and Protection of the Black Sea [18] and reiterated in subsequent documents produced by the Black Sea Commission and adopted by Black Sea states [e.g., 16]. This idea was supported in the IUCN Conservation Action Plan for the World's Cetaceans [15] and by the IWC Scientific Committee [17]. Besides, it fully conforms to Resolution 2.19 adopted by the 2nd Meeting of the Parties to ACCOBAMS (2004). A series of competent meetings considered methodological and logistical aspects of the basin-wide cetacean survey making it more intelligible: the 3rd and 4th Joint Meetings of the CBD and FOMRL Advisory Groups of the Black Sea Commission (Istanbul, September 2004 and April 2005), Workshop on obtaining baseline cetacean abundance information for the ACCOBAMS area (Valsain, December 2004), 3rd Meeting of the ACCOBAMS Scientific Committee (Cairo, May 2005), Meeting on methodology for surveying the Black Sea (St. Andrews, September 2005), and Workshop on cetaceans surveying in the Black Sea (Istanbul, October 2005). The project proposal has been drafted with a budget between 210.000 and 250.000€.</p>			

ACTION 14: Cetacean photo-identification programme				
Aim	Target	Recommended actions	Priority	Responsible actors
Consolidation of cetacean photo-identification studies in order to provide information on population structure, seasonal movements and ranging patterns of Black Sea cetaceans, mostly, bottlenose dolphins and common dolphins.	Basic knowledge on population structure, migration regularity and accumulation features of Black Sea dolphins is gained owing to non-invasive research techniques incorporated in cetacean monitoring schemes.	<p>(a) Developing long-term photo-identification programme that could be similar to and joined with the EUROPHLUKES project. The collecting of cetacean (mainly bottlenose dolphin and common dolphin) images should be standardized, carried out on year-round basis and applied to the whole area of Black Sea cetaceans occurrence. This programme should be concordant with the basic cetacean surveys (link to Action 13) and accompanied with appropriate training and other capacity building activities (link to Action 16).</p> <p>(b) The photo-identification datasets established earlier (2003-2005) and arranged as initial "Black Sea Fins" cetacean identification catalogue should be replenished with new data/images, gained within above basin-wide activities, and then analysed in the aggregate for the entire Black Sea and adjacent waters including the Turkish Straits System and northern Aegean Sea of the Mediterranean. This analysis along with results of genetic study (link to Action 15) should provide new knowledge on population structure, migrations and aggregations (including seasonal accumulations) of Black Sea cetaceans.</p> <p>(c) The photo-identification constituent should be incorporated in subsequent monitoring schemes covering the entire range of Black Sea cetaceans (link to Action 13 and 15). The access to Black Sea photo-identification datasets and catalogues of identified individuals can be secured by means of periodical publishing of relevant data on CD-ROM as well as online on a specially dedicated web site (link to Action 17).</p> <p>Note: Above activities are linked also to Actions 1, 2, 4 and 9–12.</p>	Secondary	Black Sea specialists and research groups/ institutions interested in and prepared for photo-identification studies
Rationale / Background	<p>Photo-identification approach and methodology, which are indispensable for studying cetacean population structure, migrations/ residency and habitat use, were not developed in the Black Sea region up to 2003. A training course on cetacean photo-identification was organized by the ACCOBAMS Secretariat and carried out by Tethys Research Institute, Italy, in July 2003 (Kalamos, Greece) and October 2003 (Balaklava, Ukraine) for six Black Sea researchers from Ukraine, Russia and Georgia. Each national team was also provided with proper camera and lenses. That course was complemented with a follow-up in the Kerch Strait (August 2003, June 2004) and territorial waters of Ukraine (September 2003 – October 2004) and Russia (October 2003, June 2004). In co-operation with the EUROPHLUKES project, a catalogue of peculiar dorsal fins has been instituted for Black Sea bottlenose dolphins and common dolphins. This initial "Black Sea Fins" catalogue is available as a CD-ROM published in Ukraine (2004) and on-line (www.dolphin.com.ua/Base/fins/titul_fins.html). In 2005, the collection of Black Sea cetacean images has been replenished with photographs from the Georgian and central Black Sea (including pictures of harbour porpoises in the both areas) as well as with new samples obtained in the Kerch Strait and within inshore waters off the Russian Caucasus and southwestern Crimea, Ukraine. Besides, a corresponding study of bottlenose dolphins has started in Turkey in the Bosphorus Strait; and one trained researcher is available in Romania. However, current, even pooled photo-identification effort is still meagre and the results are not enough yet for comprehensive scientific conclusions regarding the discreteness of Black Sea cetacean populations, patterns of cetacean migrations and seasonal accumulations.</p>			

ACTION 15: Regional cetacean stranding network (CSN)				
Aim	Target	Recommended actions	Priority	Responsible actors
Basin-wide systematic study of cetacean strandings in order to monitor mortality levels in cetacean populations, and to provide samples for research of cetacean genetics, life history, ecology, pathology, parasitology, ecotoxicology, etc.	National CSNs co-operate on equal terms as partners constituting regional CSN, providing actual information on cetacean stranding rates, causes and trends of cetacean mortality, and promoting the specialized studies with samples collected from stranded dolphins and porpoises.	<p>(a) Developing the existing national CSNs and their functional fusion into the basin-wide network. A standardised methodology of data collecting and sampling should be set up supported by training of CSN members and providing them with appropriate literature (links to Actions 16 and 17). The regional CSN should operate permanently providing reliable information on dynamics of strandings recorded for each Black Sea cetacean species. Besides, in order to determine causes of death, the investigation of stranded animals should be carried out along with morphometric study of cetacean carcasses and samples collecting for further multidisciplinary laboratory analyses.</p> <p>(b) Developing a Black Sea regional Database of Cetacean Strandings which should be compatible with relevant Mediterranean database (MEDACES) and available online for corporative use of CSN members in all Black Sea countries.</p> <p>(c) Establishing Black Sea cetacean tissue bank(s) accumulating samples from stranded and bycaught (link to Action 6) cetaceans. The samples should be collected, fixed, transported and stored according common guidelines prepared in co-operation with already existing Mediterranean cetacean tissue banks.</p> <p>(d) The data and samples collected by the regional CSN should be used to gain new knowledge on cetaceans mortality, population structure and genetics (link to Action 14), life history, ecology, pathology, parasitology, ecotoxicology (persistent organic pollutants and trace elements), etc. These studies will contribute to monitoring schemes (links to Actions 13 and 14) and periodical assessment of the status of Black Sea cetacean populations (link to Action 2).</p> <p>Notes: The functioning of national and regional CSNs should include their tight interaction with a network of the protected areas eligible for cetaceans conservation (Actions 11 and 12) and structures involved in cetacean rescue activities (Action 18).</p>	Primary	Research groups/ institutions, NGOs and specialists involved in the studies of Black Sea cetacean strandings
Rationale / Background	CSNs were organized in all Black Sea countries, but some of them do not work at present, although trained specialists still exist in Bulgaria, Georgia and Russia. Vigorous CSNs are functioning in Romania and Turkey. The most branched CSN operates in Ukraine since 1989; in 2005, it consisted of 19 operational units dispersed along coasts of the Black and Azov Seas. Researchers from the Black Sea region participated in the ACCOBAMS Training course on cetacean monitoring (Constanta, Romania, 2001) and Training course on cetacean strandings and tissue banks (Tajura, Libya, 2004). Over 20 trainees from Ukraine and Russia participated in the Training course on the development of a network for Black Sea cetaceans monitoring and conservation (Koktebel, Ukraine, 2005) supported by the British Government; the participants were provided with common research methodology and unified field equipment for data recording and sampling. The Guidelines for the Development of National Networks of Cetacean Strandings Monitoring (2004) were produced by UNEP/MAP RAC/SPA and ACCOBAMS experts. The Ukrainian network possesses its own database on cetacean strandings, bycatches and sightings (www.dolphin.com.ua/Base/discovery/db_index.php). National CSNs already helped to recognize several mass mortality events among Black Sea cetaceans including the morbillivirus epizootic affected common dolphins in 1994.			

CAPACITY BUILDING, COLLECTION AND DISSEMINATION OF INFORMATION, TRAINING AND EDUCATION (Actions 16 and 17)

ACTION 16: Strategies for capacity building and raising awareness				
Aim	Target	Recommended actions	Priority	Responsible actors
Develop long-term capacity building and public awareness strategies in order to provide explicit improvement of cetacean research, conservation and management in the Black Sea region on basis of consolidated educational activities.	Levels of professional education and public awareness in the Black Sea countries are sufficient to achieve sustainable progress in the conservation of all three cetacean populations.	<p>(a) Establishing regular training courses on research methodology, conservation and management of Black Sea cetaceans for different categories of interested and professionally involved people including: university students and lecturers; operating personnel of coastal and marine protected areas; officers of governmental agencies responsible for the protection and exploitation of the sea and marine resources (e.g., national fish protection services and environmental inspectorates); participants of cetacean stranding networks and representatives of environmental NGOs.</p> <p>(b) Developing a grant mechanism providing Black Sea students and young scientists with access to European system of education and making available their participation in international trainings on cetacean research and conservation, such as: the Course on Marine Mammals at the University of Valencia (Spain), annual Distance Sampling Workshops at the University of St. Andrews (Scotland), and the Field Courses on Cetacean Research Techniques organized by the Tethys Research Institute (Italy).</p> <p>(c) Developing a regional public awareness strategy dedicated to cetacean conservation and linked with all other actions listed in this conservation plan. The strategy should stipulate the concerted activities of research and educational institutions, authorities, NGOs and media, providing awareness-raising campaigns, relevant educational tools and guidelines focused on different target audiences.</p> <p>Notes: The Black Sea cetaceans-related courses, mentioned in (a), may be organized at a few national universities, with competent assistance from research institutions experienced in cetacean problems. These courses along with trainings, mentioned in (b), would provide trainees with a possibility to get expert advise and supervision of their research effort. In particular, lecturers involved in the courses (including international cetacean experts) could supervise students carrying out their master's and PhD theses on Black Sea cetaceans.</p>	Secondary	Universities, research institutions, national authorities responsible for public education and nature conservation, environmental NGOs and mass media, with organizational support from the Secretariats of ACCOBAMS and Black Sea Commission
Rationale / Background	Very few young scientists and students are involved in cetacean research and conservation activities in the Black Sea countries. No special course (or any other particular form of education) on cetacean research, conservation and management exists in national universities or other educational institutions. At the same time there are some research organisations and specialists which can provide interested young people with basic knowledge on cetology and practical skills on field and laboratory works with Black Sea dolphins and porpoises. Besides, some researchers and postgraduate students already accumulated sizeable datasets containing valuable scientific information on Black Sea cetaceans. Those data are in need of adequate treatment and analysis including modern approaches in applied mathematics and mathematical modelling which are still not available in the Black Sea region. Special strategies of training on cetaceans-related matters should be developed for members of cetacean stranding networks and staff of coastal/marine protected areas as well as for numerous authorities engaged in the protection, management and exploitation of the Black Sea wild life, environment and marine resources. The enhancement of public awareness in cetacean problems should be guaranteed among different social and professional groups of the Black Sea human population and tourists, with the help of environmental NGOs and mass media.			

ACTION 17: Access to information and cetacean libraries				
Aim	Target	Recommended actions	Priority	Responsible actors
Provide unimpeded access to the results of cetacean research and conservation activities implemented in the Black Sea region and beyond; accumulate, systematize, store and make available relevant published information by means of proper data carriers.	Provision of appropriate information to Black Sea researchers, governmental bodies, NGOs and general public particularly as far as access to scientific literature and other publications on cetaceans is concerned.	<p>(a) Developing web sites dedicated to Black Sea cetaceans and relevant research and conservation activities in every Black Sea country. These web sites should be bilingual, using national and English languages, and linked with each other and with the ACCOBAMS and Black Sea Commission web sites.</p> <p>(b) Developing links between world's collections of marine mammal literature and Black Sea scientific libraries. The exchange of literature should be facilitated by all means in order to provide Black Sea libraries (at least one in each country) with necessary support to operate as a source of continuously updated information for Black Sea researchers and students.</p> <p>(c) Compiling comprehensive bibliography on Black Sea cetaceans supplied with annotations and search/ select options via key words, author and subject indices. This bibliography should be available online and continuously replenished with new references.</p> <p>(d) Further development of the Digital Library on Black Sea Cetaceans based on previous experience (see Rationale/ Background) and supported by activities (a), (b) and (c). This library placed on a web site may solve forever an acute problem of prompt accessibility to scientific publications on Black Sea dolphins and porpoises.</p> <p>(e) Information aids (booklets, posters, stickers, etc.) supporting public awareness activities should be designed and published in six Black Sea languages (and in English) and distributed widely along the Black Sea coasts.</p> <p>Note: Above actions are interconnected with all other actions listed in this conservation plan.</p>	Secondary	Libraries, institutions and researchers involved in collection and dissemination of scientific information on Black Sea cetaceans
Rationale / Background	<p>Cetacean research and conservation activities are on the rise in some Black Sea countries, and several useful projects have been implemented during last years (Annex 3). However, basic information about those initiatives as well as on the present state of Black Sea cetacean populations is accessible for narrow circle of specialists, leaving aside many other concerned people. In addition, Black Sea scientists complain that their access to the cetaceans-related literature is straitened because of almost entire lack of requisite publications in the national libraries. This prevents to obtain necessary documentation, learn from the work done by others and publish own results in key scientific journals. With due regard to this problem, Ukrainian researchers try to facilitate professional and public access to the information by means of: (1) specialized web site (www.dolphin.com.ua) operating since 2003 and hosting the Black Sea cetacean photo-identification catalogue and Ukrainian database on cetacean strandings, bycatches and sightings; (2) continued series of CD-ROM issues under the "Black Sea Dolphins" generic heading (five issues were released between 2002 and 2006); (3) "Digital Library on Cetaceans of the Black and Azov Seas" (this CD contains 109 scientific articles and books published between 1903 and 2004); and (4) series of seven educational posters aimed to enhance public awareness (in particular, three posters – "How to behave in the presence of a stranded cetacean", "How to behave in the vicinity of dolphins at sea" and "Make an effort – don't cause harm to cetaceans" – were published and distributed in Ukraine in 2005). However, all above information tools are available for Russian-speaking users mainly. A bilingual (Romanian and English) web site on cetaceans operates in Romania (www.delfini.cier.ro).</p>			

RESPONSES TO EMERGENCY SITUATIONS (Action 18)

ACTION 18: Measures for responding to emergency situations

Aim	Target	Recommended actions	Priority	Responsible actors
Develop regional strategy, guidelines and operational network able to provide urgent and competent assistance to Black Sea cetaceans involved in emergencies.	A network for responding to cetacean emergency situations, based on appropriate strategy and guidelines and represented by skilled and equipped rescue teams, is functioning in the Black Sea region.	<p>(a) Regional assessment of emergency situations demanding special response, particularly, by means of rescue-and-release operations. The existent data on such situations, including cetacean live strandings and live bycatches, and on the applied rescue activities and their efficacy should be accumulated, analysed and reported in order to address this problem.</p> <p>(b) Developing guidelines and/or code of conduct aimed to specify adequate options and methodology of humane response to the live strandings, live bycatches and other possible emergency situations that may affect Black Sea dolphins and porpoises. The document(s), prepared on basis of above assessment and in terms of appropriate world experience, should be reviewed by international experts and agreed with governmental officials before the implementation.</p> <p>(c) Developing Black Sea regional strategy (contingency plan) including conjectural schemes for responding to emergency situations with regard to the existing and prospective cetacean rescue teams, their location, professional capacity, mobility and their possession of essential needs including communication facilities, field equipment and means for veterinary assistance. The strategy should envisage the functioning of at least one cetacean rescue team in each Black Sea country. It is recommended that rescue teams, co-operating with each other, are incorporated in national and regional cetacean stranding networks (link to Action 15) and involved in the activities designed to reduce cetacean bycatches (link to Action 6). Links to Actions 1–4, 7, 9–13, 16 and 17 could be helpful too.</p> <p>Notes: Consultations are recommended with disaster management, veterinary and public health (sanitary) authorities. Substantial progress in the realization of above actions is expected at the ACCOBAMS Live Stranding and Cetacean Rescue Workshop (Monaco, November 2006).</p>	Primary	Research institutions, NGOs and specialists, including members of cetacean rescue teams and cetacean stranding networks, as far as they are concerned about emergency situations affecting Black Sea cetaceans; ACCOBAMS Emergency Task Force
Rationale / Background	The necessity of adequate responses to cetacean emergency situations is outlined in the ACCOBAMS Conservation Plan. Further development of this task has been achieved in the documents adopted by the 1st (2002) and 2nd (2004) Meetings of the Parties to the Agreement. In particular, a series of specific actions, including the creation of an Emergency Task Force, was agreed within the ACCOBAMS Work Programme for 2005-2007. Cetacean rescue teams operate in Crimea, Ukraine, since 1993. They were created on a voluntary basis by commercial dolphinarium (RDD-project, 1993-1999; MORECET-project, 2002-2006), with managerial control of their activities by the Ukrainian Ministry of Environment and methodological and informational support from the Ukrainian cetacean monitoring and conservation network. Few cetacean rescue operations are known also in the Russian Black Sea. The Dolphin Hotline aimed to collect messages on cetacean emergencies is announced on the web site maintained by the Secretariat of the Black Sea Commission (www.blacksea-commission.org).			

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Annex 1

**Excerpt from the ACCOBAMS International Implementation Priorities
for 2002-2006 [10]**

Action n°	Cons.Plan Art. n°	Budget item n°	Title:
6	4	941	Conservation plan for cetaceans in the Black Sea
<p>This project envisages the co-operation between ACCOBAMS and the Black Sea Commission to prepare a proposal to be submitted to the GEF, concerning a comprehensive conservation and management plan for Black Sea cetaceans. The plan should include efforts to fill the existing knowledge gaps concerning the distribution, abundance, population structure, and factors threatening the conservation of the three species involved, as well as management measures such as the establishment of specially protected areas, the development and implementation of regulations to increase sustainability of human activities in the subregion, and the organisation of training, education and awareness initiatives.</p>			
Activities:		consultations, proposal writing and submission	
Possible synergies:		3, 4, 5, 12, 13, 15	
Duration:		1 year	
Indicative budget:		–	

**Excerpt from the Report of the 2nd Meeting
of the ACCOBAMS Scientific Committee
(Istanbul, 20-22 November 2003)**

Recommendation 2.4: The Conservation Plan for Cetaceans in the Black Sea

The preparation of a Conservation Plan for cetaceans in the Black Sea is one of the priorities (Action 6) adopted by the ACCOBAMS First Meeting of the Parties. A draft concept paper for the initial project proposal, formulated as a “GEF medium-sized” project in close cooperation with all the Black Sea States, was supported by the ACCOBAMS First Meeting of the Parties (Monaco, 2002), by the ACCOBAMS First Meeting of the Scientific Committee (Tunis, 2002), and by the meeting of the Black Sea Commission’s Advisory Group on the Conservation of Biological Diversity (Istanbul, 2002).

Therefore, a final project proposal is in the process of being submitted to the GEF operational focal points.

In consideration of the increasing urgency that a Conservation Plan for cetaceans in the Black Sea be finalised and implemented, particularly due to concern for the deteriorating conservation status of Black Sea harbour porpoises, the Scientific Committee **strongly recommends**:

- that the ACCOBAMS Parties invite all Black Sea States to endorse the proposal, provide to it all necessary support, and seek the assistance of the Black Sea Commission in the negotiation process with GEF;
- that other possible funding sources be explored as a matter of urgency to increase the chances that activities can be implemented in useful time.

