



ACCOBAMS SURVEY INITIATIVE

ABOUT US

ACCOBAMS SUPPORTS
KNOWLEDGE AND
COOPERATION
TO PROTECT
CETACEAN LIVES

High places of an ancient, intense and growing human activity, the Mediterranean Sea and the Black Sea are also remarkable for their geophysical and biological characteristics, in particular their richness in biodiversity. The Mediterranean hosts up to 18% of the marine species known in the world in just 0,3% of the ocean volume. Between 20-30% of its 17.000 marine species are endemic (highest rate of endemism globally).

These regions have always been remarkable habitat areas for cetaceans: 14 species or subspecies of cetaceans are regularly present throughout the year (11 in the Mediterranean and 3 in the Black Sea), from the smallest harbour porpoise to the second largest mammal in the world, the fin whale.

Despite this wealth of biodiversity, most species of dolphins and whales in the Mediterranean and the Black Seas are considered as «Endangered», one of the highest risk categories for extinction according to the IUCN Red List of Threatened Species. Direct impacts from human activities at sea such as ship strikes and incidental catch in fishing gears, as well as habitat loss and degradation due to pollution, are the major causes of the decline of these species.

To protect cetaceans and thanks to the strong mobilization of the civil society for the conservation of these species in the 90s, countries from the Mediterranean and Black Seas decided to establish the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS) in 1996. This international treaty reflects their commitment to preserve cetaceans and their habitats in its large geographical area and aims at reducing human threats through improving the knowledge on these animals and implementing conservation measures.

Established under the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), ACCOBAMS entered into force in 2001 and counts at present with 24 member countries. The ACCOBAMS Secretariat is hosted by the Principality of Monaco and has relied on its generous support for over 25 years.

ACCOBAMS' mission is to promote and to facilitate an active regional cooperation at all levels, providing best expertise and propelling the implementation of necessary measures aimed at conserving cetaceans in the Black Sea, Mediterranean Sea and contiguous Atlantic Area.

CONSERVATION ISSUES

and marine monitoring

Various threats cause a decline in cetacean populations. They suffer from the impacts caused by pollution like chemical contaminants and marine debris but also from the noise generated by different human activities. They are impacted by navigation and face a risk of collision with ships. Fishing activities can lead to mortality because of incidental catches in fishing gears, and to the reduction of food availability, due to the overfishing of resources. Tourism can also cause disturbance and harassment of cetaceans. In addition, climate changes may bring modifications to their habitats, negatively affecting the current environmental balance.

To understand the impact of such threats and to be able to mitigate them, it is essential to assess the conservation status of the species we seek to protect and to follow as closely as possible population trends. Monitoring is thus at the heart of any protection action. Only regular and well-tailored monitoring campaigns can provide the necessary level of knowledge on cetacean abundance and distribution, which in turn is an indispensable requirement to assess the effectiveness of conservation efforts undertaken.

For highly mobile species such as cetaceans, monitoring must be carried out on a large scale, i.e., at the Mediterranean and Black Sea level, which requires a regional harmonization of methodology and a synchronization of monitoring efforts.

ASSESSING THE ABUNDANCE AND DISTRIBUTION OF CETACEAN POPULATIONS IS A PREREQUISITE TO UNDERSTAND THEIR CONSERVATION STATUS SO TO SET UP AND ADJUST ANY CONSERVATION MEASURES



Balaenoptera physalus
Fin whale
© ACCOBAMS/Ghislain Doremus



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Stenella coeruleoalba
Striped dolphin