Annex 3

Examples of cetacean research and conservation projects implemented in the Black Sea region in 2002–2006

Program / Initiative	Project (title)	Implementing organizations	Year
Programme for Research, Conservation and Restoration of Marine Mammals in the Black and Azov Seas ('Delfin'-program approved by the Ministry of Ecology and Natural Resources of Ukraine in August 1999)	Pathological conditions of Black Sea common dolphins	Brema Laboratory (Ukraine)	2001-2002
	Infectious diseases in captive Black Sea bottlenose dolphins	Brema Laboratory (Ukraine)	2001-2002
	Workshop on conservation problems of Black Sea cetacean populations (Koktebel, 23-24 October 2002)	Brema Laboratory in co-operation with Crimean dolphinarium (Ukraine)	2002
	Preparation of three issues of the 'Black Sea Cetaceans' Information Base (CD-ROM)	Brema Laboratory (Ukraine)	2002, 2003, 2004
	Bacteriological aspect of Black Sea bottlenose dolphins adaptation to captivity	Brema Laboratory (Ukraine)	2002
	Feeding objects of Black Sea cetaceans and state of their forage reserves	Brema Laboratory (Ukraine)	2002
	Development of national network for the monitoring of Black Sea cetacean strandings and bycatches, formation of a system aimed to render assistance to sick and traumatized cetaceans in Ukraine, conversion of dolphinarium into centres for rescue and rehabilitation of marine mammals (MORECET)	Brema Laboratory, Biological Station PE, Livadia Dolphinarium JE, Karadag Nature Reserve and Nazareth Ltd (Ukraine)	2002-2006
	Pathological conditions of wild Black Sea harbour porpoises	Brema Laboratory (Ukraine)	2003
	Preparation of draft regulations on conservation-related activities of dolphinarium	Brema Laboratory (Ukraine)	2003
	Assessment of the state of Black/Azov Sea marine mammal populations listed in the Red Data Book	Brema Laboratory in co-operation with the Ukrainian Danube Delta Biosphere Reserve, Odessa Center of the Southern Research Institute of Marine Fisheries and Oceanography, Odessa Branch of the Institute of Biology of Southern Seas, Chornomorsky [Black Sea] Biosphere Reserve, Lebedyni Ostrov [Swan Islands] Branch of the Crimean Nature Reserve, Cape Martyan Nature Reserve, Karadag Nature Reserve, Opuk Nature Reserve and Kazantip Nature Reserve (Ukraine).	2003
Workshop on conservation problems of Black Sea cetacean populations (Kiev, 25 May 2004)	Ministry of Environment of Ukraine in co-operation with members of national network for monitoring of cetaceans (Ukraine)	2004	

Program / Initiative	Project (title)	Implementing organizations	Year
EU LIFE-NATURE Program	Conservation of the dolphins from the Romanian Black Sea waters	Grigore Antipa National Institute for Marine Research and Development, Mare Nostrum NGO, Museum Complex for Nature Sciences in Constantza (Romania)	2001-2004
Joint initiative supported by the ACCOBAMS Secretariat	Genetic study of Black Sea bottlenose dolphins	University of Durham (UK) in co-operation with Brema Laboratory (Ukraine)	2002
Joint initiatives supported by the Ministry of Environmental Protection of Ukraine and Russian Academy of Science	Aerial survey of distribution, abundance and species composition of cetaceans in the Azov Sea (Azovka-2001).	Brema Laboratory (Ukraine) and Institute of Ecology and Evolution (Russia)	2001-2002
	Aerial survey of distribution, abundance and species composition of cetaceans in the Russian and Ukrainian waters of the Black and Azov Seas (Azovka-2002)	Brema Laboratory (Ukraine) and Institute of Ecology and Evolution (Russia)	2002-2003
	Study of accumulations, migrations and habitats of the Black Sea bottlenose dolphin in coastal waters of Russia and Ukraine (Afalina-2003)	Institute of Ecology and Evolution (Russia), Brema Laboratory and Karadag Nature Reserve (Ukraine)	2003-2004
	Distribution, abundance and photo-identification of cetaceans in the northwestern shelf waters of the Black Sea (Afalina-2004)	Institute of Ecology and Evolution (Russia), Brema Laboratory and Karadag Nature Reserve (Ukraine)	2004-2005
	Distribution and abundance of cetaceans in offshore waters of the central Black Sea (Belobochka-2005)	Brema Laboratory (Ukraine) and Institute of Ecology and Evolution (Russia)	2005
Joint Georgian, Ukrainian and Russian initiative	Assessment of cetacean distribution and abundance in coastal waters of the southeastern Black Sea (Afalina-2005)	Brema Laboratory (Ukraine), Marine Ecology and Fisheries Research Institute (Georgia) and Institute of Ecology and Evolution (Russia)	2005
EUROPHLUKES	Photo-identification of Black Sea cetaceans (Black Sea Fins)	Brema Laboratory (Ukraine) and Institute of Ecology and Evolution (Russia) with initiating support derived from the Permanent Secretariat of ACCOBAMS, and the training provided by Tethys Research Institute (Italy)	2003-2004
Small Environmental Projects Scheme (SEPS II) supported by the UK's Department for Environment, Food and Rural Affairs and managed by the British Council-Ukraine	Improvement of the Ukrainian National Network for Cetaceans Monitoring and Conservation (NNCC-project)	Brema Laboratory in partnership with the Ukrainian Danube Delta Biosphere Reserve, Odessa Center of the Southern Research Institute of Marine Fisheries and Oceanography, Odessa Branch of the Institute of Biology of Southern Seas, Chornomorsky [Black Sea] Biosphere Reserve, 'Oasis' NGO, Cape Martyan Nature Reserve, and Karadag Nature Reserve (Ukraine)	2004-2005

Excerpts from the Checklists for Red List Assessment of Black Sea cetaceans

IUCN/ACCOBAMS Workshop on the Red List Assessment of Cetaceans in the ACCOBAMS Area

(Monaco, March 2006)

1. Black Sea harbour porpoises

Name of Unit Assessed:

Harbour porpoise (*Phocoena phocoena relicta*): Black Sea subspecies

Taxonomy:

Family: Phocoenidae Gray, 1825

Genus: *Phocoena* G. Cuvier, 1817

Species: *Phocoena phocoena* (Linnaeus, 1758)

Subspecies: *Phocoena phocoena relicta* Abel, 1905

Assessment Information:

EN A1d+4c,d,e

Year Assessed: 2006

Assessor(s): Alexei Birkun, Jr. and Alexandros Frantzis

Evaluator(s): IUCN/ACCOBAMS Workshop on the Red List Assessment of Cetaceans in the ACCOBAMS Area

(Monaco, 5-7 March 2006)

Justification:

The Black Sea harbour porpoise, *P. p. relicta*, is Endangered (EN) based on criteria A1d and A4c,d,e. This is based on inference and suspicion as summarised below.

The estimated generation time is around 9-10 years, thus three generations for the Black Sea harbour porpoises would be about 27-30 years.

There are no estimates of unexploited or present total population size, although the available information suggests that the present abundance is probably at least several thousands.

The following information from the last three decades is relevant to the proposed classification. However, it is important to note that very high levels of direct and incidental mortality occurred for a long period prior to that (from the 1830s and throughout the 20th century) and this undoubtedly would have dramatically reduced the population (IWC, 2004).

(1) Large directed takes occurred during the years 1976-1983 before the ban on small cetacean hunting was declared in Turkey in 1983. Within that period, the total number of harbour porpoises killed was at least 163,000-211,000. Illegal direct killing of unknown numbers continued in some parts of the Black Sea until 1991.

(2) Regionally extensive incidental mortality of porpoises in bottom-set gillnets is roughly estimated to be in the thousands over this period. The scale of this mortality almost certainly increased in the 1990s-2000s owing to the rapid expansion of illegal, unreported and unregulated (IUU) fishing in the Black Sea region.

(3) A major accidental mass stranding/mortality event occurred in the Azov Sea in August 1982 as a result of an explosion of a gas-extraction platform. More than 2,000 porpoises were found on ashore following this event.

(4) Two other mass stranding/mortality events occurred in 1989 and 1990, caused by the combined effects of parasitic and bacterial infections. Although difficult to quantify, mortality of porpoises is believed to have been in the thousands.

(5) Periodically (most recently in November 1993), natural mass mortality events occur as a result of ice entrapment in the Azov Sea. Although no direct estimates are available, these can result in the deaths of several tens or more animals.

(6) There has been ongoing general degradation of the Black Sea environment (including harbour porpoise habitat) and biodiversity during the 1970s-2000s, with perhaps the most serious period in the late 1980s-early 1990s due to a combination of overfishing, water pollution, eutrophication, demersal fish die-offs caused by hypoxia and the population explosion of harmful alien species. This will almost certainly have resulted in a decline in the abundance and quality of harbour porpoise prey.

(7) The species was considered extinct in the Mediterranean Sea until 1997, when a specimen stranded alive in the northern Aegean Sea; a few further strandings and sightings have occurred in that limited area subsequently.

A1d: EN. A reduction in population size of $\geq 70\%$ is inferred based on paragraphs (1) and (3) above, i.e. the directed takes and, to a lesser degree, the accident (considered 'actual exploitation' in the context of IUCN criteria). These causes were clearly reversible and understood and they have ceased. Despite the absence of abundance estimates for the initial part of the 30-year period, the suspected decline of $\geq 70\%$ is based on inferences from a crude extrapolation based on the annual removal levels in the Turkish fishery: reduction to $\geq 70\%$ implies that the population in 1976 must have been at least 233,000-302,000, whereas a reduction of $\geq 50\%$ (criterion for Vulnerable) would require a population size of at least 326,000-422,000. The latter seems unrealistic given the length and intensity of past exploitation.

A4c,d,e: EN. A reduction in population size of $>50\%$ over the 30 year period is inferred based on above paragraphs except (1) and (3). During this period, although direct killing has ceased, the other known or suspected causes of a decline (bycatch, habitat degradation, prey depletion, epizootics and adverse climatic circumstances) have not ceased.

2. Black Sea short-beaked common dolphins

Name of Unit Assessed:

Short-beaked common dolphin: Black Sea subspecies (*Delphinus delphis ponticus*)

Taxonomy:

Family: Delphinidae Gray, 1821

Genus: *Delphinus* Linnaeus, 1758

Species: *Delphinus delphis* Linnaeus, 1758

Subspecies: *Delphinus delphis ponticus* Barabasch-Nikiforov, 1935

Assessment Information:

EN A1d

Year Assessed: 2006

Assessor(s): Alexei Birkun, Jr.

Evaluator(s): IUCN/ACCOBAMS Workshop on the Red List Assessment of Cetaceans in the ACCOBAMS Area
(Monaco, 5-7 March 2006)

Justification:

The Black Sea short-beaked common dolphin, *D. d. ponticus*, is assessed for listing as Endangered based on criteria A1d.

There is no estimate of overall population size. However, preliminary data acquired for some parts of the basin suggest that current population size is at least several 10,000s, and possibly 100,000 or more.

The past 60-year period (three generations) includes circumstances that are relevant to Criterion A, as follows:

(1) Very large directed takes occurred during the years 1946-1983 before the ban on small cetacean hunting was declared in Turkey in 1983. Within that 38-year period the total number of common dolphins killed was at least 840,000 but certainly much more because this value is based on incomplete data (see "Threats") which do not include catch statistics from Romania (whole period), Turkey (before 1976 and after 1981) and Bulgaria (before 1958);

(2) A mass stranding/mortality event caused by morbillivirus infection occurred in 1994. Although difficult to quantify, mortality of common dolphins is believed to have been at least in the 100s;

(3) A mass stranding/mortality event of unknown origin occurred in 1990. Stranding statistics suggest that the mortality was not less than some 100s;

(4) There has been ongoing degradation of the Black Sea environment (including common dolphin habitat) and biodiversity (including common dolphin prey) during the 1970s-2000s, with a peak of the devastation caused by overfishing and habitat worsening (including water pollution, its consequences, and a population explosion of a harmful invader) in the late 1980s-early 1990s. These processes, taken together, have led to severe declines in the abundance of common dolphin prey.

A reduction in population size of $\geq 70\%$ (Criterion A1d) is inferred supported by a simple simulation in which the population was assumed to increase at a constant 4% per year and in which documented direct takes (as indicated in paragraph (1) above) were removed, which showed that a decline of greater than 70% in the last three generations would be required to achieve a current population size of 150,000 animals.

Directed killing ceased in 1983 but degradation of habitats, prey depletion and epizootics continued and are inadequately understood.

3. Black Sea common bottlenose dolphins

Name of Unit Assessed:

Common bottlenose dolphin: Black Sea subspecies (*Tursiops truncatus ponticus*)

Taxonomy:

Family: Delphinidae Gray, 1821

Genus: *Tursiops* Gervais, 1855

Species: *Tursiops truncatus* (Montagu, 1821)

Subspecies: *Tursiops truncatus ponticus* Barabasch, 1940

Assessment Information:

EN A2c,d,e

Year Assessed: 2006

Assessor(s): Alexei Birkun, Jr.

Evaluator(s): IUCN/ACCOBAMS Workshop on the Red List Assessment of Cetaceans in the ACCOBAMS Area
(Monaco, 5-7 March 2006)

Justification:

The Black Sea bottlenose dolphin, *T. t. ponticus*, is assessed for listing as Endangered based on criteria A2c,d,e.

There is no estimate of total population size but information from incomplete surveys suggests that the current population size is not less than several 1000s animals.

The past 60-year period (1946-2005; three generations) includes events, circumstances and trends that are relevant to Criterion A, as follows:

(1) Large directed takes occurred before the ban on small cetacean hunting was declared in Turkey in 1983. Within that 38-year period (1946-1983) the total number of bottlenose dolphins killed was at least 24-28,000 but certainly much more (probably by tens of thousands) because this figure is based on vastly incomplete and underestimated data (see "Threats") which do not include any catch statistics from Romania, nor from Turkey before 1976 and after 1981, and from Bulgaria before 1958. Intentional killing and harassment of unknown, probably low, magnitude has been indicated recently in Ukraine;

(2) Regionally dispersed incidental mortality in bottom-set gillnets is roughly estimated at some 100s per year. The scale of this mortality almost certainly increased in the 1990s-2000s owing to the rapid expansion of illegal, unreported and unregulated (IUU) fishing in the Black Sea region;

(3) Live-capture of bottlenose dolphins for their maintenance in captivity along with attendant mortality caused by imperfect capture operations is roughly estimated at 1,000-2,000 since the early 1960s. This practice continues in the Russian Federation, with 10-20 animals taken annually from a small area;

(4) A mass stranding/mortality event of unknown origin occurred in 1990. Although difficult to quantify, mortality of bottlenose dolphins is believed to have been at least in the 100s;

(5) There has been ongoing degradation of the Black Sea environment (including bottlenose dolphin habitat) and biodiversity (including bottlenose dolphin prey) during the 1970s-2000s, with a peak of devastation by overfishing and habitat deterioration in the late 1980s-early 1990s. These processes, taken together, have undoubtedly led to a decline in the abundance of bottlenose dolphin indigenous prey species.

A reduction in population size of $\geq 50\%$ is inferred supported by a simple simulation in which the population was assumed to increase at a constant 4% per year and in which realistic estimates of the direct and incidental takes (as indicated by paragraphs (1), (2) and (3) above) were removed, which showed that a decline of greater than 50% in the last three generations would be required to achieve a current population size of 15,000 animals.

1st Biannual Scientific Conference: Black Sea Ecosystem 2005 and Beyond**Round table on the Conservation of Black Sea Cetaceans
Istanbul, 9 May 2006*****Minutes of Meeting***

The meeting was chaired by Giuseppe Notarbartolo di Sciarra, Chair of the ACCOBAMS Scientific Committee.

Irakli Goradze kindly agreed to act as rapporteur.

Participants:

- Alexei Birkun, Jr., Black Sea Council for Marine Mammals, Simferopol, Ukraine.
- Alexander Boltachev, Institute of Biology of Southern Seas. Sevastopol, Ukraine
- A. Cemal Dinçer, Black Sea Technical University, Faculty of Marine Sciences, Trabzon, Turkey
- Irakli Goradze, Department of Environment and Natural Resources of Ajara A.R. Georgia
- Ahmet Kidey, ISPA, Turkey
- Katerina Kosova, Taurida National University, Simferopol, Ukraine
- Sergey Krivokhizhin, Brema Laboratory, Ukraine
- Valodea Maximov, National Institute for Marine Research and Development. Constanta, Romania
- Simeon Nicolaev, National Institute for Marine Research and Development. Constanta, Romania
- Giuseppe Notarbartolo di Sciarra, ACCOBAMS Scientific Committee
- Bayram Ozturk, Istanbul Univeristy, Faculty of Fisheries, Istanbul, Turkey
- Marina Panayotova, Institute of Oceanology, Varna, Bulgaria
- Gheorghe Radu, National Institute for Marine Research and Development. Constanta, Romania
- Violin Stoyanov Raykov, Institute of Fisheries and Aquaculture. Varna, Bulgaria
- Ahmet Sahin, Black Sea Technical University, Faculty of Marine Sciences, Trabzon, Turkey
- Sembnem Sahin, Black Sea Technical University, Trabzon, Turkey
- Vladislav Shlyakhov, Southern Institute of Fishery and Oceanography (YUGNIRO), Kerch, Ukraine
- Ionel Staicu, National Institute for Marine Research and Development, Constanta, Romania
- Arda Tonay, TUDAV, Istanbul University, Faculty of Fisheries, Istanbul, Turkey

Opening and introductory remarks

The agenda of the meeting was adopted as proposed originally.

The chair reminded the participants that the main purpose of the meeting is to set priorities (concrete actions) among the actions proposed in the draft Conservation Plan for Black Sea Cetaceans prepared by Birkun and co-authors²⁰⁸. An introductory note about ACCOBAMS Agreement was made, with an indication about the current status of membership of the Black Sea countries. It was noted with regret that Russia and Turkey had not yet ratified the Agreement. Examples of the few other non-member countries from the Mediterranean region were also presented.

²⁰⁸ Birkun A., Jr., Cañadas A., Donovan G., Holcer D., Lauriano G., Notarbartolo di Sciarra G., Panigada S., Radu G., and van Klaveren M.-C. 2006. Conservation Plan for Black Sea Cetaceans. ACCOBAMS, Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area.

In the Black Sea the situation was significantly improved since the harvesting of cetaceans was prohibited officially. However, the status of conservation of all three Black Sea subspecies is still not favourable, and was proposed as **endangered** at a recent joint IUCN/ACCOBAMS meeting (Monaco, 5-7 March 2006).

Presentation by Alexei Birkun, Jr.

The floor was given to Birkun, who presented the 2nd draft of a document titled "*Conservation Plan for Black Sea Cetaceans: General approach, goals, objectives and aims of the actions proposed*".

After providing background info about the plan, the six objectives were presented:

1. Consolidation of the international and national legal system.
2. Assessment of human/cetacean interactions.
3. Habitat protection.
4. Research and Monitoring.
5. Capacity building, information collection and dissemination.
6. Response to emergency situations.

Eighteen actions are proposed to meet these objectives, with 57 sub-actions. The proposed time span for implementation is 2006-2010. The necessity of nominating a coordinator of the action plan implementation was emphasized.

In the course of the presentation the chair proposed that the overview of each objective and prioritization of the actions within each objective would make it more efficient for the follow-up discussions.

Birkun described the various actions under each category (= objective) and proposed a ranking, as detailed in the document presented. The following actions were proposed as primary: 1a (Broadening the ACCOBAMS scope: promote accession of Russian Federation and Turkey); 2a (Proper conservation status of cetacean populations: assure listing of species in IUCN Red List); 3a (Cetacean conservation approach in fishery regulations: adopt Legally Binding Document for Fisheries and Conservation of Living Resources); 4a (Improvement and harmonization of national legislation); 6 (Strategy for reducing bycatches); 8 (Elimination of live captures); 12a (Special marine protected areas dedicated to cetacean conservation); 13 (Basic cetacean surveys); 18 (Measures for responding to emergency situations).

Participants were then invited to propose additions to the high priority activities.

Nicolaev stated that Romania has a national plan for the conservation of dolphins. The Black Sea Conservation Plan is not an international but regional plan. He agreed with the proposal about the responsibilities of implementation of the plan in the Black Sea - to clearly define the responsible people. Better relations are needed between actors and ACCOBAMS.

Round Table Discussion

The chair thanked Birkun for his hard and important work, and proposed to continue the discussion of the plan, by examining each action and soliciting comments from participants from each country.

Action 1 (Broadening the ACCOBAMS scope). Russian representatives were missing from the meeting. Concerning Turkey, the following comments were made by Ozturk on behalf of TUDAV (NGO): Turkish fishermen cooperatives

have a strong lobby in Parliament and Government. He thought that Turkey is reluctant to join ACCOBAMS for this reason. In his perspective Turkey will not join ACCOBAMS at least for the next few years. The fishermen are traditionally doing turbot fishing (2 months a year). Stocks are depleted. Turbot fishing is main problem for cetacean by-catch and therefore joining of ACCOBAMS may result in banning of turbot fishing. However, cooperation with scientists is possible. One way is to lobby the government through the scientific community, and another is to elaborate fisheries regulations.

Action 3 (Cetacean conservation approach in fishery regulations)

The current status of Fisheries convention was queried. Nicolaev explained that the Advisory Group on Fisheries and Other Living Resources to the Black Sea Commission has elaborated a technical document. The overall recommendation was to stop the process as two countries are soon entering EU and it makes sense to discuss this issue after the joining of Romania and Bulgaria to the EU.

The general conclusion was to strengthen the scientific cooperation and support the process given that the scientific community is not necessarily dependent on governmental positions. Such cooperation is already underway.

Goradze commented that the recent changes in Georgian legislation ensure better protection and conservation of cetaceans if duly followed and enforced. All three species are listed in the National Red List and new fishing rules provide good opportunity for prevention and avoidance of cetaceans by-catch.

Action 6 (Strategy for reducing cetacean bycatches)

The need was recognized to establish cooperation among all Black Sea countries to organise a regional database on by-catch. Ukrainian participants have commented that it is feasible with little financial effort. Romanian by-catch statistics are more difficult to provide than stranding statistics. The quality of information can be a problem. A regional scheme should be based on national structures. Cooperation to exchange the views is necessary. Volunteers were invited to make plan on the creation of a monitoring scheme and prepare a proposal.

Recommendations: (a) Proceed ASAP to create regional (based on national) database that will include by-catch information; (b) need to establish a link between the regional Black Sea effort and the wider ACCOBAMS effort called BYCBAMS.

Action 8 (Elimination of live capture of Black Sea cetaceans)

Live captures only occur in Russia. Romania said that dolphinarium need live dolphins but ministry does not allow captures. Some countries try to obtain dolphins from Russia, but the latter refuses. Probably the Black Sea Commission could act to resolve this problem, as the exploited bottlenose dolphin community in the Russian Kerch Strait is small and the live capture is obviously unsustainable.

Action 10 (Management of threats from oil & gas producing industry)

The impact of sound generated by oil & gas exploration was discussed. It was advised to take special focus on the impact of oil-gas exploration activities on the cetacean populations. Information about the influence of military sonars on the cetaceans is not available and was not considered as important impacting factor in the Black Sea.

Actions 11-12 (Marine protected areas)

The chair stated that the establishment of protected areas must be considered when they may clearly solve specific conservation problems deriving to cetacean populations from specific human activities. The following procedure was proposed: (a) identify the areas that contain cetacean critical habitat; (b) assess the presence of specific threats to those habitats, and whether the establishment of an MPA could address such threats effectively; (c) designate the area and include specific mitigation activities in management plan. It was agreed that in the imminence of performing a basin-wide cetacean survey (see Action 13, below), it would be sensible to wait for the results of the survey before a comprehensive set of proposals for MPAs could be made.

In the mean time, it was agreed that criteria should be elaborated for the establishment of protected areas for cetaceans.

Goradze presented a comment/example on harbour porpoises. Often the solution lays in following and /or enforcing existing regulations. In some cases problems can be solved through the establishment of certain rules or restrictions of human activities in the areas where no protected status can be established.

Summary: Results of survey will recommend the possibilities and feasibility of establishment of MPAs in different countries. It seems reasonable to develop regional network of existing PAs eligible for cetacean monitoring and conservation.

Action 13 (Basic cetacean surveys)

There was no doubt among participants that research and monitoring activities that will provide essential information about the numbers and distribution of cetaceans in the Black Sea are of highest priority. Such activities will also provide a good opportunity for non member countries to be involved in regional processes. Everybody agreed on the ranking of this action as high priority.

Action 14 (Photo-identification programmes)

Participants agreed that this was of secondary priority although this would not necessarily mean that it be postponed. If the means and good will are available, photo-id programmes are a good source of relevant information on cetacean ecology and behaviour.

Action 15 (Regional stranding network)

It was proposed by the meeting to give high priority to this action and to link it to by-catch. It was also recommended that the network should have a regional nature. The issue of tissue banks was also linked to strandings because these help to a better understanding of the causes of cetacean mortality. The recommendation was made to draft a proposal similar to that on regional by-catches.

Actions 16-17 (Capacity building and access to information)

This effort is ongoing and considered a very important issue, as many problems can be avoided if proper capacity building and awareness rising strategy and activates conducted.

Action 18 (Response to emergency situations)

It is advisable to have a contingency plan ready in case of epizootic outbreaks. The plan should define the measures for responding such emergency situation. Protocols for other specific emergency situations should be elaborated as well. The region's countries should follow the general lines of ACCOBAMS and then develop emergency plans tailored to the Black Sea specificities.

Recommendations

In conclusion the meeting agreed that the Plan proposed by Birkun and co-authors was a very good plan, and that all the actions proposed should be pursued. Many such actions, which can be undertaken at the level of single institutions, organizations and even single individuals, should be implemented as soon as possible whenever the appropriate resources are located, and conditions exist.

However, other actions requiring coordinated effort among nations and full institutional support (i.e., the ACCOBAMS Secretariat, the Black Sea Commission and the concerned individual Governments) should be addressed as a matter of urgency and completed within the next five years.

These actions include:

- Completion of a basin-wide survey (possibly before the end of 2007);
- Establishment of a regional bycatch network, in tight connection with the:
- Establishment of a regional stranding network;
- Establishment of a marine protected areas network.

**Recommendation of the 4th Meeting of the ACCOBAMS Scientific Committee
(Monaco, 5-8 November 2006)**

Recommendation on the Conservation Plan for Black Sea Cetaceans

The preparation of a Conservation Plan for Black Sea Cetaceans was one of the priorities assigned at the 1st Meeting of the Parties (Monaco, 2002; Resolution 1.9, Action 6). The 1st draft of the Plan was considered at the 3rd Meeting of the Scientific Committee (Cairo, 2005) while a further draft was discussed and supported in general and in most details by participants of the Round Table on the Conservation of Black Sea Cetaceans (Istanbul, May 2006).

At its 4th meeting in Monaco, the Scientific Committee adopts and commends the 3rd, substantially improved, version of the Plan, prepared under the auspices of the ACCOBAMS Permanent Secretariat and the Permanent Secretariat of the Black Sea Commission.

Consequently, the Scientific Committee recommends that the ACCOBAMS Parties and the Parties to the Bucharest Convention (through the Black Sea Commission) endorse its views of the Plan and :

- (1) agree that it should form an integral component of discussions of the Black Sea regional and national strategies, plans, programmes and projects concerned with the protection, exploration and management of the Black Sea environment, biodiversity, living resources, marine mammals, and cetaceans, in particular; and
- (2) facilitate the implementation of all actions proposed in the Plan such that they are completed as soon as possible and preferably within the next five years;

In particular, it urges that those actions which require coordinated effort and full institutional support from the ACCOBAMS Secretariat, the Black Sea Commission and the concerned individual Governments are addressed as a matter of urgency. These are:

- (1) completion of the basin-wide survey;
- (2) establishment of a regional bycatch network integrated with a regional stranding network; and
- (3) continue to work towards the establishment of a marine protected areas network.

RESOLUTION 4.13 - Conservation of the Mediterranean Short-Beaked Common Dolphin

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic area (ACCOBAMS):

Taking in consideration the Recommendation of the Scientific Committee that has repeatedly drawn attention to the issue of conservation of the Mediterranean short-beaked common dolphin (*Delphinus delphis*),

Recalling that the Second Meeting of the Parties strongly welcomed the Conservation Plan for short-beaked common dolphins in the Mediterranean Sea²⁰⁹ through Resolution 2.20 and that the Third Meeting of the Parties urged Parties to implement it through Resolution 3.17,

Convinced that the conservation of the Mediterranean short-beaked common dolphin continues to be a matter of grave concern,

Conscious that prey depletion is a factor in short-beaked common dolphin decline, as witnessed in the waters of Kalamos, Western Greece, and as suspected on the basis of research in the Gulf of Vera, Spain,

Recalling that the Mediterranean population of the short-beaked common dolphin is listed on Appendix I of CMS, thus requiring strict protection under the Convention,

Taking into account the International Union for the Conservation of Nature (IUCN) Red List of Threatened Animals, which in 2003 listed the Mediterranean short-beaked common dolphin population as endangered,

Taking also into account the 2006 ACCOBAMS-IUCN Workshop for the Establishment of a Red List of Cetaceans in ACCOBAMS area, that gave an endangered status to the Mediterranean short-beaked common dolphin,

1. *Recalls* to Parties that the implementation of the Conservation Plan for short-beaked common dolphins in the Mediterranean Sea is a high priority in the region;
2. *Thanks* the ACCOBAMS Partners, in particular Ocean Care and the Whale and Dolphin Conservation Society (WDCS), for the development of the “Urgent Call” submitted to the Greek Government and various other stakeholders, highlighting the urgent need to take immediate conservation action to prevent the further decline and local disappearance of short-beaked common dolphins;
3. *Urges* Parties and *invites* Range States, taking into account, in particular, the need for international coordination and adequate funding:
 - to give all the necessary importance to implementing existing laws for the sustainable management of fisheries resources as well as the existing regulations on by-catch, including, in the case of European Union Member States, Council Regulation 1967/2006 concerning management measures for the sustainable exploitation of fishery resources in the Mediterranean Sea;
 - to sanction illegal fishing with appropriate penalties;

²⁰⁹ ACCOBAMS.MOP2/2004/Doc49

Available for download at: http://www.accobams.org/index.php?option=com_docman&task=cat_view&gid=36&Itemid=50

- to implement the Conservation Plan for short-beaked common dolphins in the Mediterranean Sea, without prejudice to other international obligations;
 - to cooperate, with the support of the Secretariat, to ensure that the international concerns for short-beaked common dolphin be conveyed to the relevant European Union authorities, and appropriate strategies and funding opportunities be identified within the Marine Strategy Framework (European Union Directive 2008/56);
4. *Asks* the Agreement Secretariat to address States where there are critical habitats for Mediterranean short-beaked common dolphin to take immediate measures to ban fishing gear that cause decline and local disappearance of the species;
5. *Asks* the Scientific Committee to create a small Steering Committee, in collaboration with the ACCOBAMS Partners:
- to facilitate the implementation of the priority actions of the Conservation Plan for short-beaked common dolphins in the Mediterranean Sea and to coordinate with the relevant authorities;
 - to obtain information on distribution and abundance of the species, particularly in the southern and eastern portions of the Mediterranean basin;
6. *Requests* the Agreement Secretariat:
- to draw the attention of Parties to the problems posed by fishing activities;
 - to continue to participate at meetings relating to fisheries, such as those convened by the General Fisheries Commission for the Mediterranean (GFCM) or the International Commission for the Conservation of Atlantic Tunas (ICCAT), in order to provide information on the impact of fishing activities on Mediterranean short-beaked common dolphins and encourage collaborative efforts;
 - to organise a workshop for the collaboration between ACCOBAMS and GFCM, with possible collaborations with FAO regional projects, focusing on both ecological and operational interactions;
 - to encourage the Parties, as appropriate in collaboration with the CMS Secretariat, to implement conservation action, consistent with the decisions taken so far and the listing of Mediterranean short-beaked common dolphins in Appendix I of the CMS;
 - to promote appropriate collaboration with the Barcelona Convention and its Protocols work programmes in order to identify support and implement activities and projects of common interest for the protection of the Mediterranean short-beaked common dolphin;
 - in cooperation with the Scientific Committee and GFCM, to identify appropriate measures to be applied to ensure the conservation of Mediterranean short-beaked common dolphins in critical areas;
7. *Decides* that the present Resolution replaces Resolutions 2.20 and 3.17.

RESOLUTION 5.12 - Work towards a Conservation Plan for Fin Whales in the Mediterranean Sea

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Resolution 3.16 “Conservation of Fin Whales in the Mediterranean Sea”,

Taking in consideration the Recommendations of the Scientific Committee,

Aware that fin whales in the Agreement area face a number of actual and potential anthropogenic threats, including collisions with vessels, chemical and acoustic pollution, entanglement in fishing gear and disturbance by ships and climate change,

Aware also that the Pelagos Sanctuary can be an important reference area for both research work and the development of appropriate mitigation measures that can then be applied to the full range of the fin whales in the Mediterranean,

Considering that there is a need for appropriate habitat use and distribution studies to describe fin whales’ habitat preferences, to investigate the existence of critical habitats for this species and to aid implementation of management measures for ship traffic, fishing and whale watching,

Relying on the ACCOBAMS Survey Initiative (Comprehensive cetacean population estimates and distribution in ACCOBAMS area), which can provide the collection and analysis of information on the distribution, abundance and threats to fin whales in the Agreement area,

Looking forward to the establishment of a Conservation plan for fin whales in the Mediterranean Sea,

Stressing the great importance of collaboration among research groups to forward conservation of fin whales within the Agreement area,

1. *Urges* the Scientific Committee to promote the work to elucidate the population structure and movements of fin whales in the Agreement area, in particular in areas not yet investigated and in collaboration with scientists of relevant countries, especially with respect to photo-identification, acoustics, telemetry and genetics, with a view to the establishment of a Conservation plan for fin whales in the Mediterranean Sea;
2. *Agrees* on a number of priority actions, that the Parties are invited to carry out in co-operation with the Scientific Committee, Pelagos, the IWC Scientific Committee, the Secretariat of the Convention on Migratory Species and other relevant experts and research groups in the region such as:
 - a) the maintenance or establishment of long-term systematic programmes to monitor trends in abundance and shifts in distribution in selected targeted areas and in other areas of importance for fin whales such as:
 - the Gulf of Lion and in general the productive areas west of the Pelagos Sanctuary;
 - the Central Tyrrhenian Sea to the south of the Pelagos Sanctuary;
 - the Strait of Sicily, particularly in late winter-early spring;

- the western Ionian Sea and possibly the southern Adriatic;
- the eastern Mediterranean Sea;

b) the use of existing photo-identification databases as a long-term management and conservation tool and, especially, to compare photo-identification data from the Strait of Gibraltar and western Mediterranean with data from the North Atlantic area;

c) the collection of information on fin whale population structure and movements, which can provide important information on destinations of fin whales in wintertime and possible links with the wider North Atlantic;

3. *Asks* the Scientific Committee to work on the elaboration of a conservation plan for fin whales with the view to submit it to the next Meeting of the Parties;
4. *Decides* that the present Resolution replaces Resolution 3.16.

RESOLUTION 5.13 - Conservation of Cuvier's Beaked Whales in the Mediterranean

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area,

Recalling Article II, paragraph 1, of the Agreement, which provides that Parties shall take co-ordinated measures to achieve and maintain a favourable conservation status for cetaceans,

Recalling Article 236 of the United Nations Convention on the Law of the Sea, which states: "The provisions of this Convention regarding the protection and preservation of the marine environment do not apply to any warship, naval auxiliary, other vessels or aircraft owned or operated by a State and used, for the time being, only on government non-commercial service. However, each State shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such vessels or aircraft owned or operated by it, that such vessels or aircraft act in a manner consistent, so far as is reasonable and practicable, with the said Convention",

Aware that the Mediterranean population of Cuvier's beaked whale (*Ziphius cavirostris*) has been assessed as vulnerable in the IUCN's Red List and is frequently exposed to human activities involving the production of intense underwater noise,

Given the scientific evidence that military sonar has a negative impact upon Cuvier's beaked whales,

Convinced that events in which the underwater transmission of naval sonar has been linked to atypical mass strandings and deaths of Cuvier's beaked whales have occurred in the Mediterranean and that the production of intense underwater noise in areas identified as Cuvier's beaked whale habitat carries environmental implications and responsibilities,

Recalling that a number of initiatives have taken place to prevent mortalities of Cuvier's beaked whales resulting from the use of intense anthropogenic noise sources,

Recalling in particular that the NATO Centre for Maritime Research and Experimentation (CMRE) developed in 2009 the document "NURC Marine Mammal Risk Mitigation Rules and Procedures" (hereinafter: NURC-Mammal Rules), which aims at limiting in the Mediterranean the risk of mass strandings and other impacts on Cuvier's beaked whales related to CMRE activities and states, *inter alia*, that "CMRE's precautionary policy is therefore to reduce the temporal and spatial interactions of sounds and beaked whales" and that "the risk mitigation of CMRE focuses on avoiding the habitat of beaked whales",

Recalling and reconfirming the importance of implementing marine mammals conservation actions defined within various international fora, such as the United Nations, the European Union, the Convention on Biological Diversity, the Convention on Migratory Species, the Agreement on the Conservation of Small Cetaceans of the Baltic, North-East Atlantic, Irish and North Seas, including the Resolutions of the ACCOBAMS Meetings of Parties, in particular Resolution 4.15 (Marine protected areas of importance for cetacean conservation) and Resolution 4.17 (Guidelines to address the impact of anthropogenic noise on cetaceans in the ACCOBAMS area),

Referring to the most recent information about Mediterranean areas that have been identified as hosting high concentrations of Cuvier's beaked whales,

Considering that the locations of mass strandings (≥ 2) of Cuvier's beaked whales in the Mediterranean are important additional indicators of areas of enhanced risk for such species,

Taking specific note of the report of the 7th Meeting of the ACCOBAMS Scientific Committee where, since a large proportion of areas within the Mediterranean where depths are greater than 600 m are potential beaked whale habitats, it is recommended that, based on existing knowledge of noise disturbance thresholds, beaked whales should not be exposed to noise where received levels exceed a certain level and that a precautionary buffer around the preferred habitats mentioned should be applied to ensure that the noise threshold is not exceeded,

Considering the Recommendation on the conservation of Cuvier's Beaked Whales from the Scientific Committee, where "Areas of Special Concern for Beaked Whales" (ASC-BW) are identified,

Also considering that in the whole of the Mediterranean Sea, besides areas of special concern for Cuvier's beaked whales, also in "areas of unknown risk" for Cuvier's beaked whale, effective mitigation measures should be applied to human activities identified as representing important risk factors for Cuvier's beaked whales, such as the use of intense sound sources,

1. *Agrees* that:

- a) Cuvier's beaked whales need special consideration, and
- b) the concept of areas of special concern in which noise would be mitigated should be enhanced;
- c) promotion of work that produces data to validate and improve the beaked whale distribution model in order to update and refine the delimitation of beaked whale preferred areas in the Mediterranean should carry on;

2. *Encourages* the Parties to :

- a) fully comply with Resolution 4.17 and report on its application to the Secretariat;
- b) inform the Secretariat and Scientific Committee of any atypical stranding events and to which degree the measures included in Resolution 4.17 were adhered to;
- c) include in mitigation requirements dedicated surveys and monitoring efforts of all potential beaked whale habitats with buffer zones around planned noise activities;
- d) consider effective mitigation requirements in national regulations (as outlined in paragraphs 5 and 6 of Resolution 5.15);

3. *Calls on* the Parties to:

- a) assist in the future identification of critical habitat and encourage the noise producers to use the identified areas as management tools to plan their activities;
- b) consider the implementation of protected areas for Cuvier's beaked whales;

4. *Requests* the Secretariat

- a) to bring the recommendation of the Scientific Committee to the attention of relevant international and regional instruments in the Agreement area to assist in the conservation of Cuvier's beaked whales;

- b) to assist Countries in need of capacity building to implement monitoring activities on the presence of Cuvier's beaked whales;
5. *Requests* the Noise Working Group in collaboration with Parties, non-Parties, as well as NATO and other stakeholders as necessary to develop implementable measures to reduce impacts of intense noise activities within areas identified as of special concern for consideration by the next Meeting of the Parties;
 6. *Requests* the Secretariat, in collaboration with the Scientific Committee, to convene a workshop on ways to mitigate cumulative and synergistic impacts of noise together with other anthropogenic threats on Cuvier's beaked whales, subject to available funding.

RESOLUTION 6.21 - Species Conservation Management Plans

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Acting upon Recommendation 10.8 of the ACCOBAMS Scientific Committee,

*Recalling Resolutions 1.8 on the establishment of a triennial national report format for the Agreement, 1.12 on the conservation of the Black Sea *Tursiops truncatus*, 3.7 on the ACCOBAMS online reporting system, 3.11 on the conservation plan for Black Sea cetaceans, 4.6 on the format for national implementation reports of the Agreement, 4.13 on the conservation of the Mediterranean short-beaked common dolphin, 5.12 on work towards a conservation plan for fin whales in Mediterranean Sea, 5.13 on the conservation of Cuvier's beaked whales in the Mediterranean, and 5.14 on the live removals of bottlenose dolphins in the Black Sea (*Tursiops truncatus*),*

Recognizing the importance of conservation plans to fulfil ACCOBAMS conservation objectives,

Aware of the need of structure and focus to ensure the development and effectiveness of such plans,

Noting that the International Whaling Commission (IWC) has developed a process for conservation management plans (CMPs) through its Scientific and Conservation Committees and that the ACCOBAMS Scientific Committee has summarized the IWC approach in the context of the ACCOBAMS,

Taking into consideration document ACCOBAMS-SC10/2015/Doc16 & Doc18, draft terms of reference for an ACCOBAMS Conservation Management Plan (CMP) for fin whales in the Mediterranean Sea, with guidance for the general development of CMPs within the ACCOBAMS area,

Noting ASCOBANS Resolution 8.4 on Conservation of Common Dolphins, which requests the development of a comprehensive conservation plan for the common dolphin in the eastern North Atlantic and invites ACCOBAMS to participate in the drafting process,

Taking note of the workshop, that took place in April 2016 in Ischia, Italy, on the 'Conservation and research networking on short beaked common dolphins in the Mediterranean Sea' under the patronage of ACCOBAMS, CMS, the IUCN Species Survival Commission and others,

1. *Takes note of the CMP template, as annexed to this Resolution, for new conservation management plans in the ACCOBAMS Area;*
2. *Encourages Parties to work towards CMP key components of which should include:*
 - support of national authorities,
 - involvement of stakeholders at an early stage of development,
 - recognition that conservation management plans complement existing measures without replacing them,
 - overview of present status of species,
 - clear and achievable objectives,
 - practical and prioritized mitigation actions,

- regular monitoring and reporting,
 - clear governance structures to co-ordinate the engagement of key stakeholders;
3. *Establishes* an ACCOBAMS CMP Correspondence Group, the mandate of which will be proposed by the Scientific Committee and submitted to the Bureau, and could also include representatives of IWC and Pelagos Agreement, to develop a draft CMP for fin whales, following the CMP template and taking into consideration the relevant stakeholders through a workshop;
 4. *Asks* the ACCOBAMS CMP Correspondence Group to submit the draft CMP for fin whales for consideration at the Seventh Meeting of ACCOBAMS Parties;
 5. *Requests* the Scientific Committee and encourages Range States to participate in the drafting process for a comprehensive conservation plan for the common dolphin in the eastern North Atlantic under development by ASCOBANS;
 6. *Asks* the Scientific Committee to review the findings of the workshop 'Conservation and research networking on short beaked common dolphins in the Mediterranean Sea' and identify follow-up activities, as appropriate;
 7. *Calls upon* the Parties to support work on areas of special importance, population structure and ship strikes with respect to fin whales, as such work can produce important information for the development and subsequent implementation of a CMP;
 8. *Asks* the ACCOBAMS Scientific Committee to complete the Conservation Plan for the Bottlenose dolphin;
 9. *Recommends* the review and possible revision of existing plans for ACCOBAMS species in the light of the CMP Template.