Delphinus delphis
Common dolphin



Physeter catodon
Sperm whale



Ziphius cavirostris
Cuvier's beaked whale



Grampus griseus
Risso's dolphin



Steno bredanensis
Rough-toothed dolphin



Tursiops truncatus
Bottlenose dolphin



Orcinus orca
Killer whale



Phocoena phocoena
Harbour porpoise



Balaenoptera physalus
Fin whale



Globicephala melas
Long-finned pilot whale

CETACEANS

of the Mediterranean and Black Seas



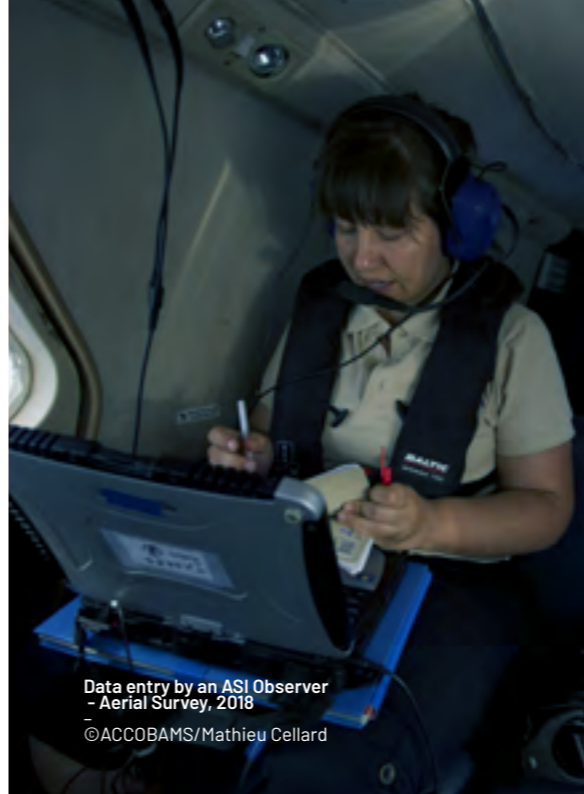


ACCOBAMS

SURVEY INITIATIVE

During the summer of 2018 and 2019, the ACCOBAMS Secretariat coordinated the first ever large-scale survey of cetaceans in the Mediterranean and Black Seas combining visual monitoring methods - from aircrafts and boats - with acoustic detection methods targeting specifically deep-diving species. The ACCOBAMS Survey Initiative (ASI) provided a unique opportunity to collect data on cetaceans but also on other marine megafauna species such as turtles and elasmobranchs, as well as on human activities and respective impacts, like floating litter and underwater noise. All the riparian countries of the ACCOBAMS area jointly participated in this exceptional effort along with more than 40 national and international organisations.

ASI Observer - Aerial survey, 2018
©ACCOBAMS/N.Pierantonio



Data entry by an ASI Observer - Aerial Survey, 2018
©ACCOBAMS/Mathieu Cellard



Globicephala melas
- Juvenile Long-finned Pilot Whale
©Tethys Research Institute/Nino Pierantonio

THE ACCOBAMS SURVEY INITIATIVE SUPPORTS AN INTEGRATED AND COORDINATED MONITORING SYSTEM FOR CETACEANS AT THE MEDITERRANEAN AND BLACK SEA MACROREGIONAL LEVEL

The countries of the ACCOBAMS Area are engaged in international and regional policies for the protection and monitoring of marine biodiversity. The European Union's Marine Strategy Framework Directive requires its Member States to achieve or maintain the Good Environmental Status of the seas and to implement regular monitoring of a wide number of indicators, including in relation to cetaceans and other mobile species. The Ecosystem Approach implemented by the Barcelona Convention (UNEP/MAP) follows the same line for all countries of the Mediterranean Sea. On the Black Sea, riparian countries respond to similar strategies of the Black Sea Commission. Those regional approaches are all built in line with international frameworks such as the UN Sustainable Development Goals and the Aichi targets of the Convention on Biological Diversity which is currently working on its post-2020 biodiversity strategy. The ASI was developed taking into consideration such international and regional strategies for the protection of marine biodiversity. By improving knowledge on cetacean populations, it responds directly to a set of priorities, obligations and commitments of the Mediterranean and Black Sea riparian States with regard to the sustainable use, management and conservation of the marine environment.

On the field, the ASI resulted into aerial and boat-based surveys that were conducted throughout the entire ACCOBAMS Agreement area. The line-transect sampling method applied during the surveys is recognized as the most robust for cetacean large-scale surveys. This ambitious campaign mobilized a hundred scientific observers from all ACCOBAMS countries as well as a dozen aircrafts specially equipped and six research vessels. Despite of local geopolitical complexities, aerial surveys covered 1.92 million km², or 77% of the Mediterranean, while boat-based surveys covered 1.3 million km², or 52% of the Mediterranean, in particular in no-fly areas. More than 60% of the Black Sea was covered by aerial surveys, representing about 270,000 km² of studied area.

Such large operations were successfully carried out thanks to the direct support of ACCOBAMS countries and the mobilization of dozens of organizations and hundreds of people in different countries. This resulted in the development of the most relevant scientific survey design and methodologies, the identification of the best operating platforms and pilots, the provision of intensive team training, accompanied by administrative, logistical and security support throughout the operations.

The ASI robust scientific approach provided baseline estimates of cetacean population distribution and abundance in the whole ACCOBAMS area.