ANNEX

TEMPLATE FOR A CONSERVATION MANAGEMENT PLAN

EXECUTIVE SUMMARY

Provide a general overview of the plan. This section should include:

- Why a CMP is needed: Scene setting for a CMP – including a brief description of the target population, its habitat, and threats that impact the population.
- An overall goal of the CMP which would act as the mission statement for the plan.
- An overview of how the CMP is structured and what is detailed in each section.
- A *Summary Table of High Priority Actions* could also be included. High priority actions usually fall into the following categories:
 - co-ordination (COORD);
 - public awareness and capacity building (PACB);
 - research essential for providing adequate management advice or filling in knowledge gaps (RES);
 - monitoring (MON); and
 - mitigation measures (MIT).

1. INTRODUCTION

This section should briefly address the following questions:

- Why is active management needed for the identified cetacean population, threat or critical habitat?
- Why is a CMP the most appropriate management tool to achieve the stated conservation objectives?

This section should include:

- The scope, context and policy setting of the CMP.
- A detailed map of the known distribution of the population/critical habitat
 - If a CMP is being designed for a particular threat the map should include an outline of the area where the threat is encountered by the target cetacean population.
 - If the CMP is being designed for a particular critical habitat, the map should include the extent of the critical habitat.
- This section should also reference any current or previous conservation management actions relating to the draft CMP including conservation plans, legislation as well as any relevant peer reviewed papers or related documentation.

1.1 Overall Objectives of the CMP

To maximise the success of a plan and ensure that required changes are identified promptly; the measurable short, medium and long-term objectives should be identified. Thus, the monitoring of the target population, human activities affecting it, mitigation measures, and the effectiveness of those measures is essential.

Objectives of a CMP will not only relate to the conservation of the population but also to the interests of relevant stakeholders.

Insert the overall short, medium- and long-term objectives of the CMP.

2. LEGAL FRAMEWORK

Insert a list of relevant international conventions, agreements and legislation and management arrangements that the plan may relate to. Supporting information can be contained on Appendices.

[Please note that the below are examples only]

2.1 International Conventions and Agreements**2.2 National Legislation and Management Arrangements****2.2.1 Participating Range State A**

National legislation with respect to the population of X whales

2.2.2 Participating Range State B

National legislation with respect to the population of X whales

2.2.3 Participating Range State C

National legislation with respect to the population of X whales

2.2.4 Participating Range State A

Area X Fisheries Management Plan

2.2.5 Participating Range State B

Marine Protected Area X Operational Management Plan

3. GOVERNANCE**3.1 Coordination of a CMP**

As a CMP may cover a large geographical area and involve several jurisdictions, it is important to establish an appropriate management structure for the CMP that identifies key stakeholders, their roles and responsibilities and the interaction between them during the development, implementation and review stages of the plan.

Insert an outline of the governance framework under which the CMP would be conducted, from the development stage through to the implementation and review stages.

3.2 Timeline for a CMP

Identify the various stages of a CMP with tasks and indicative timings for each stage as well as outlining which parties may be involved with the tasks identified.

4. SCIENTIFIC BACKGROUND**4.1 Biology, Status and Environmental Parameters**

Insert concise background information on the nominated population(s), including:

- population structure;
- abundance and population trends;
- distribution, migration and movements; and
- basic biology (feeding, reproduction and survivorship).

Identify any knowledge gaps that exist in current data.

4.2 Critical Habitats

If habitats are identified that are deemed as critical for the recovery and/or protection of a target cetacean population, the extent of these habitats and the purposes that they are used for should be outlined here.

4.3 Attributes of the Population to be Monitored

The ultimate success or failure of any CMP depends on improvements in the conservation status of the target population(s) – this can only be achieved by monitoring. Depending on the objectives of the CMP and the nature of the threats a population faces, a variety of candidate ‘attributes’ of the population can be considered for monitoring

over time, to determine the success of the overall plan and/or individual actions and to amend the CMP where necessary.

This section should include a description of the attributes of the population that will be monitored (e.g.: abundance (relative and/or absolute), reproductive rates, survivorship, health, prey status, range) and an evaluation of the feasibility of detecting trends with current methods given that changes occur (e.g. using power analyses).

5. THREATS, MITIGATION MEASURES AND MONITORING

5.1 Identification of Threats

This section should provide a summary of the known or suspected threats (both direct and incidental) to the nominated cetacean population/critical habitat. This should be summarised in tabular form (such as that seen below) but should also include a discussion of each explaining the rationale behind the summary. Where appropriate, reference should be made to actions within the CMP. Note: the first five columns in the table will form part of the nomination process.

Table: Summary of actual and potential threats to the nominated population.

Actual/Potential Threat	Cause or related activity	Evidence	Possible Impact	Priority for Action	Relevant Actions	Party Responsible
Directly lethal threats						
<i>e.g. Entrapment in set nets</i>	<i>Set net fishing</i>	<i>Strong</i>	<i>Mortality +/- or serious injury</i>	<i>High</i>	<i>RES-01</i>	<i>Participating Range States</i>
<i>e.g. Entanglements in Other Types of Fishing Gear</i>						
Sub-lethal threats						
<i>e.g. Noise, pollution, etc.</i>						

5.2 Mitigation Measures and Monitoring

This section should include identified mitigation measures to address key threats and how the mitigation measures will be monitored. For example:

5.2.1 **Entrapment in Set Nets**

Undertake the following mitigation measures (MIT-01, 02, 03) and the following monitoring measures (MON-01, 02) to facilitate the conservation of species A in the area designated XYZ.

Undertake the following public awareness raising measures PACB-01, 02 to promote the conservation of species A in the area designated XYZ.

5.2.2 **Entanglements in Other Types of Fishing Gear**

6. ACTIONS

These form the key component of any CMP. While there may be overlap, these can generally be incorporated under the following categories:

- co-ordination (COORD);
- public awareness and capacity building (PACB);
- research essential for providing adequate management advice or filling in knowledge gaps (RES);
- monitoring (MON); and
- mitigation measures (MIT).

It is important that actions be realistic and effective. They should be well specified (usually 1-2 pages for each action) and generally include the following information, where relevant:

- (1) Description (including concise objective, threats to which relevant and how, rationale, target data or activity, method, implementation timeline);
- (2) Actors (responsible for implementation and relevant stakeholders);
- (3) Evaluation (actors responsible);
- (4) Priority (importance to the plan and feasibility);
- (5) Costs (where appropriate).

7. SUMMARY AND IMPLEMENTATION OF ACTIONS

Insert a tabular summary of all actions here, referring to the 1-2-page detailed summaries (see above). In addition, include here an implementation strategy or designate responsibility for developing and implementing an implementation strategy along with a Management Framework.

Outline how the actions will meet the short, medium- or long-term objectives of the plan.

7.1 Stakeholder Engagement, Public Awareness and Education

Insert here a strategy and information on stakeholder engagement, public awareness and any education activities that will be undertaken during the CMP implementation stage (e.g. via websites, meetings etc.).

7.2 Reporting Process

A CMP should be considered a living document and once the implementation stage begins, a process of reporting and review is essential to determine how well the CMP is meeting its overall objectives and implementation timelines and milestones.

Insert process for reporting on CMP progress to the IWC (including a timeframe).

8. BIBLIOGRAPHY

As a CMP should be based upon best scientific knowledge and guided by the principles and practices of adaptive management, it is important for a CMP to identify any published works relevant to effective implementation of the plan.

Insert bibliography here.

9. APPENDICES

Insert additional background and contextual information in appendices. For example, the original CMP nomination could be supplied here.

RESOLUTION 8.14 - Conservation Management Plans

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Recalling Resolution 6.21 on Conservation Management Plans (CMPs), where Parties took note of the CMP template, regarding new CMPs in the ACCOBAMS Area,

Taking into consideration Recommendation 14.13 “Conservation Management Plans (CMPs)” from the 14th meeting of the Scientific Committee,

Recognizing that the Scientific Committee and the four CMPs points of contact have devoted significant efforts during the past triennium (2020-2022) to develop draft CMPs for Mediterranean fin whales, Risso’s dolphins, common dolphins and bottlenose dolphins,

Recognizing also that, despite delays due to Covid-19 pandemic, the draft CMPs have been completed during the ACCOBAMS workshop in Cap d’Ail, France, from 7 to 9 March 2022,

Taking into consideration the recent IUCN Red List assessments as presented in Resolution 8.12 on IUCN Red List,

1. *Takes note* of the draft CMPs as presented in document MOP8/2022/Inf29;
2. *Requests* the CMP points of contact to finalise the different CMPs through organising stakeholder workshops, in collaboration with the Secretariat and with the Sub-Regional Coordination Units, as an essential part of the process contributing to the effectiveness and successful implementation of CMPs;
3. *Encourages* Parties to work towards CMP key components, which should include:
 - support of national authorities,
 - involvement of stakeholders at an early stage of CMPs development,
 - recognition that CMPs complement existing measures without replacing them,
 - overview of present status of species,
 - clear and achievable objectives,
 - practical and prioritized mitigation actions,
 - regular monitoring and reporting,
 - clear governance structures to co-ordinate key stakeholders engagement;
4. *Recommends* the Scientific Committee to consider drafting a CMP for the following species/populations:
 - a. *Mediterranean sperm whales*
Mediterranean sperm whales are listed as ‘Endangered’ in the IUCN Red List. The Scientific Committee of the International Whaling Commission has recommended in 2020 and 2021 that these species be treated as a ‘priority population’ for the purpose of the CMP development process. In addition to ship strikes, anthropogenic noise and bycatch, Mediterranean sperm whales are particularly vulnerable to marine litter.

Range States include Albania, Algeria, Cyprus, Egypt, France, Greece, Italy, Libya, Malta, Monaco, Morocco, Spain, Tunisia, and Türkiye;

b. Mediterranean Cuvier's beaked whales

Mediterranean Cuvier's beaked whales are listed as 'Vulnerable' in the IUCN Red List. Threats to such species include anthropogenic noise, habitat degradation, chemical pollution, bycatch and ingestion of marine litter. Range States include Albania, Algeria, Croatia, Cyprus, France, Greece, Israel, Italy, Monaco, Montenegro, Morocco, Spain, and Türkiye;

c. Black Sea cetaceans

Harbour porpoises and bottlenose dolphins of the Black Sea are listed as 'Endangered' in the IUCN Red List. Common dolphins of the Black Sea are listed as 'Vulnerable'. The Black Sea Commission (Sub-Regional Coordination Unit) recommended in 2021 to develop the updated Conservation Plan for Black Sea Cetaceans, as separate conservation plans for each of the three species. Threats to such species include bycatch (particularly for the harbour porpoise), habitat degradation (including prey depletion), illegal takes of bottlenose dolphins from the wild, and consequences of bio-invasions by alien species. Range States include Bulgaria, Georgia, Romania, Russia, Türkiye, and Ukraine;

5. *Encourages* Range States to participate in the drafting process of relevant CMPs.

6.2.2 Protected Areas for Cetaceans

Resolution 3.22 Marine Protected Areas for Cetaceans

Resolution 4.15 Marine Protected Areas of Importance for Cetacean Conservation

Resolution 6.24 New Areas of Conservation of Cetacean Habitats

RESOLUTION 3.22 - Marine Protected Areas for Cetaceans

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

On the recommendation of the Scientific Committee,

Aware that habitat degradation is one of the main causes of population decline for many cetacean species,

Concerned that, although some protected areas devoted to cetacean conservation have already been established in the ACCOBAMS area, many of the sites known to be particularly important for cetaceans still remain unprotected,

Recalling that the Agreement invites the Parties to endeavour to establish and manage specially protected areas for cetaceans corresponding to the areas that serve as habitats and/or provide important food resources for them,

Conscious that establishing a network of marine protected areas will help achieve and maintain a favourable conservation status for cetaceans,

Taking into account the recommendation of the fourth meeting of the Scientific Committee stressing the importance of following a staged process in identifying and selecting candidate marine protected areas,

Recognizing that establishing an efficient network of marine protected areas for cetaceans requires comprehensive inventories of sites that contain critical and/or important habitats for cetaceans,

Noting that inventories of sites of conservation interest have been initiated in other pertinent multilateral instruments and treaties (the standard data entry form system adopted in the context of the SPAMI Protocol of the Barcelona Convention, the Emerald network instituted in the context of the European Council, and the Natura 2000 network instituted by the European Union Habitats Directive),

Considering that ACCOBAMS is an appropriate tool for achieving the targets set by the CBD to attain a significant reduction in the current rate of biodiversity loss by 2010 and in the target set out to achieve a representative network of Marine Protected Areas in 2012,

1. *Encourages* Parties to contribute to the international effort to achieve the 2010 and 2012 targets set by the CBD.
2. *Welcomes* the criteria for the selection and format of proposals for marine protected areas for cetaceans as presented in the Annex 1 to this Resolution.
3. *Welcomes* the guidelines set out in the Annex 2 to this Resolution.
4. *Recommends* that the Parties give full consideration, and where appropriate cooperate to the creation of marine protected areas for cetaceans in areas of special importance for cetaceans in the Agreement coverage area, within the framework of the relevant Organizations, and *invites* non-Parties to do the same. In particular, the following areas have been recommended by the Scientific Committee:

Areas of special importance for the common dolphin and other cetaceans (see map in Annex 3)

- (1) Kalamos (Greece);
- (2) The Alborán Sea;
- (3) waters surrounding the island of Ischia (south-eastern Tyrrhenian Sea, Italy);
- (4) waters surrounding the island of Malta and southeastern Sicily, Italy;
- (5) the eastern Ionian Sea and the Gulf of Corinth (Greece);
- (6) the Gulf of Saronikos and adjacent waters (Argo-Saronikos and southern Evvoikos Gulf, Greece);
- (7) waters surrounding the northern Sporades (Greece);
- (8) the northern Aegean Sea and
- (9) waters surrounding the Dodecanese (Greece).

Areas of special importance for Black Sea cetaceans

- (10) The Kerch Strait for the bottlenose dolphin and the harbour porpoise (Russian Federation, Ukraine);
- (11) Cape Sarych to Cape Khersones for bottlenose and common dolphins and the harbour porpoise (Ukraine) and
- (12) Cape Anaklia to Sarp for the common dolphin and the harbour porpoise (Georgia).

Areas of special importance for the bottlenose dolphin

- (13) The Amvrakikos Gulf (northwestern Greece);
- (14) the Cres-Lošinj special marine reserve (under preventive protection status until end of July 2009) and
- (15) the Turkish straits system (also used by all Black Sea cetacean species).

Area of special importance for the sperm whale

- (16) southwest Crete and the Hellenic Trench (Greece).

Areas of special importance and diversity for various cetacean species

- (17) the Alborán Sea and Straits of Gibraltar, critical habitat and migration corridor for large numbers of 10 of the region's cetacean species; the most diverse cetacean habitat in the ACCOBAMS region and
- (18) the Strait of Sicily for fin whales and common, bottlenose and striped dolphins.

5. *Congratulates* the Croatian authorities for having declared preventive protection status for a 3-year period for the Cres-Lošinj special marine reserve;
6. *Strongly recommends* that the Croatian Government declare Cres-Lošinj a permanent protected area before the end of the 3-year period;
7. *Further invites* Parties to report to the next Meeting of the Parties about progress made on implementing this Resolution.

ANNEX 1

Criteria for the selection of protected areas

1. Discussion of the merits or otherwise of potential MPAs must occur within the context of the most appropriate tools for addressing particular actual or potential threats to cetacean populations and enabling them to reach or maintain favourable conservation status. A key issue when considering MPAs to protect important cetacean habitat and thus conserve cetacean populations is what is meant by important. Large areas may be important at some level to cetaceans but not all areas can be protected. The aim should be to protect the most important habitat/areas; the challenge is to identify which are the most important habitats/areas (see (2) below).
2. The concept of 'critical habitat' is commonly referred to in the context of MPAs and a number of suggestions and definitions for this exist (e.g., breeding areas; feeding areas; migratory corridors etc). However, in the context of cetacean conservation and management it is important to incorporate the concept of actual and/or potential threats at the population level into consideration of 'critical' and appropriate for consideration as an MPA. Thus the definition of what comprises 'critical habitat' and suitable candidates for MPAs can be best addressed on a case-by-case basis in the light of the available scientific knowledge. The spatial modelling approach is a powerful tool in this regard.
3. Criteria to identify sites containing cetacean critical habitat may include:
 - Areas used by cetaceans for feeding, breeding, calving, nursing and social behaviour;
 - Migration routes and corridors and related resting areas;
 - Areas where there are seasonal concentrations of cetacean species;
 - Areas of importance to cetacean prey;
 - Natural processes that support continued productivity of cetacean foraging species (upwellings, fronts, etc.);
 - Topographic structures favourable for enhancing foraging opportunities for cetacean species (canyons, seamounts).
4. These criteria can be applied for the identification of sites containing cetacean critical habitats, in need of protection due to the occurrence of significant interactions between cetaceans and human activities, where:
 - Conflicts between cetaceans and fishing activities have been reported;
 - Significant or frequent bycatch of cetaceans is reported;
 - Intensive whale watching or other marine tourism activities occur;
 - Navigation presents a potential threat to cetaceans;
 - Pollution runoff, outflow or other marine dumping occur;
 - Military exercises are known to routinely occur.
5. In every one of the above cases, one has to consider very carefully whether the threat can be the focus of regulatory action that is generic, or whether MPA creation would provide added value.
6. In specifying potential MPAs, to the extent possible and noting that this can be a staged process, proposals should include information on the following:
 - clearly stated objectives of the MPA;
 - the rationale for choosing an MPA as the appropriate management tool and the particular temporal and geographical boundaries (including specification of the data and analytical techniques used);
 - a draft management plan that is linked to documented actual and potential threats to one or more populations of cetaceans;
 - proposals for mitigation measures (and/or research designed to develop such measures), with consideration of appropriate compliance monitoring (to ensure that such measures are correctly implemented) plus scientific monitoring to ensure that each of the proposed mitigation measures (where there are more than one) are working as expected;
 - proposals for overall monitoring to ensure that stated objectives are being met;
 - details of consultation with and views of interested stakeholders;

- details of legal aspects of the proposed MPA, including co-operation with the appropriate local, national and international authorities must occur.

FORMAT FOR THE PROPOSAL OF PROTECTED AREAS FOR CETACEANS

INTRODUCTION

During MOP2, the Contracting Parties to ACCOBAMS asked the Scientific Committee to prepare a special format for the proposal of protected areas for cetaceans, adapted from the existing format for proposing SPAMIs under the Barcelona Convention.

The draft data-entry form below is based on the SPAMI template. It is comprised of the following 7 main sections:

1. Area identification
2. Executive summary
3. Site description
4. Statement about the importance of the area for the cetacean species
5. Human population and use of natural resources
6. Protection regime
7. Proposed management measures and relevant institutional arrangements

1. AREA IDENTIFICATION

COUNTRY/COUNTRIES (in the case of transboundary areas)

ADMINISTRATIVE PROVINCE OR REGION

NAME OF THE PROPOSED MPA

GEOGRAPHIC LOCATION

(Please describe the co-ordinates here and make a separate annex with a map and a description of geographical co-ordinates for the proposed area).

SURFACE AREA OF THE PROPOSED MPA (total)

(in national unit)	(in ha)
<input type="text"/>	<input type="text"/>

LENGTH OF THE ADJACENT COAST (km)

2. EXECUTIVE SUMMARY (maximum 3 pages)

Supply a summary of the information contained in sections 3 to 7

3. SITE DESCRIPTION**3.1 TYPOLOGY OF THE SITE**

Marine surface area (sq. km):

Marine internal waters

Territorial seas

High seas

3.2 MAIN PHYSICAL FEATURES

3.2.1. Geology/Geomorphology

Give a brief description of: (i) geological aspects (lithologic and tectonics); (ii) processes of sedimentation and erosion observable in the area; (iii) coastal geomorphology and (iv) island system. Indicate sources.

3.2.2. Other interesting physical features: Such as hydrodynamics, volcanic formations, caves, underwater formations, etc.

3.3 BIOLOGICAL FEATURES

3.3.1. Habitats: A brief description of dominant marine habitats, on the basis of the habitat classifications adopted within the framework of MAP (and their coverage in ha)

3.3.2. List of regionally/globally important species (flora and fauna, cetaceans excluded)

List here ONLY those species protected by international agreements which are known to be present in the area. Any other species may be listed if they are clearly considered of regional importance and have high representation in the area. Put the species list under separate headings for Marine Plants, Terrestrial Plants, Marine Invertebrates, Fish, Amphibians and Reptiles, Birds, and Mammals. For each species state:

- a) its relative abundance as Common (C), Uncommon (U) or Occasional (O),
- b) Its global status as rare (r), endemic (e) and/or threatened (t), and
- c) its status as an important resident population (R), or important for its breeding (B), feeding (F), wintering (W) or migratory passage (M)

SPECIES	Rel. Abundance (C) (U) (O)	Regional STATUS (r) (e) (t)	Local STATUS (R) (B) (F) (W) (M)

3.3.3. Flora: Describe in a few sentences the main plant assemblages significant in the area.

3.3.4. Fauna: Describe in a few sentences the main fauna populations present in the area, cetaceans excluded.

--

4. IMPORTANCE OF THE AREA FOR CETACEANS

4.1. Cetacean species present in the area: For each species known to occupy the area, list the following information (duplicate table for each species):

Name of species	
Density (relative or absolute)	
Group size (mean, range)	
Habitat use (include maps if available). Spatial modelling highly recommended.	
Diet	
Life history parameters	
Existing threats ²¹⁰	
Potential threats	
Known status and trends	

4.2. Describe scientific information on the population which is not available but considered essential for its protection

--

4.3. Features of the area that make it of particular importance to cetaceans (e.g., areas used by cetaceans for feeding, breeding, calving, nursing and social behaviour; migration routes and corridors and related resting areas; areas where there are seasonal concentrations of cetacean species; areas of importance to cetacean prey; natural processes that support continued productivity of cetacean foraging species (upwellings, fronts, etc.); topographic structures favourable for enhancing foraging opportunities for cetacean species (canyons, seamounts).

--

4.4. Rationale of proposal: reason(s) why the establishment of a protected area is considered essential to the protection of the population (as opposed to other more wide-ranging or generalised measures)

--

4.5. Measures that would be desirable to protect the population outside the limits of the proposed area

--

²¹⁰ E.g., conflicts between cetaceans and fishing activities; significant or frequent bycatch of cetaceans, Intensive whale watching or other marine tourism activities; navigational threats to cetaceans; pollution runoff, outflow or other marine dumping; military exercises.

--

4.6. Is the area likely to support protection of cetaceans as part of a wider regional network of MPAs?

--

4.7. State the goals of the proposed MPA:

--

5. HUMAN POPULATION AND USE OF NATURAL RESOURCES

5.1 HUMAN POPULATION

Description of local residents and visitors

Resident population

Tourist population

Main human settlements and their populations

--

5.2 CURRENT HUMAN USE AND DEVELOPMENT

a) Briefly describe the current use of the area for subsistence, artisanal, commercial and recreational fishing, tourism and other economic sectors.

Fishing:

Tourism:

Maritime traffic:

Whalewatching:

Military activities:

Infrastructures / construction:

Research:

b) Enter how many of the users depend on these resources, seasonality of use, and provide an assessment of the social and economic importance of their use and of the perceived impact on the conservation of the area, in a score of 0-1-2-3 (meaning null, low, medium, high).

ACTIVITY AND CATEGORY	ASSESS IMPORTANCE OF								Estimated No. of Users	Seasonality
	Socio-economic impact				Conservation impact					
FISHING										
Subsistence	0	1	2	3	0	1	2	3		
Commercial, local	0	1	2	3	0	1	2	3		
Commercial, non-local	0	1	2	3	0	1	2	3		
Controlled recreational	0	1	2	3	0	1	2	3		
Uncontrolled recreational	0	1	2	3	0	1	2	3		
Other										
TOURISM										
Regulated	0	1	2	3	0	1	2	3		
Unregulated	0	1	2	3	0	1	2	3		
Indicate the type of tourism										
• ecotourism	0	1	2	3	0	1	2	3		
• general marine tourism	0	1	2	3	0	1	2	3		
• mass or general tourism										
Tourism facilities	0	1	2	3	0	1	2	3		
OTHER ACTIVITIES										
	0	1	2	3	0	1	2	3		
	0	1	2	3	0	1	2	3		

5.3 TRADITIONAL ECONOMIC OR SUBSISTENCE USES

Name any environmentally sound traditional activities integrated with nature, which support the well being of the local human population. E.g. target species, if closed seasons or closed zones are used as management techniques.

Whale watching
Artisanal fisheries
Scuba diving

5.4 IDENTIFICATION OF STAKEHOLDERS

5.4.1 Institutional (International, regional, national, local)

--

5.4.2 Private (Industry, military, scientific, NGOs, other)

--

5.5 EXPECTED DEVELOPMENT AND TRENDS

--

5.6 POTENTIAL CONFLICTS IN THE AREA (BETWEEN CETACEANS AND HUMAN ACTIVITIES OR POTENTIAL CONFLICTS BETWEEN USERS).

Prey depletion:

Fishery interactions (bycatch / predation):

Acoustic pollution:

Debris pollution:

Collisions:

Harassment:

6. PROTECTION REGIME

6.1 Legal status

6.1.1 Historical background of the protection of the site (if any)

6.1.2 Proposed legal status (use the national conservation categories)

6.1.3. If the area lies partially or totally on the High Seas, list here the proposed institutional arrangements.

7. PROPOSED MANAGEMENT MEASURES AND RELEVANT INSTITUTIONAL ARRANGEMENTS

Please suggest here how the management of the proposed MPA will be undertaken. Indicate management measures which could be used for the proposed MPA to protect cetaceans and reduce or eliminate conflicts with human use of the area. For example, you could suggest an MPA with zoning and a highly protected critical habitat area and/or you could use other management tools such as regulations to control pollution dumping or boat noise, shipping activities, fast ferries, undersea noise pollution, and dumping activities. Suggestions and proposal for enforcement can be made here as well. What about educational programmes for public and all users of the area? Which existing institutions, government or other agencies can undertake management and enforcement, or will new agencies need to be created?

7.1. Describe provisions for the establishment of a management body and formulation of a management plan²¹¹

7.2. Define management objectives designed to meet the stated goals (listed in section 4.7). Effective management of an MPA is founded on the articulation of clear and quantifiable objectives to attain the institutional goals, and the implementation of a monitoring system to assess whether these objectives are being met. A significant challenge to the effective management of MPAs dedicated to the protection of top predators such as cetaceans is the need for a

²¹¹ The management plan will, among other things, detail the measures enacted to reach the objectives. These include: Zoning, to separate highly protected no-entry sites containing cetacean critical habitat from human-use sites where activities such as whale watching, tourism, moderate fishing and vessel traffic may occur in a regulated fashion; Regulations and mitigating measures to maintain potentially harmful human activities (e.g., fishing, vessel traffic, military exercises) within acceptable levels; Research activities to generate knowledge susceptible to allow management adaptiveness and increase management effectiveness; Enforcement and compliance monitoring to ensure that rules are respected and measures are correctly implemented; Monitoring of the status and trends of the target populations and relevant human activities as a feedback mechanism to the management plan, to ensure that the proposed mitigation measures are working as expected; Monitoring and periodic review to ensure that the stated objectives are being met; Development of risk assessment techniques to take cumulative impact into account and identify emergent risks; Promotion of fair decision-making and conflict resolution concerning access to ocean resources within the protected areas; Administration, financing and fund-raising; Implementation of education and awareness programmes.

framework to guide and assess effectiveness in the context of broader ecosystem-level objectives, which seek to extend conservation benefits from the protected species and their habitats to marine trophic webs and ecosystem-wide processes. Ecosystem-level management requires a clear rationale and a firm knowledge base.

7.3. List periodic management reviews to assess whether objectives are met. A fundamental step in the management process involves the monitoring and periodic review of activities to assess whether the objectives are being met. A practical way of achieving this result is to devise specific management indicators. Pomeroy *et al.* (2004) provide an excellent review of the MPA management evaluation process, including the development and application of indicators (subdivided into biophysical, socio-economic and governance indicators). Given the complexity involved in selecting appropriate indicators, planning and conducting the evaluation, and consequently adapting further management actions, it is strongly recommended that the entire MPA management evaluation process be the subject of specific training.

ANNEX 2

Guidelines for the Establishment and Management of Marine Protected Areas for Cetaceans

Note: These Guidelines are part of an effort jointly undertaken by the RAC/SPA and the Secretariat of ACCOBAMS to support the relevant national authorities in the Mediterranean countries and the rest of the ACCOBAMS area in the promotion, establishment and management of protected areas for cetaceans

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1. Executive Summary

These Guidelines are part of an effort jointly undertaken by the RAC/SPA and the Secretariat of ACCOBAMS to support the relevant national authorities in the Mediterranean countries and the rest of the ACCOBAMS area in the promotion, establishment and management of protected areas for cetaceans. The impetus for such effort was provided by a recommendation from the Contracting Parties to the Barcelona Convention adopted during their 14th Ordinary Meeting in Portoroz, Slovenia, in 2005.

Whether MPAs are appropriate tools for the conservation of cetaceans has been the subject of considerable debate. Before establishing protected areas for cetaceans, careful consideration should be given to whether such areas are likely to achieve the intended goals. The main argument against using protected areas for cetaceans is that it is difficult to encompass within a single area the year-round distribution of highly mobile species. On the other hand, cetaceans may be good subjects for space-based protection because they are particularly vulnerable to anthropogenic threats, and as such are good focal species for their ecosystem. Ways exist of minimising problematic aspects connected with the use of MPAs to protect cetaceans, while enhancing the positive side of such practice. Perhaps the best answer to the main critique to the use of MPAs to protect cetaceans, i.e. that cetacean populations are too mobile and have too large a total range to be encompassed by a single protected area, would be to establish a network of protected areas, which will protect at least the main portions of their critical habitat.

The guidelines mainly consist of two parts, which correspond to the two phases of the process: (a) selection and creation of MPAs, and (b) management of MPAs. Creating MPAs is a complex process that normally involves, in sequence: (a) the definition of goals of the prospective MPA, based on the existing knowledge of the presence of cetaceans in the area and of the existence of threats to their survival; (b) the rationale for the proposal, where the case is made for the establishment of an MPA as an effective tool to counteract the known threats to cetaceans and thus to ensure the

populations' favourable status; (c) the compilation of all the pertinent bibliographic information (published as well as "grey" literature and user knowledge derived from interviews, etc.); (d) the collection of updated scientific information through dedicated research targeting the species of concern, human activities in the area, and the existence, types and distribution of threats; (e) the analysis of data to identify the existence of critical habitats within the considered area, or sites where the target species concentrate for specific activities or purposes; (f) the drafting of a science-based MPA proposal, inclusive of maps to support decisions on conservation priorities based on links among areas important to cetacean populations, ecological processes and human activities, to be presented for consideration by the competent authorities and by all the stakeholders; and (g) the beginning of a consultation phase involving the building of consensus through awareness campaigns, stakeholder participation, socio-economic analysis and, wherever necessary, conflict resolution.

While proposals may be prepared by any individual or organisation, the responsibility for formally establishing MPAs rests with the competent authorities. Proposals may be brought to the attention of the authorities by anybody; however, the process may be greatly facilitated by channelling proposals through recognised regional bodies such as the RAC/SPA and ACCOBAMS. Each Mediterranean riparian nation may independently assess needs and opportunities for establishing cetacean MPAs within its remits, in order to grant as quickly as possible legal protection to those sites that have already been identified in areas under its jurisdiction as being particularly important for cetaceans. While that happens, however, an attempt to initiate such a process in an organised, region-wide fashion was recently made, and is presented here.

Management of an MPA for cetaceans does not sensibly differ from managing any other type of MPA. Excellent summaries exist explaining how MPAs are managed, and the basic management principles equally apply to protected areas for cetaceans. The section of this report dedicated to management therefore contains only a summary of the main elements of MPA management practice, with a special reference to their relevance to cetacean conservation. In particular, the need is emphasized for: (a) a management body and management plan; (b) the definition of clear management objectives; (c) periodic management reviews to assess whether objectives are met; (d) management training; and (e) consensus building and maintenance.

With one exception (the Pelagos Sanctuary), all the MPAs existing in the Mediterranean have been exclusively or primarily established to protect coastal waters only or primarily. As a consequence, most existing Mediterranean MPAs contain habitat of coastal cetaceans. Such areas, which are already protected by the existing law, may in the future become useful components of regional networks of MPAs designed to protect particular cetacean species. Managers of existing Mediterranean MPAs should be encouraged to conduct or promote research to determine whether the areas under their remit contain cetacean habitats. In the affirmative case, appropriate cetacean conservation measures should be included in the area's management plan. Furthermore, two-way communication should be established between single MPA management bodies and region-wide conservation organisations such as the RAC/SPA, and ACCOBAMS in particular for cetacean conservation measures, to facilitate the network growth, share experiences, and obtain assistance in matters such as capacity building, problem solving and sharing of resources.

2. Introduction

Within the framework of the development of Special Protected Areas, the Contracting Parties to the Barcelona Convention had recommended, during their 14th Ordinary Meeting in Portoroz, Slovenia (2005), to promote the creation of protected marine and coastal areas specifically for Mediterranean cetaceans. This decision was based on the collaboration with ACCOBAMS and referred in particular to the implementation of ACCOBAMS Resolution 2.14 (Palma de Majorca 2004) on protected areas and cetacean conservation, mandating the Agreement's Scientific Committee to draft criteria for the selection of such areas.

In this connection, the Secretariat of ACCOBAMS and RAC/SPA jointly decided to offer support to the relevant national authorities in the Mediterranean region and in the ACCOBAMS area in order to:

- Extend, if necessary, the concept of cetaceans protection to the already existing protected areas;
- Identify sites, including the high seas, containing important cetaceans habitats in the Agreement; and
- Implement all measures needed for cetacean protection.

Following the elaboration of the ACCOBAMS programme of work on marine protected areas ²¹², which consists of i) criteria for the selection of Specially Protected Areas, ii) a special format for proposals for such areas and iii) information on sites that contain important cetacean habitat in the Agreement area, RAC/SPA decided to contribute to this programme by elaborating "Guidelines on needs for the establishment and management of MPAs for cetaceans", to be presented during the next meeting of the SPA Focal Points.

These guidelines are meant to:

- Take into account the criteria of selection of Specially Protected Areas elaborated by ACCOBAMS and discussed by the ACCOBAMS Scientific Committee during its 4th Meeting, Monaco 5-8 November 2006;

²¹² The ACCOBAMS programme of work on marine protected areas, as presented during its Fourth Scientific Committee Meeting (Monaco, 5-8 November 2006), appears on Document UNEP(DEPI)/MEDWG.308/Inf.11.

- Provide basic information and training material to support MPA managers in the process of establishing and/or managing MPAs containing cetacean habitat;
- Suggest concrete actions to promote the long-term conservation of cetaceans in the existing or future MPAs;
- Provide support to all those concerned with the policy and practice of marine and coastal protected areas for cetaceans, including practitioners, decision-makers at the various levels of government, NGOs, academics, and international agencies.

For best results in achieving the goal of conserving Mediterranean cetacean populations through habitat protection, a few initial recommendations and considerations are offered here.

First, several international and regional organisations exist which are concerned with the task of protecting the region's marine biodiversity – and cetaceans in particular – through the establishment of protected areas²¹³. These include, among others, UNEP MAP's RAC/SPA, ACCOBAMS, the Bern Convention and the European Commission. Of these, ACCOBAMS is the sole Agreement which focuses exclusively on cetaceans, and advocates the creation of MPAs for cetacean conservation, including in the high seas (ACCOBAMS Agreement, Annex 2, Art. 3). This considered, inter-institutional coordination and cooperation should be accorded a very high priority to optimise effectiveness and resources and avoid duplication of effort and overlap.

Second, activities related to cetacean habitat protection may be viewed as the responsibility of both regional organisations and national authorities. While both can (and should) cooperate to launch a coherent and coordinated process for identifying sites of special interest for cetaceans, with the view of granting them protection status that will give them long-term protection, the responsibility for the establishment of protected areas within territorial waters ultimately rests with the coastal States. However, considering that large amounts of Mediterranean high seas may be contemplated for protection (given the pelagic nature of many of the region's cetacean species), and further considering that the ultimate goal of this whole effort should be of setting up a network of MPAs that will best serve the purpose of achieving and maintaining a favourable conservation status for cetaceans in the region, international cooperation is essential to the process. For this reason, although these guidelines are particularly aimed at supporting the work of the national authorities concerned with cetacean conservation (both at the level of government administrations and research institutions), they are also conceived as a support to inter-governmental and non-governmental organisations, and Secretariats of relevant international treaties and conventions.

Third, these guidelines refer principally to the Mediterranean region because this is the area of RAC/SPA competence; however, they can easily be extended to the wider geographic range of ACCOBAMS, which includes the Black Sea and the Contiguous Atlantic Area.

Finally, establishing a network of MPAs dedicated to cetacean conservation in the region will likely help reduce the rate of degradation and loss of cetacean habitats, thus helping countries in the region to reach the CBD's 2010 targets, i.e.: *"achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on Earth"*. In this spirit, in 2006 the Secretariats of RAC/SPA and ACCOBAMS jointly invited the Mediterranean countries to create specially protected areas for cetacean conservation in the framework of the 2010 targets.

²¹³ According to the Convention on Biological Diversity (CBD), "Marine and coastal protected area' means any defined area within or adjacent to the marine environment, together with its overlaying waters and associated flora, fauna and historical and cultural features, which has been reserved by legislation or other effective means, including custom, with the effect that its marine and/or coastal biodiversity enjoys a higher level of protection than its surroundings."

2.1. Are MPAs appropriate to protect cetaceans?

Whether MPAs are appropriate tools for the conservation of cetaceans has been the subject of considerable debate. A brief analysis of the controversy may help in reinforcing the concept that before establishing protected areas for cetaceans, careful consideration should be given to whether such areas are likely to achieve the intended goals. It is important to keep in mind that establishing MPAs is a lengthy, laborious and costly process, and that easier and faster means of achieving protection for cetacean populations may be available in some cases.

Elements against designating protected areas for cetaceans include:

- Cetaceans are highly mobile animals. Optimal design of a protected area intended to conserve a given population would need to encompass that population's entire year-round distribution. While it may be possible to accomplish such a design for some resident or non-migratory species, the ranges of most cetacean populations are often too large for this to be practicable (Reeves 2000).
- Current procedures for MPA establishment advocate an ecosystem-level approach as opposed to a species-level approach (Agardy, 1994). Large marine megafauna is often targeted by conservation efforts under the impetus of public affection towards charismatic species rather than on the basis of solid theoretical foundations (Hooker and Gerber 2004).

On the other hand, there are positive elements to consider:

- Cetaceans are particularly vulnerable to anthropogenic threats, and as such are good focal species for their ecosystem (Hooker *et al.* 1999).
- Often, more is known about cetaceans, among the most charismatic marine species, than about most other components of a given pelagic ecosystem (Hooker *et al.* 1999). Thus, designing an MPA to protect a cetacean species or species assemblage could help to effectively protect not only cetaceans, but also other species living under their umbrella. Hooker *et al.* (2002) calculated the energetic requirements of top level predators (i.e., beaked whales) in the Gully (a coastal area with a deep underwater canyon off the northwest Atlantic Canadian shore), and used this to infer the probable structure of the whole ecosystem. Such an ecosystem approach, involving a thorough assessment of the nature and scale of the trophic interactions involved in a marine conservation area, is a desirable trait of rigorous conservation planning (Hooker *et al.* 2002).

Ways exist of minimising problematic aspects connected with the use of MPAs to protect cetaceans, while enhancing the positive side of such practice. For instance, when only a portion of a cetacean population's range can be included within a protected area, there is obvious merit in selecting and designing MPAs in habitats that bear special importance for the species to be protected (Fig. 1), such as key breeding or feeding areas (e.g., grey whales, *Eschrichtius robustus*, in Mexican lagoons or humpback whales, *Megaptera novaeangliae*, in Hawaii) (Reeves 2000).

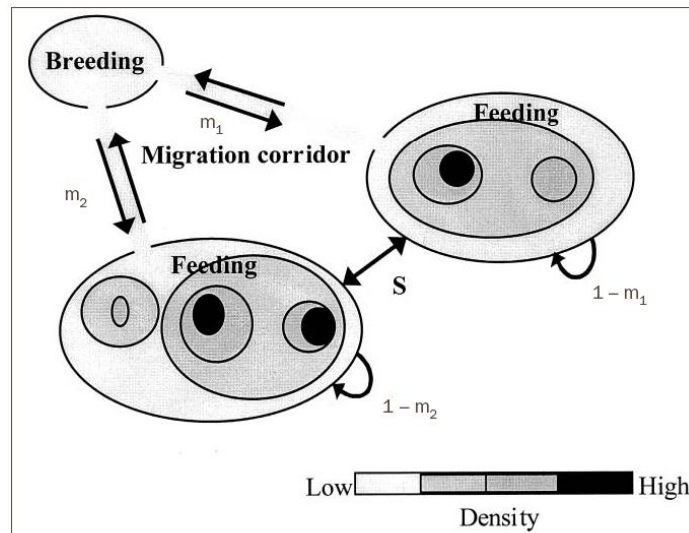


Fig. 1. Life stages of some marine predators are separated into discrete feeding and breeding areas, with migrations between them. Reserves can be placed in feeding, breeding or migratory habitats. Abbreviations: M, migration rate (m_1 and m_2 indicate different rates for migration to each feeding area); S, mixing between feeding areas (from Hooker and Gerber 2004).

Identifying and designating significant cetacean breeding areas may be rather straightforward, whereas the equally crucial need of identifying essential feeding areas can present enormous challenges to protected area design, especially for marine mammals that depend on pelagic food webs (Reeves 2000). Hyrenbach *et al.* (2000) addressed this challenge by identifying three types of open-ocean “hotspots” – i.e. significant feeding areas for top predators such as cetaceans - defined according to their dynamics and predictability in space and time: (a) static systems determined by topographic features, such as reefs, shelf breaks, submarine canyons, seamounts, and the lee shores of islands; (b) persistent hydrographic features, such as currents and frontal systems; and (c) ephemeral habitats shaped by wind- or current-driven upwelling and eddies. Static systems are relatively stable hotspots that can be mapped, and are the easiest to define and manage. Persistent hydrographic features are more challenging because they are not stationary, thus either requiring that a very large area be placed under protection, or that the boundaries be flexible. Ephemeral habitats are the most challenging, and will require a rather futuristic MPA design based on real-time monitoring of ocean conditions using remote-sensing technology (Hyrenbach *et al.* 2000, Reeves 2000).

Finally, perhaps the best answer to the main critique to the use of MPAs to protect cetaceans, i.e. that cetaceans may have too large a range to be encompassed by a single protected area, could be provided by the establishment of a network of protected areas (see next section).

2.2 Networks of MPAs vs. single MPAs

IUCN’s World Commission on Protected Areas (WCPA) - Marine defines a network of MPAs as “an organised collection of individual MPAs operating co-operatively and synergistically, at various spatial scales and with a range of protection levels, to fulfil ecological aims more effectively and comprehensively than individual sites could alone” (WCPA/IUCN 2006). More specifically, a network is generally thought of in a geographical and physical sense, as a group that has ‘connectivity’ between the components, and in some cases a physical connection (Wells 2006).

Several authors (e.g., Kelleher and Kenchington 1992, Kelleher *et al.* 1995, Salm *et al.* 2000, Roberts *et al.* 2003a and b) have listed the various conservation benefits of MPA networks over single MPAs. The following (Wells, 2006) are particularly significant as far as cetaceans are concerned:

- Helping to maintain the natural range of species;
- Ensuring protection of unique, endemic, rare and threatened species spread over a fragmented habitat;
- Ensuring adequate mixing of the gene pool to maintain natural genetic characteristics of the population;

- Ensuring protection of ecological processes essential for ecosystem functioning e.g. breeding and feeding habitats, and large-scale processes such as gene flow, genetic variation and connectivity;
- Ensuring that the ecosystem-based approach to management is followed and that adequate attention is paid to ecological functions and processes.

There are additional benefits if national systems are linked into regional systems (Wells 2006):

- Ensuring the protection of an ecosystem or species that cannot be adequately protected in one country – e.g. species that migrate;
- Ensuring that transboundary protected areas are given adequate attention;
- Sharing effective conservation approaches across similar sites;
- Developing collaboration between neighbouring countries to address common challenges and issues;
- Building capacity by sharing lessons learned, new technologies and management strategies, and by increasing access to relevant information.

Reeves (2000) mentions MPA networks that have become, or are on their way to becoming, unified systems providing population-level protection to marine mammals. The coherence and continuity of these networks, however, derive from their near-shore, essentially linear conformation. Mentioned networks include the trilateral Wadden Sea Conservation Area in western Europe, consisting of “an almost unbroken stretch of nature reserves and national parks” in the south-eastern part of the North Sea, and benefiting a local harbour seal (*Phoca vitulina*) population, and a series of protected areas along the west coast of Florida, deliberately planned with the goal of providing comprehensive protection to the habitat of the regional manatee (*Trichechus manatus*) population. Once completed, this network would limit coastal development in and near the core of the regional manatee population’s range, while enhancing the effectiveness of boat speed regulations and the general ban on the “taking” of manatees (Reeves 2000).

A corollary to the use of MPA networks to protect highly mobile species such as cetaceans concerns the establishment of “conservation corridors” to allow faunal exchanges between protected areas. The utility to cetaceans of corridors, however, will depend on whether they are likely to use them (Reeves 2000), i.e. if they can be designed to connect MPAs that protect separate critical habitats (e.g., breeding and feeding grounds) of the same population. For example, in the hypothetical case in which an area is identified and protected where Mediterranean fin whales travel to breed from their Ligurian Sea feeding grounds, ensuring adequate protection to the corridor connecting the two areas may be a significant conservation measure. Corridors in the marine environment, and particularly in the pelagic realm, may be intrinsically more difficult to design and manage than corridors linking land or freshwater protected areas (Reeves 2000). However, protection through corridors in the sea may not necessarily be analogous to its terrestrial equivalent. It can be conceived that marine protected sites be linked by “virtual corridors” based on conservation measures specifically addressing problems affecting the concerned species in transit, or the quality of their transiting habitat (T. Agardy, pers. comm.).

In conclusion, the process of organising single MPAs into networks – recently advocated by the world’s nations at the World Summit on Sustainable Development (Johannesburg, 2002), and later by the Convention of Biological Diversity – appears as particularly relevant for the protection of marine migrating species such as cetaceans, and is recommended as a desirable output of a regional cooperative conservation effort.

3. Selection and creation of MPAs

Creating MPAs is a complex process that normally involves, in sequence:

- (a) The definition of goals of the prospective MPA, based on the existing knowledge of the presence of cetaceans in the area and of the existence of threats to their survival;
- (b) The rationale for the proposal, where the case is made for the establishment of an MPA as the most effective tool to counteract the known threats to cetaceans and thus to ensure the conservation of the population(s)' favourable status;
- (c) The compilation of all the pertinent bibliographic information (published as well as "grey" literature);
- (d) The collection of updated scientific information through dedicated research targeting the species of concern, human activities in the area, and the existence, types and distribution of threats;
- (e) The analysis of data to identify the existence of critical habitats within the considered area, or sites where the target species concentrate for specific activities or purposes;
- (f) The drafting of an ecology-based MPA proposal, inclusive of maps to support decisions on conservation priorities based on links among cetacean populations, ecological processes and human activities, to be presented for consideration by the competent authorities and by all the stakeholders;
- (g) The beginning of a consultation phase involving the building of consensus through awareness campaigns, stakeholder participation, socio-economic analysis and, wherever necessary, conflict solution.

The present document concentrates on the ecological aspects of the MPA creation phase (a-f above) and on the management aspects of the phase which is subsequent to formal MPA declaration by the competent authorities. However, in spite of its cursory treatment in these guidelines, which are predominantly science-based, it is important to bear in mind that the last point listed above (g, i.e. consensus building and socio-economic concerns) is of fundamental importance for the success of the process. Decades of world-wide negative and frustrating experiences have taught the clear lesson that a bottom-up process of MPA establishment is greatly desirable for best and durable results.

3.1 Definition of goals

Hooker and Gerber (2004) list the main goals that MPAs may have: conservation of biodiversity (minimizing extinction risk), protection of vulnerable species, ecosystem protection, reestablishment of ecosystem integrity, segregating uses to avoid users conflicts, and enhancement of the size and productivity of harvested fish or invertebrate populations to help support fisheries outside the reserve. In the case of an MPA established to conserve cetaceans, the latter goal (fish stock enhancement) may have the double benefit of favouring both human and non-human predators. Each MPA may have just one of the above goals, or may also have a combination of them, as they are not mutually exclusive. For example, even though the focus of a protected area may be on higher predators, multispecies or multipurpose reserves are also acceptable if conservation of higher predators is compatible with, for example, fishery enhancement (or vice versa). Fishery no-take zones are often the most effective tool for marine conservation (Pauly *et al.* 2002). In many cases fishery reserves and fishery no-take zones, established primarily for fishery management purposes, can be envisaged to achieve the double benefit of helping to rebuild depleted fish stocks and allow the recovery of predators which have been negatively affected by their prey's depletion (Bearzi *et al.* 2006). In other circumstances, establishing reserves targeting primarily charismatic megafauna such as cetaceans can have positive cascading, or "umbrella" effects on many other species (for a discussion of umbrella species see Simberloff 1998).

Considering the high mobility of most cetacean species, unless the proposed MPA is very large, it may be difficult for a single MPA to attain the stated goals (see section 2.1 for a discussion). This problem, however, may be overcome

through the establishment of a network of MPAs, covering the most significant portions of a population's critical habitat (see section 2.2).

When defining the goals of a prospective MPA for cetaceans, careful consideration should be given to the potential of the initiative for raising awareness about cetaceans and their habitat needs, or raise political will to protect cetaceans. Often, and particularly in their early life stages, MPAs may be seen as meaningless "paper parks" as far as the effective protection that they afford to cetaceans is concerned; in spite of this, however, they may serve the important role of allowing the public and decision makers to ground their conservation ethic in a sense of place. In such circumstances, tying cetacean conservation to specific sites may be a good conservation strategy, and the selection of these sites may have less to do with cetacean ecology than with the site's awareness raising potential (T. Agardy, pers. comm.).

Once the goals of a prospective MPA are set, these will constitute the guidelines for the definition of the objectives in the management phase, whenever the MPA will have been established (see section 4.1).

3.2 Rationale for proposals

The discovery of an area with a particularly rich cetacean fauna is often the first step in the mental process of deciding whether a special area should be designated to protect it. Research may reveal the existence of previously unknown sites having special importance for cetaceans, either because these contain critical habitats, or because negative interactions between cetacean and human activities are reported to occur and constitute threats or potential threats to cetaceans.

Cetacean critical habitat was defined as *a place or area regularly used by a cetacean group, population or species to perform tasks essential for survival and equilibrium maintenance* (Hoyt, 2005). Criteria²¹⁴ to identify sites containing cetacean critical habitat may include:

- Areas used by cetaceans for feeding, breeding, calving, nursing and social behaviour;
- Migration routes and corridors and related resting areas;
- Areas where there are seasonal concentrations of cetacean species;
- Areas of importance to cetacean prey;
- Natural processes that support continued productivity of cetacean foraging species (upwellings, fronts, etc.);
- Topographic structures favourable for enhancing foraging opportunities for cetacean species (canyons, seamounts).

These criteria can be applied for the identification of sites containing cetacean critical habitats, in need of protection due to the occurrence of significant interactions between cetaceans and human activities⁴ where:

- Conflicts between cetaceans and fishing activities have been reported;
- Significant or frequent bycatch of cetaceans is reported;
- Intensive whale watching or other marine tourism activities occur;
- Navigation presents a potential threat to cetaceans;
- pollution runoff, outflow or other marine dumping occur;
- Military exercises are known to routinely occur.

In every one of the above cases, one has to consider very carefully whether the threat can be the focus of regulatory action that is generic, or whether MPA creation would provide added value.

⁴ (see page 3, Document UNEP(DEPI)/MEDWG.308/Inf.11)

Theoretically the acquired knowledge on the importance of a given area for cetaceans will not warrant per se the establishment of an MPA, which will be necessary in presence of existing threats to cetaceans. However, MPAs may also be desirable to stave off potential threats, which may presumably occur in the future as a consequence of the predictable expansion of impacting activities. In practice, this will extend the potential usefulness of MPAs to protect cetaceans virtually to all known cetacean critical habitats in the Mediterranean.

Protecting cetaceans from anthropogenic threats may be achieved in a number of different ways, and MPAs are just one of the many available tools. Given that establishing an MPA is an elaborate and labour-intensive process, it is important that a proposal for the creation of an MPA to protect cetaceans be buttressed by a solid rationale. This should include a description of the current, suspected or anticipated threats to cetaceans in the area, and a discussion of how the establishment of an MPA may enable the implementation of measures and regulations apt to mitigate or eliminate such threats.

Hooker and Gerber (2004) classify threats to marine predators, in particular to cetaceans, by subdividing them into “direct threats”, “indirect threats”, and “global effects”. The first are those that cause mortality, and include fishery bycatch, direct takes, ship strikes and military sonar. Indirect threats are those which cause accumulating harm over longer time scales rather than immediate death, and include overexploitation of lower trophic levels and habitat degradation (i.e., acoustic and chemical pollution, marine debris, disturbance and physical habitat destruction). Global effects, such as climate change, will have consequences for marine predators and their ecosystems (Hooker and Gerber 2004).

Based on circumstances, the establishment of an MPA will address the different types of threats with different levels of effectiveness. Threats such as entanglement in fishing nets, ecosystem changes caused by competition for prey resources through fisheries, as well as mortality from direct takes and from military sonar, can all be effectively addressed by protection regimes enacted through MPA establishment, whereas wide-ranging impacts such as airborne toxic pollution, the diffusion in the environment of plastics and other debris, and climate change will require mitigation at a wider, even global level.

3.3. A science-based proposal

The next step in the process of the establishment of an MPA will be to prepare a formal proposal. Such proposal will be based on the compilation and analysis of the necessary scientific information, and will contain the key points of a conservation plan, a general definition of the goals of the MPA, and what will be the most appropriate type of MPA designation.

In this respect it is important to resist the temptation of insisting that a “definitive” research programme be carried out on the cetacean fauna of the area prior to the establishment of the protected area. The required knowledge may be collected relatively rapidly, thus avoiding excessive commitment of financial and human resources, and time. An overly detailed data requirement should be avoided at this stage if there is a risk that the inevitable delays in implementation will compromise the outcome.

The information needed for a proposal is conceptually simple, basically consisting of baseline data on: (a) the distribution and abundance of the concerned species, (b) the type and intensity of human activities in the area likely to affect cetaceans, and (c) the known or likely impacts of such activities on these mammals. Such information should make it possible to evaluate the conservation benefits of the proposed MPA for the cetacean population(s) of concern, as well as to determine the area’s required size and boundaries. Often the marshalling of more sophisticated

information (e.g. on population identity and structure, abundance, habitat use, distribution and dynamics), can be postponed to a later phase and be the responsibility of the MPA management body.

The first task to be performed will obviously consist in the collection of the existing knowledge on the three subjects listed above (cetacean ecology, human activities, and threats) from all the available sources, including published papers, “grey” literature, and local knowledge.

If up-to-date sighting data do not exist for the area, or are too scarce and anecdotal, these will need to be collected through dedicated surveys. Data generated through such surveys, including presence/absence of animals and group sizes, should be related to search effort and to environmental co-variables to assist in the formulation of the proposal. Spreading search effort throughout the year as well as across years to account for seasonal and year-to-year differences and fluctuations in the animals’ ecology is optimal. However some judgment is needed to decide whether a more rapid assessment performed, for example, during summer (when weather conditions are more favourable) is sufficient to make a credible case for the creation of an MPA, leaving it to the management body to secure more detailed knowledge on the population ecology of the concerned species.

The information thus assembled can then be analysed in several ways to support the preparation of an MPA proposal. One technique, which may be likened to the so-called “Delphi method”, involves for the scientists engaging in the search for a group position through an iterative process in which the different opinions (e.g., concerning the MPA area and boundaries, or the protection measures likely to be implemented) are compared and progressively harmonised.

A more rigorous approach, the use of which, when feasible, was recently recommended by the Scientific Committee of ACCOBAMS, involves the application of spatial modelling techniques to identify important cetacean habitats and generate data-based MPA proposals and maps. A. Cañadas *et al.* described two types of spatial modelling which may be applied to support the establishment of MPAs for cetaceans: *habitat use modelling* and *density surface modelling* (A. Cañadas *et al.* 2005; A. Cañadas *et al.* 2006; A. Cañadas and P.S Hammond, 2006). The former uses “habitat categories” defined by different types of covariates (oceanographic, topographic, anthropogenic, etc.), to help explain variations in cetacean distribution and predict either areas that are important for target species or factors that are affecting their presence, distribution and density. The latter involves a combination of habitat use modelling with line transect sampling to estimate abundance of populations from surveys that have not been designed to achieve equal coverage probability. The habitat preferences of the studied population can then be illustrated using surface maps of density. Although the authors warn that, when using density surface modelling, and spatial modelling in general, careful attention must be paid to a number of requirements, assumptions and limitations (A. Cañadas *et al.* 2005; A. Cañadas *et al.* 2006; A. Cañadas and P.S Hammond, 2006), when data are available the use of spatial modelling is certainly a powerful method for describing cetacean habitats and strengthen MPA proposals.

A complicating factor when designing MPAs for highly mobile or migratory species such as cetaceans intervenes when the populations to be protected cue on highly dynamic or ephemeral environmental features, such as fronts, upwellings, eddies or currents (Hyrenbach *et al.* 2000; see also Anon. 2007 for a recent discussion of this subject). In such cases the creation of “dynamic MPAs” has been recommended by some authors. Dynamic MPAs are designed to change their location and size as they track a specific habitat feature associated with species movement or concentration. It has been argued that resource managers currently dispose of the technology to map oceanic habitats (e.g., surface temperature isotherms identifying the position of fronts) to communicate this information to vessels at sea, and to monitor and enforce spatially-explicit management measures in real-time (Anon. 2007; D. Hyrenbach pers. comm.). Examples exist of dynamic management measures which suggest that real-time ocean management is possible (e.g., time-area closures to avoid sea turtle bycatch off the South-eastern U.S., triggered by warm-water conditions in the tropical Pacific Ocean; a mandatory ship reporting system used to avoid ship-strikes of northern right whales off Massachusetts). Other experts, recognising the daunting management and legal implications of dynamic MPAs, suggest instead to set aside for conservation purposes very large and well-selected fixed areas, based around significant ecosystem features and biomass such as spawning or breeding zones (where predators are highly vulnerable to fisheries), or hotspots areas of high pelagic biodiversity (Anon. 2007).

3.4. Format for proposals

A format which may be used to formulate proposals for the establishment of MPAs for cetaceans in the ACCOBAMS area, prepared in accordance to Resolution 2.14 of the Second Meeting of the Contracting Parties to ACCOBAMS (adapted from the existing format for the proposal of SPAMIs in the context of the Barcelona Convention), was adopted by the Agreement's Scientific Committee (see Appendix 2 (page 20), Document UNEP(DEPI)/MEDWG.308/Inf.11), and will be submitted to the Parties to ACCOBAMS In October 2007. The format provides for information to be supplied on the identification of the area, and includes a description of the site, a list of the reasons why the site is important for cetaceans, a list of threats to cetaceans, information on human presence and activities, on the protection regime proposed, on proposed management measures and on relevant institutional arrangements.

In addition to its obvious practical aim of ensuring that proposals are standardised, the format is a very useful checklist of the types of information that need to be collected to make a proposal complete, and thus constitutes a handy support to organising thoughts and bits of information needed in the process. As such, it is here recommended that the format be considered an integral part of these guidelines.

3.5. The process of establishing MPAs

While proposals may be prepared by any individual or organisation, the responsibility for formally establishing MPAs rests with the competent authorities. Proposals may be brought to the attention of the authorities by anybody; however the process may be greatly facilitated by channelling proposals through recognised regional bodies such as the RAC/SPA and ACCOBAMS. Such international organisations, as well as IUCN MED (Malaga), and IUCN's World Commission for Protected Areas (WCPA – Marine), will provide expert support to nations wishing to establish MPAs for cetaceans.

If an MPA is proposed entirely within the territorial and internal waters of a nation, it will have to be established under the general domestic legislation of that nation, which covers both the substantial and institutional aspects of the matter (Scovazzi 1999). Once established, the concerned nation may decide whether the MPA could also be proposed as part of a wider protected areas network, such as the SPAMI network provided for by the SPA Protocol to the Barcelona Convention, the Natura 2000 network (if the nation is an European Union Member State), the Emerald network of the Council of Europe, or UNESCO's World Heritage Convention Sites. The impetus for inscribing one's MPA within an international network may derive from the nation's political will of promoting international cooperation for the protection of what is considered by that nation as common natural heritage.

Considering the pelagic habits of most cetacean species found in the Mediterranean Sea, important portions of their critical habitat will be located beyond the 12 nautical mile-wide territorial waters of any nation, i.e. in the Mediterranean high seas. This will cause most prospective MPAs for cetaceans in the region to be located in waters beyond national jurisdiction. It should be remembered that the existence of high seas in the Mediterranean is likely to be a transient condition, given that nations have the possibility of declaring their Exclusive Economic Zones (EEZs) up to 200 nautical miles from their coasts. The day in which all Mediterranean coastal nations will have declared their EEZs, the high seas will disappear from the Mediterranean. Until that happens, however, nations will still have the possibility of declaring an MPA resting entirely or in part in international waters by requesting its inscription in the List of SPAMIs of the Barcelona Convention's SPA Protocol. Once an MPA is adopted as a SPAMI by a Meeting of the Contracting Parties to the Barcelona Convention, its regulations will be binding not only for the citizens of the nation(s) which has (have) proposed it, but also for the citizens of all the nations which are party to the SPA Protocol. A classic precedent of such process was provided by the Pelagos Sanctuary for Mediterranean marine mammals, which consists largely of international waters. The Pelagos Sanctuary was established in 1999 by a treaty among France, Italy and Monaco, and adopted as a SPAMI in 2001 in recognition of its Mediterranean importance (Notarbartolo di Sciara *et al.* in press). It should also be noted that France and Italy have created ecological protection zones which may have an impact on high seas protection measures outside of their territorial waters. In addition to the Pelagos Sanctuary, other

important high seas areas are likely to be identified in the future (e.g., the Alborán Sea proposed in 2005 by Cañadas *et al.*). The cetacean populations survey planned in the ACCOBAMS context over the entire span of the Mediterranean and Black Seas may help facilitate the identification of such additional pelagic areas.

3.6. Possible candidate sites for the ACCOBAMS Area

Each Mediterranean riparian nation may independently assess needs and opportunities for establishing cetacean MPAs within its remits, in order to grant as quickly as possible legal protection to those sites that have already been identified in areas under its jurisdiction as being particularly important for cetaceans. While that happens, however, an attempt to initiate such a process in an organised, region-wide fashion was made during the 4th Meeting of the Scientific Committee of ACCOBAMS (November 2006, A map by Lesley Frampton, courtesy of Erich Hoyt © WDCS 2007, appears in Appendix 4 (page 5), Document UNEP(DEPI)/MEDWG.308/Inf.11).

An initial list (by no means complete) of more than 80 potential candidate sites for cetacean protection is contained in the Appendix 3 (pages 32-67), Document UNEP(DEPI)/MEDWG.308/Inf.11, where the following information is provided for each site: concerned country; concerned cetacean species; additional features (e.g., other protected species found on site); size of cetacean population thought to be using the area; known threats to cetaceans in the area; known problems caused to humans by cetaceans (e.g., net depredation); current protection status; list of researchers, NGOs, local groups active in the area; and relevant references.

A desirable outcome of the effort, currently planned, to survey the ACCOBAMS area to generate data on cetacean ecology in the region will consist of the provision of elements for the identification of hotspots and critical habitats to be considered for space-based protection. Unfortunately, the formal declaration of protected areas in all such sites may take an extremely long time due to the legal implications and requirements connected with such processes, both in national waters and in the high seas. To address the issue it may be worth considering the alternative possibility that the entire ACCOBAMS area be treated as a protected area for cetaceans (which it in fact is, with the exception of the territorial waters of the few riparian states that are still not Party to the Agreement). An ACCOBAMS-based region-wide MPA might then be made to contain “special zones of protection” in those sites where critical habitat of particular cetacean populations have been identified, and where special protective measures should be implemented to protect these populations. On the one hand, special zones could be merely considered the outcome of a zoning process within the wider ACCOBAMS protected area - a standard management procedure in MPAs – thus possibly benefiting from a fast-track institutional process. On the other hand, it is important that these special zones will benefit from a rigorous protective regime just like any more “traditional” MPA; to this effect, a management structure and planning will have to be implemented.

4. Management of MPAs

4.1. Management needs

Management of an MPA for cetaceans does not sensibly differ from managing any MPA. Excellent summaries detailing the management of MPAs exist (e.g., Kelleher 1999, Salm *et al.* 2000), and the basic management principles listed there will equally apply to special protected areas for cetaceans. This section will therefore only contain a summary of the main elements of MPA management practice, with a special reference to their relevance to cetacean conservation. In particular, the need is here emphasized for: (i) a management body and management plan; (ii) the definition of clear management objectives; (iii) periodic management reviews to assess whether objectives are met; (iv) management training; and (v) consensus building and maintenance.

i. Management plan and management body

An MPA without a management plan is like a ship without a rudder (Reeves 2000). Without an appropriate management plan enforced, the MPA will remain a “paper park” which will only serve to make decision makers look good without any real conservation effect. Even with a management plan, a protected area will be ineffective unless a director is empowered to implement it, i.e. with the necessary legal authority, sufficient financial resources, and adequate staff to proceed with implementation (Reeves 2000). A management plan should be developed with adequate funding arrangements in place to support its implementation in its entirety.

Furthermore, management of an MPA must be assured sufficient stability and longevity to be able to perform its stated tasks within a reasonable minimum amount of time (e.g., a five-year term). Too often in the Mediterranean region MPA management is tightly linked to the vagaries of local political equilibria; when these change, very likely the entire MPA management is changed as well, thus crippling the overall effectiveness of the MPA through intolerable instability, and undermining its very reason for existence. Plan development should be independent of political pressure to ensure that complex issues are adequately dealt with and that a disorganized approach to integrated management is avoided. A strong recommendation should be made to Mediterranean nations wishing to protect cetaceans through the establishment of MPAs to ensure that their relevant legislation is adapted, if necessary, to account for the needed management stability.

The management plan will, among other things, detail the measures enacted to reach the objectives. These include:

- Zoning, to separate highly protected no-entry sites containing cetacean critical habitat from human-use sites where activities such as whale watching, tourism, moderate fishing and vessel traffic may occur in a regulated fashion;
- Regulations and mitigating measures to maintain potentially harmful human activities (e.g., fishing, vessel traffic, military exercises) within acceptable levels;
- Research activities to generate knowledge susceptible to allow management adaptiveness and increase management effectiveness;
- Enforcement and compliance monitoring to ensure that rules are respected and measures are correctly implemented;
- Monitoring of the status and trends of the target populations and relevant human activities as a feedback mechanism to the management plan, to ensure that the proposed mitigation measures are working as expected;
- Monitoring and periodic review to ensure that the stated objectives are being met (see iii);
- Development of risk assessment techniques to take cumulative impact into account and identify emergent risks;
- Promotion of fair decision-making and conflict resolution concerning access to ocean resources within the protected areas;
- Administration, financing and fund-raising;
- Implementation of education and awareness programmes.

ii. Definition of objectives

Effective management of an MPA is founded on the articulation of clear and quantifiable objectives (SMART: specific, measurable, attainable, reachable, and timely) to attain the institutional goals, and the implementation of a monitoring system to assess whether these objectives are being met (see iii). A significant challenge to the effective management of MPAs dedicated to the protection of top predators such as cetaceans is the need for a framework to guide and assess effectiveness in the context of broader ecosystem-level objectives, which seek to extend conservation benefits from the protected species and their habitats to marine trophic webs and ecosystem-wide processes. Ecosystem-level management requires a clear rationale and a firm knowledge base.

iii. Are the management objectives met? Monitoring and indicators

A fundamental step in the management process involves the monitoring and periodic review of activities to assess whether the objectives are being met. A practical way of achieving this result is to devise specific management indicators. Pomeroy *et al.* (2004) provide an excellent review of the MPA management evaluation process, including the development and application of indicators (subdivided into biophysical, socio-economic and governance indicators). Given the complexity involved in selecting appropriate indicators, planning and conducting the evaluation, and consequently adapting further management actions, it is strongly recommended that the entire MPA management evaluation process be the subject of specific training (see next section).

iv. Training of managers

Managing MPAs is a complex endeavour in itself, made more complex by the particular ecological needs of top marine predators in the case of MPAs specifically created to protect cetaceans. Considering that managed MPAs in the Mediterranean are a relatively recent phenomenon, a solid professional tradition of protected area management is still lacking in most places. With the recent increase in MPA popularity within Mediterranean riparian nations, an organised effort for MPA management training and capacity building has become increasingly needed. In particular, training should address: (a) management practices in general; (b) management evaluation procedures (see iii above); and (c) general knowledge of Mediterranean marine ecology, with a special emphasis on top predators (e.g., cetacean population and conservation biology) in the case of managers and management staff dedicated to cetacean MPAs.

Specifically, it is recommended that a training module on cetacean MPA planning and management be prepared, and national and regional training sessions be organised with the support of expert organisations such as ACCOBAMS, the RAC/SPA, IUCN MED (Malaga), IUCN's World Commission for Protected Areas (WCPA – Marine), and MEDPAN.

v. Consensus building and maintenance

Although these guidelines are focused mostly on the ecological aspects of cetacean MPA establishment and management, it is important to stress that the creation and maintenance of consensus and public favour is fundamental to the success of an MPA. A cooperative environment may be best achieved through the enrolment of governmental, intergovernmental and non-governmental organisations in the process as much as feasible.

4.2. Cetacean conservation in existing MPAs

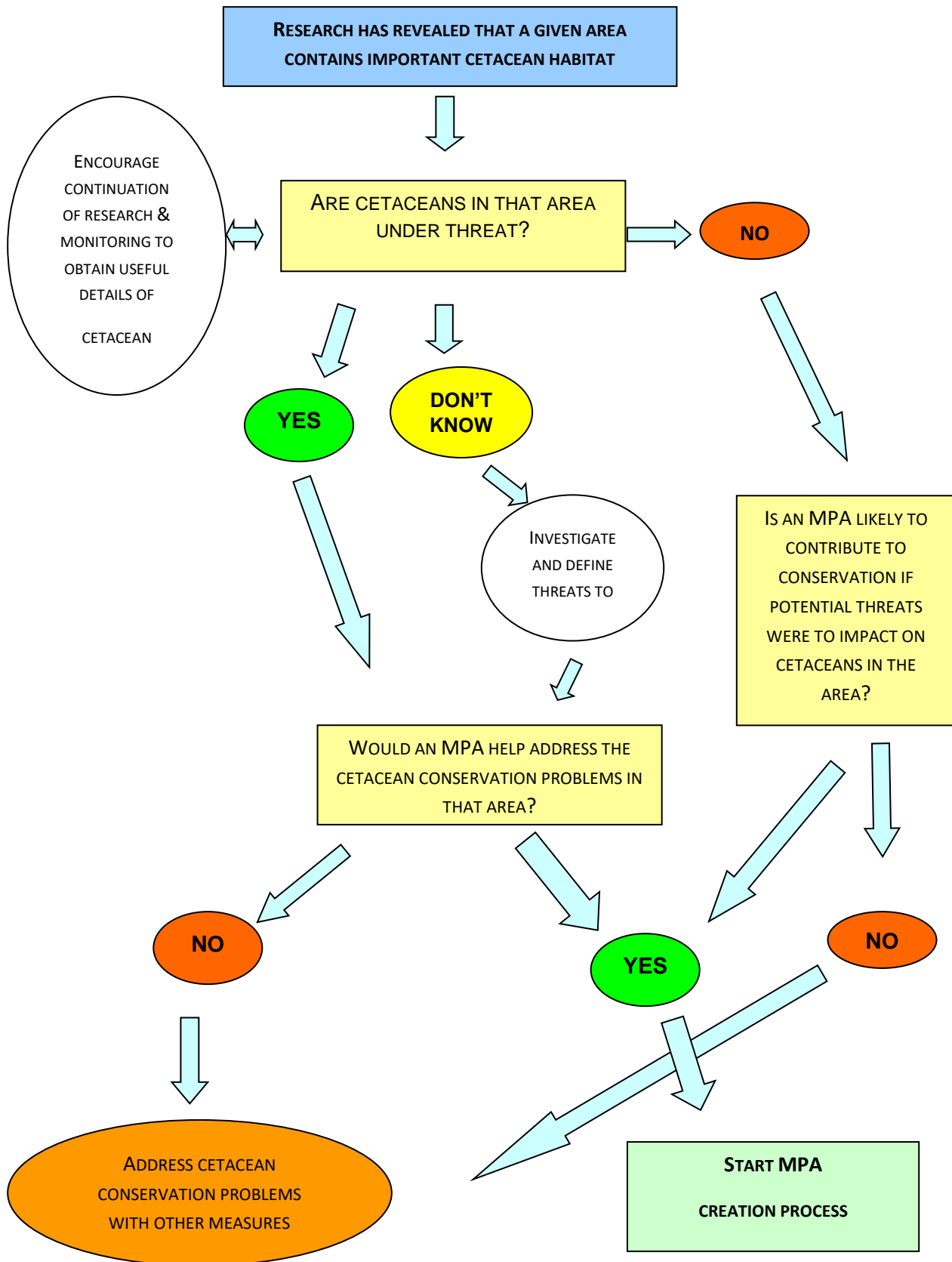
With the notable exception of the Pelagos Sanctuary, all the MPAs existing in the Mediterranean have been established to protect coastal waters (Mabile and Piante 2005). As a consequence, most existing Mediterranean MPAs may only contain habitat of coastal cetaceans, such as common bottlenose dolphins (*Tursiops truncatus*), short-beaked common dolphins (*Delphinus delphis*), and harbour porpoises (*Phocoena phocoena*). Such areas, which are already protected by the existing law, may in the future become useful components of regional networks of MPAs designed to protect the above cetacean species.

Managers of existing Mediterranean MPAs should be encouraged to conduct or promote research to determine whether the areas under their remit contain important cetacean habitats. In the affirmative case, appropriate cetacean conservation measures should be included in the area's management plan. Furthermore, two-way

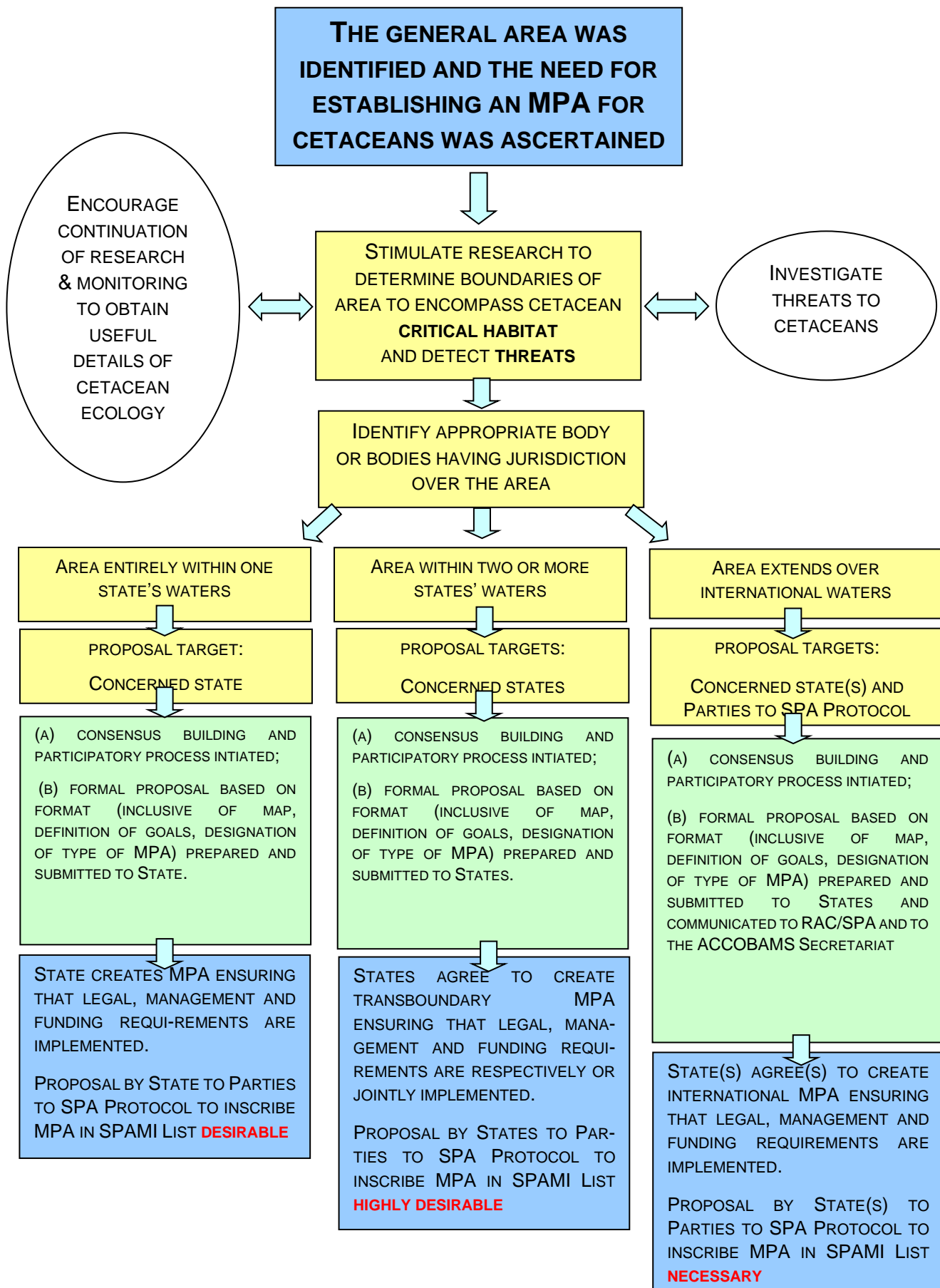
communication should be established between single MPA management bodies and region-wide conservation organisations such as the RAC/SPA and ACCOBAMS, to facilitate the network growth, share experiences, and obtain assistance in matters such as capacity building, problem solving and sharing of resources.

5. Practical support to the guidelines

5.1. Is the establishment of an MPA an appropriate measure for conserving a given cetacean population?



5.2 What steps need to be undertaken to establish an MPA?



5.3 Once the MPA is established, what management actions does it need to work properly?

- A management body, with a director empowered by the necessary legal authority, sufficient financial resources, and adequate staff to proceed with implementation;
- The definition of clear management objectives to attain the goals that were set when the area was established;
- A management plan detailing ways to reach the objectives;
- Periodic reviews to assess whether objectives are met;
- Management training;
- Consensus building.

5.4 Additional resources helpful for the proper establishment and management of cetacean MPAs

The following is an initial list of resources that can be used in support to the process of establishing and managing MPAs for cetaceans:

- Supporting organisations:
 - Regional Activity Centre/Specially Protected Areas, Tunis
<http://www.rac-spa.org/>
 - ACCOBAMS
<http://www.accobams.org/>
 - Convention on Migratory Species (parent convention to ACCOBAMS)
<http://www.cms.int/>
 - Other Conventions and Regional Organisations:
 - Bern Convention
http://www.coe.int/t/e/cultural_co-operation/environment/nature_and_biological_diversity/Nature_protection/
 - Convention on Biological Diversity
<http://www.biodiv.org/default.shtml>
 - European Commission – Environment DG
http://ec.europa.eu/environment/index_en.htm
 - CIESM – the Mediterranean Science Commission
<http://www.ciesm.org/>
 - IUCN's World Commission on Protected Areas (WCPA – Marine)
<http://www.iucn.org/themes/wcpa/biome/marine/marineprogramme.html>
 - IUCN's Centre for Mediterranean Cooperation (Malaga)
<http://iucn.org/places/medoffice/en/index.html>
 - MEDPAN – the Network of Managers of Marine Protected Areas in the Mediterranean
<http://www.medpan.org/?language=en>
 - Major advocacy NGOs concerned with cetaceans and with the conservation of the marine environment. These include, among others:
 - Whale and Dolphin Conservation Society
 - WWF Mediterranean Programme Office
 - Oceana
 - International Fund for Animal Welfare
- Expert individuals and organisations: an initial list is contained in Appendix 1 (pages 9-19) Document UNEP (DEPI)/MEDWG.308/Inf.11.
- A specialised library on cetaceans and on MPAs (for useful start-ups on this, see <http://www.accobams.org/2006.php/pages/show/93> and <http://www.cetaceanhabitat.org/>).

6. Acknowledgments

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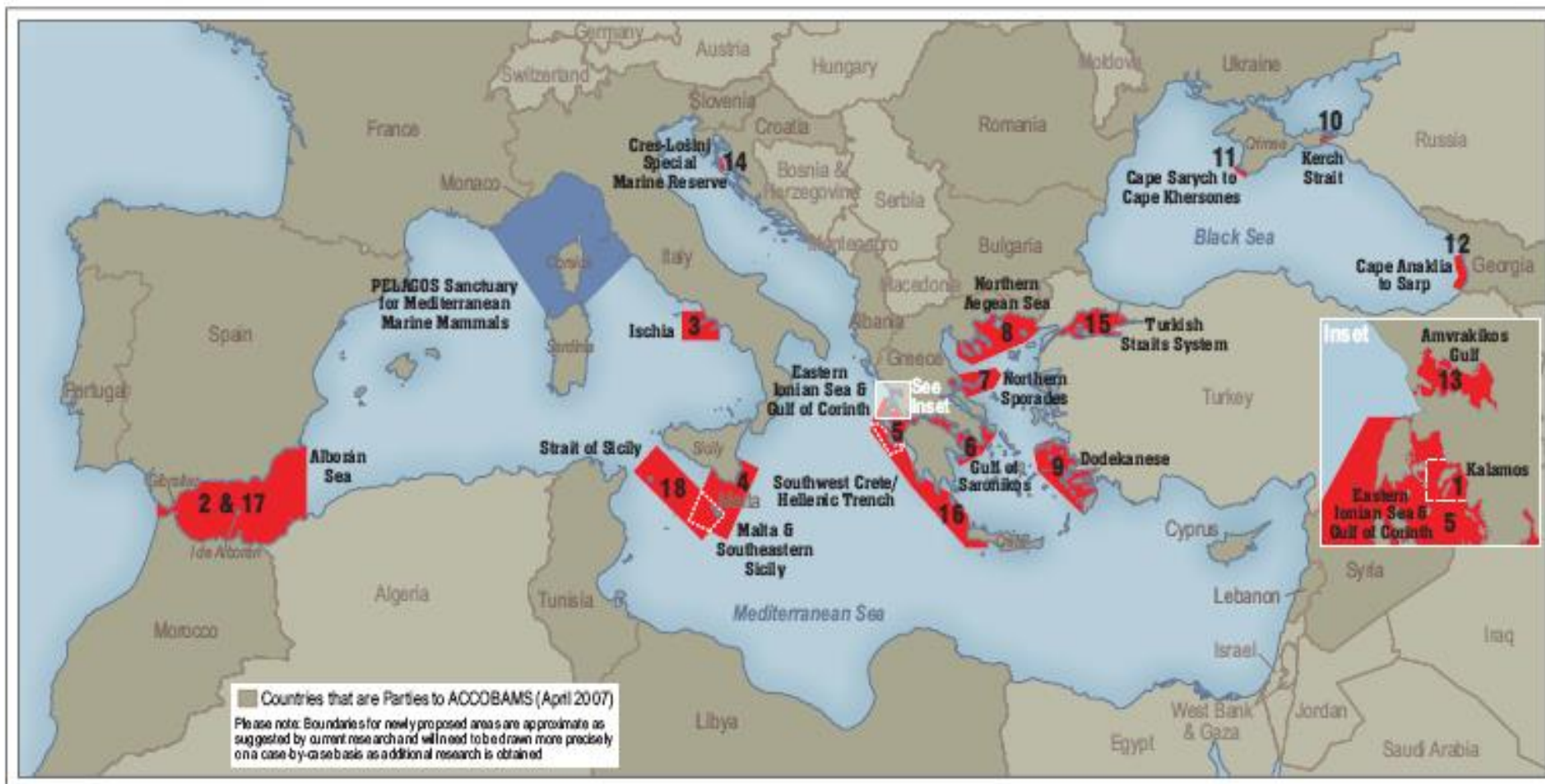
A number of significant improvements were also suggested by Tundi Agardy, Giovanni Bearzi, Erich Hoyt, and Ana Tejedor. Their contributions are gratefully acknowledged.

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ANNEX 3
Map of proposed Marine Protected Area



RESOLUTION 4.15 - Marine Protected Areas of Importance for Cetaceans Conservation²¹⁵

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS):

Taking in consideration the Recommendation of the Scientific Committee,

Aware that habitat degradation is one of the main causes of population decline for many cetacean species,

Concerned that, although some protected areas devoted to cetacean conservation have already been established in the ACCOBAMS area, many of the sites known to be particularly important for cetaceans still remain unprotected,

Recalling:

- Article II.1, in which Parties, in order to achieve and maintain a favourable conservation status for cetaceans shall co-operate to create and maintain a network of specially protected areas to conserve cetaceans,
- Article V.2 in which each Sub-regional Coordination Unit, in consultation with the Scientific Committee and the Agreement Secretariat, shall facilitate the preparation of a sub-regional directory of important areas for cetaceans,
- Article XI.1, according to which the provisions of ACCOBAMS shall not affect the right of any Party to maintain or adopt more stringent measures for the conservation of cetaceans and their habitats,
- The Conservation Plan (Annex 2 to the Agreement), which forms an integral part of the Agreement and requires the Parties to endeavour to establish and manage specially protected areas for cetaceans corresponding to the areas which serve as habitats of cetaceans and/or which provide important food resources for them. Such specially protected areas should be established within the framework of the appropriate international instruments,

Taking into account:

- the Decision of the CBD COP10 which encourages Parties and other relevant partner to cooperate, as appropriate, collectively or on a regional or subregional basis, to identify and adopt, according to their competence, appropriate measures for conservation and sustainable use in relation to ecologically or biologically significant areas, and in accordance with international law, including the United Nations Convention on the Law of the Sea, including by establishing representative networks of marine protected areas in accordance with international law and based on best scientific information available;
- the Decision of the CBD COP10 which emphasises the need to enhance efforts towards achieving the 2012 target of establishment of the representative network of marine protected areas in accordance with international law, including the United Nation Convention on the Law of the Sea;

Considering that ACCOBAMS is an appropriate tool for achieving an updated and revised strategic plan and targets for biodiversity for the period 2011- 2020 within the framework of the Convention on Biological Diversity,

Conscious that establishing a network of marine protected areas:

²¹⁵ **Secretariat's Note:**

The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the ACCOBAMS Secretariat concerning the extension or delimitation of maritime areas subject to the sovereignty or jurisdiction of any State

- constitutes an important element of maritime spatial planning and will help achieve and maintain a favourable conservation status for cetaceans,
- requires comprehensive inventories of sites that contain critical and/or important habitats for cetaceans,

Convinced that, particularly as regards highly migratory species, to be efficient these protected area must be of a sufficient extent and, as such, they require frequently transboundary cooperation,

Noting that inventories of sites of conservation interest have been initiated in other pertinent multilateral Instruments and Treaties, such as the standard data entry form system adopted in the context of the Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean, the Emerald network instituted in the context of the European Council and the Natura 2000 network instituted by the European Union Habitats Directive,

Noting with satisfaction that some protected areas specially devoted to cetacean conservation in the ACCOBAMS area have already been established, such as the International Pelagos Sanctuary, the marine part of Kolkheti National Park in Georgia, and several coastal and marine sites proposed by European Union Countries to be included in the Natura 2000 network for the protection of *Tursiops truncatus* and *Phocoena phocoena* and that also others are in progress, such as the Cres-Lošinj marine protected area in Croatia,

Taking into account, the "Guidelines for the establishment and management of marine protected areas for cetaceans and the Criteria for the selection and format of proposals for marine protected areas for cetaceans" adopted by the Third Meeting of the Parties,

Congratulating Countries for their effort in establishing marine protected areas or developing inventories to identify sites of special importance for cetaceans,

1. *Confirms its encouragement* to the Parties to attain a significant reduction in the current rate of biodiversity loss and to establish a representative network of marine protected areas by 2012;
2. *Urges* Parties, in collaboration with the Sub-regional Coordination Units and involving their own scientific community, to share with the Secretariat and the Scientific Committee their draft plans for marine protected areas networks that include cetacean habitat as well as additional proposals for marine protected areas with cetacean habitat, in order to allow the Scientific Committee to give advice on the proposals across the entire region and to facilitate assessment of regional coverage and conservation needs;
3. *Invites* Parties to inventory habitats in the existing marine protected areas in the ACCOBAMS region for the presence of cetacean habitat;
4. *Urges* the States concerned, with the assistance of the Scientific Committee and the Secretariat to implement the development of high seas Specially Protected Areas of Mediterranean Importance as part of a regional network, working in conjunction with UNEP- MAP RAC/SPA;
5. *Encourages* the States concerned to promote the institution of the areas of special importance for cetaceans in the ACCOBAMS area, as listed in the Annex to this Resolution and to ensure their effective management;

6. *Urges* the Black Sea Parties to explore transboundary cooperation through the Black Sea Biodiversity and Landscape Conservation Protocol to the Bucharest Convention in order to establish protected areas devoted to cetaceans conservation;
7. *Renews* its recommendation that Parties:
 - give full consideration and, where appropriate, cooperate to the creation of marine protected areas for cetaceans in zones of special importance for cetaceans in the ACCOBAMS area, as presented in the Annex to this Resolution, within the framework of the relevant Organizations, inviting non-Parties to take a similar action, recalling that these areas have been recommended by the Scientific Committee;
 - also give full consideration to the criteria for the selection and format of proposal for marine protected areas for cetacean and the guidelines for the establishment and management of marine protected areas for cetaceans as adopted by the Third Meeting of the Parties;
8. *Charges* the Scientific Committee to further work on this matter and in particular to:
 - gather knowledge of the existence and location of sites containing important cetacean habitat in the Agreement area, in cooperation with the Sub-regional Coordination Units. Such sites may be located either within territorial waters or beyond them, or in both spaces, as appropriate; detailed investigations in such sites should be performed, to assess whether they fulfil the criteria mentioned above. In particular, such investigations should aim to:
 - *describe cetacean presence and assess the existence of cetacean critical habitat;*
 - *detect the existence of threats to continued use of such habitat by the cetacean populations involved;*
 - *provide arguments in favour of the establishment of specially protected areas as relevant tools to counteract and minimise such threats and contribute effectively to the favourable conservation status of cetaceans in the region;*
 - collaborate, with the concerned Riparian State(s) to prepare the scientific and socio-economic bases for formal proposals if the above investigations provide convincing arguments in favour of the establishment of a marine protected area in particular sites, and the criteria are fulfilled;
 - use, if appropriate, the Supplementary Conservation Grant Fund to facilitate these tasks;
9. *Charges* the Secretariat to liaise with the "Pelagos" Agreement management body any other similar Organisations in the ACCOBAMS region in order to facilitate networking and synergies between them in particular at the scientific level;
10. *Invites* Parties to report to the Fifth Meeting of the Parties about progress made on implementing this Resolution;
11. *Decides* that the present Resolution replaces Resolution 2.14.

ANNEX

Areas of special importance for cetaceans in the ACCOBAMS area

Areas of special importance for the common dolphin and other cetaceans

- (19) Kalamos (Greece);
- (20) The Alborán Sea;
- (21) Waters surrounding the island of Ischia (south-eastern Tyrrhenian Sea, Italy);
- (22) Waters surrounding the island of Malta and south-eastern Sicily, Italy;
- (23) The eastern Ionian Sea and the Gulf of Corinth (Greece);
- (24) The Sazani Island – Karaburun Peninsula (Adriatic and Ionian Sea, Albania);
- (25) The Gulf of Saronikos and adjacent waters (Argo-Saronikos and southern Evvoikos Gulf, Greece);
- (26) Waters surrounding the northern Sporades (Greece);
- (27) The northern Aegean Sea (Greece); and
- (28) Waters surrounding the Dodecanese (Greece).

Areas of special importance for Black Sea cetaceans

- (29) The Kerch Strait for the bottlenose dolphin and the harbour porpoise (Russian Federation, Ukraine);
- (30) Cape Sarych to Cape Khersones for bottlenose and common dolphins and the harbour porpoise (Ukraine); and
- (31) Cape Anaklia to Sarp for the common dolphin and the harbour porpoise (Georgia).

Areas of special importance for the bottlenose dolphin

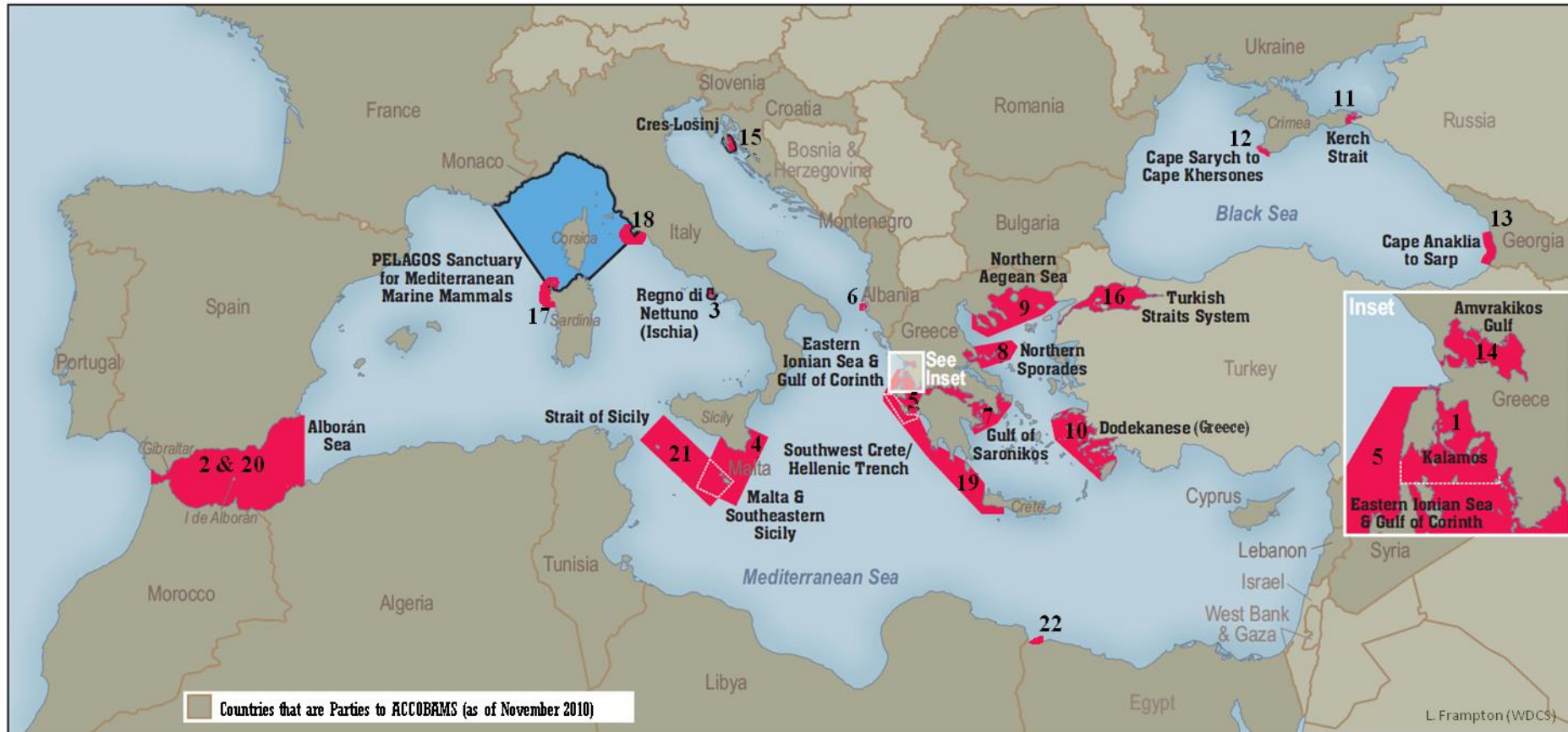
- (32) The Amvrakikos Gulf (northwestern Greece);
- (33) Waters along east coast of the Cres-Lošinj archipelago (designated as part of Croatian ecological network, proposed for protection as regional park, and recognized as a potential NATURA 2000 site) ;
- (34) The Turkish Straits system (also used by all Black Sea cetacean species);
- (35) North western area of Sardinia (Italy); and
- (36) Tuscany archipelago (Italy).

Area of special importance for the sperm whale

- (37) Southwest Crete and the Hellenic Trench (Greece).

Areas of special importance and diversity for various cetacean species

- (38) The Alborán Sea and the Strait of Gibraltar, critical habitat and migration corridor for large numbers of ten of the region's cetacean species, being the most diverse cetacean habitat in the ACCOBAMS region;
- (39) The Strait of Sicily for fin whales and common, bottlenose and striped dolphins; and
- (40) Sallum marine protected area (Egypt), sensitive marine ecosystems, including seagrass meadows, shallow and intermediate depth marine habitats.



Map of proposed Marine Protected Areas

RESOLUTION 6.24 - New Areas of Conservation of Cetacean Habitats

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Aware that habitat degradation is one of the main causes of population decline for many cetacean species,

Concerned that, although some protected areas devoted to cetacean conservation have already been established in the ACCOBAMS area, many of the sites known to be particularly important for cetaceans still remain unprotected,

Recalling:

- Article II, paragraph 1, of the Agreement providing that Parties, in order to achieve and maintain a favourable conservation status for cetaceans shall co-operate to create and maintain a network of specially protected areas to conserve cetaceans,
- Article V, paragraph 2, of the Agreement providing that each Sub-regional Coordination Unit, in consultation with the Scientific Committee and the Agreement Secretariat, shall facilitate the preparation of a sub-regional directory of important areas for cetaceans,
- Article XI, paragraph 1, of the Agreement according to which the provisions of ACCOBAMS shall not affect the right of any Party to maintain or adopt more stringent measures for the conservation of cetaceans and their habitats,
- The Conservation Plan (Annex 2 to the Agreement), which forms an integral part of the Agreement and requires the Parties to endeavour to establish and manage specially protected areas for cetaceans corresponding to the areas which serve as habitats of cetaceans and/or which provide important food resources for them. Such specially protected areas should be established within the framework of the appropriate international instruments,

Welcoming United Nations General Assembly Resolution 68/70 on oceans and the law of the sea and *recalling* that the United Nations Convention on the Law of the Sea sets out the legal framework within which all activities in the oceans and seas must be carried out,

Recalling Resolution 11.25 of the Convention on the Conservation of Migratory Species of Wild Animals (CMS), including, where applicable, the provisions of paragraph 6 and 7 calling upon Parties to develop transboundary area-based conservation measures, including protected and other areas systems, and urging them to promote ecological networks and connectivity through, for example, the development of further site networks within the CMS Family or other fora and processes,

Considering that ACCOBAMS is an appropriate tool for achieving an updated and revised strategic plan and targets for biodiversity for the period 2011-2020 within the framework of the CBD,

Noting that 9 of the 15 Mediterranean Ecological or Biological Significant Marine Areas (EBSAs) adopted by Parties of CBD (Pyeongchang, Republic of Korea, October 2014) were, mostly or in part, based on the presence in such areas of cetacean critical habitat,

Conscious that establishing a network of marine protected areas:

- constitutes an important element of maritime spatial planning and will help achieve and maintain a favourable conservation status for cetaceans,
- requires comprehensive inventories of sites that contain critical and/or important habitats for cetaceans,

Convinced that, particularly as regards highly migratory species, to be efficient, these protected areas must be of a sufficient extent and, as such, they require frequently transboundary cooperation,

Noting with satisfaction that protected areas specially devoted to cetacean conservation in the ACCOBAMS Area have already been established,

Taking into account, the “criteria for the selection and format of proposals for marine protected areas for cetaceans” adopted by the Third Meeting of the Parties,

Welcoming efforts undertaken by ACCOBAMS, RAC/SPA and MedPAN on this issue during the two previous triennia, in particular the “Cetacean Manual for MPA Managers”,

Considering a Strategical Alliance among ACCOBAMS, GFCM, IUCN-Med, UNEP/MAP through SPA/RAC and in collaboration with MedPAN, concerning Spatial-based Protection and Management Measures for Marine Biodiversity Resolution 6.11,

Welcoming the Roadmap for a Comprehensive Coherent Network of Well-Managed MPAs to Achieve Aichi Target 11 in the Mediterranean adopted by the 19th Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols,

Welcoming the first workshop on the Identification of Important Marine Mammal Areas (IMMAs) in the Mediterranean Sea, organized by the IUCN Marine Mammal Protected Areas Task Force, in collaboration with ACCOBAMS and the Tethys Research Institute (Chania, Greece, 24-28 October 2016),

1. *Welcomes* the recommendations issued by the ACCOBAMS Workshop on the effectiveness of marine protected areas within Cetacean Critical Habitats (CCH) (Gammarth, Tunisia, 9-12 June 2015) during the Joint RAC/SPA-GFCM-ACCOBAMS meetings;
2. *Takes note* of the Revised Guidelines for the Establishment and Management of Marine Protected Areas for Cetaceans (ACCOBAMS/MOP6/2016/Doc33) and of the progress report on the threat based management approach (ACCOBAMS/MOP6/2016/Doc34);
3. *Invites* the Permanent Secretariat to disseminate the document “Place-based conservation of cetaceans in the ACCOBAMS Area: a handbook on management effectiveness” (ACCOBAMS/MOP6/2016/Doc35) and encourages MPA managers of areas within CCH to implement relevant management actions;
4. *Encourages* Parties and other Governments to:
 - update regularly the list of areas containing habitats for cetaceans in collaboration with the Scientific Committee;

- use the scientific information regarding the description of areas meeting CCH criteria, in relation with the Sub Regional Coordination Units, in order to promote adequate conservation mechanisms, such as designation of protected areas;
5. *Requests* the Scientific Committee, in particular the Task Manager on CCH, the regional representatives and the coordinators of conservation plans, to :
- revise the existing CCHs, taking into account (i) the candidates IMMAs proposed and the Areas of Interest identified during the first workshop on the Identification of Important Marine Mammal Areas (IMMAs) in the Mediterranean Sea , and (ii) the threat-based management approach,
 - evaluate effectiveness of adequate management of protected areas within CCH using existing initiatives, such as MedPAN, and
 - revise and update the tools for adequate management of areas within CCH, after an assessment has been implemented;
6. *Requests* the Permanent Secretariat to continue facilitating the description of areas meeting CCH criteria through the organization of relevant workshops and to share all relevant information in NETCCOBAMS;
7. *Encourages* the Permanent Secretariat to pursue and reinforce its collaboration on this issue with other relevant organizations in particular by participating actively to a Strategical Alliance among the Secretariats of ACCOBAMS, GFCM, IUCN-Med, UNEP/MAP through SPA/RAC and in collaboration with MedPAN, concerning Spatial-based Protection and Management Measures for Marine Biodiversity.

6.2.3 Citizen Science

Resolution 8.21 Citizen Science

RESOLUTION 8.21 - Citizen Science

The Meeting of the Parties to the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area:

Taking into consideration Recommendation 14.11 “Citizen Science” of the 14th meeting of the Scientific Committee,

Aware that citizen science allows people with diverse motivation and abilities to participate in research and conservation initiatives (such as Cetacean Stranding Networks or observation and data collection at sea), where scientific effort is limited due to, *inter alia*, low budget allocation, reduced staff, limited resources, large area to be covered, and that it is a valid tool to facilitate public awareness on cetaceans and habitat conservation,

Recognizing that the concept of citizen science and specific citizen science projects can complement the collection of scientific data on cetacean sightings and strandings,

Highlighting the increasing value of existing and improving digital technology (websites, mobile apps and social media platforms),

1. *Requests* the Secretariat, the Scientific Committee and the Sub-Regional Coordination Units to pursue efforts to promote awareness and the widespread use of existing digital technology to collect data on cetaceans (websites, mobile apps and social media platforms);
2. *Asks* the Scientific Committee to propose a standardization of protocols and methodology used for data collection through citizen science, considering the adequate animal welfare and human safety precautions;
3. *Requests* the Secretariat, in collaboration with the Scientific Committee, to consider how to incorporate citizen science information within the ACCOBAMS Communication Strategy.