ASI

IMPACT & RESULTS

The success of ASI goes far beyond the impressive quantity of data and the scientific results obtained on cetacean populations for the first time ever at such a scale in this macro region. The impact of the initiative can also be assessed in terms of regional cooperation, capacity building, communication and awareness, and most importantly of conservation outcomes.

Globicephala melas
Long-finned pilot whales
© Shutterstock/A.Sutton

Balaenoptera physalus
Fin whale
© ACCOBAMS/MCR



Physeter Macrocephalus
Sperm Whale
© ACCOBAMS / MCR

14
cetacean resident
species monitored.

77%
of the Mediterranean
covered by plane.

26
countries took part
in the ASI.

>100
scientists involved

More than
600.000
cetaceans estimated
in the Mediterranean Sea and more than

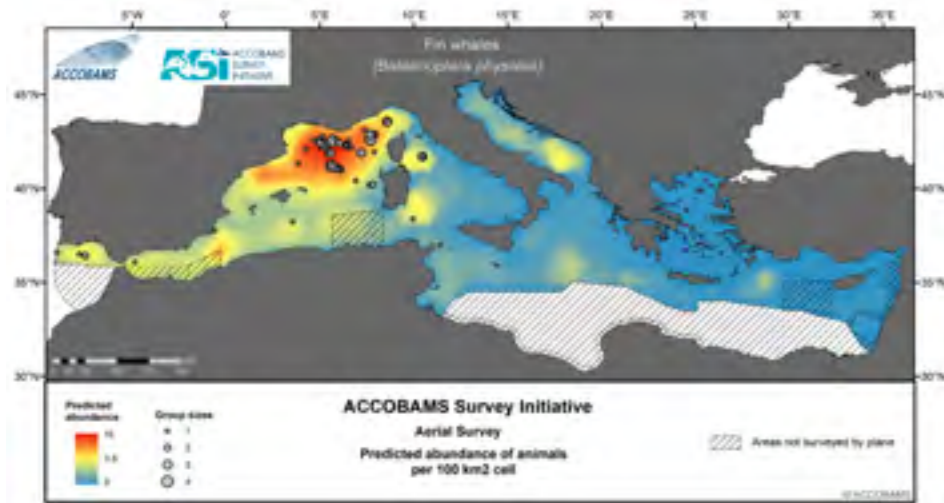
235.000
cetaceans estimated
in the Black Sea

The ASI provided a very large source of information not only on cetaceans but also on many other marine species and anthropogenic pressures. Surveys were an opportunity to collect data on sea turtles, sharks, rays, large fish, seabirds, smaller species - *plankton, jellyfish* -, human activities - shipping and fishing - and pollution - *floating marine litter*.

ASI results on distribution and abundance of cetacean species throughout the Agreement Area are a valuable baseline to assess the current conservation status of these endangered species - *IUCN Red List species status were updated in 2021*- and to monitor population's future growth or decline.

Such information can be used in support of the adoption of protective spatial measures like marine protected areas or to conduct Environmental Impact Assessments, or to address critical interactions with human activities, such as shipping and fishing.

Results and data collected under the ASI are openly available on the ACCOBAMS website for the best and widest possible use at the service of conservation of the marine environment, and so to all those who are committed to preserve our fragile marine ecosystems and these iconic endangered species. Scientists, managers, policy makers and NGO are widely using ASI data and respective results to address local, national and regional conservation objectives.



14 cetacean species/subspecies were observed and counted during the surveys. In the Mediterranean, about 25 000 cetacean were recorded from the air and at sea while in the Black Sea 4 500 individuals of the 3 resident species were observed.

The examination of the data allowed to estimate the abundance which corresponds to the total number of animals of each cetacean species, as well as their distribution, as illustrated on the map above. The latter represents the predicted abundance of fin whales in the Mediterranean Sea (*Balaenoptera physalus*) and reflects the areas of presence and the range of this species.

Showing strong preference for pelagic areas and deep habitats, fin whales are the only Mysticete whales regularly occurring in the Mediterranean region. Their population has been estimated at **slightly over 2,000 animals**.

ACCOBAMS scientists and partner organisations have also conducted in-depth analyses for a variety of megafauna species and on human impacts. One of the most worrying results highlighted a very high density of floating marine litter throughout the entire Mediterranean Sea, even in the most offshore areas.



THE SPERM WHALE (*PHYSETER MACROCEPHALUS*) IS THE LARGEST TOOTHED PREDATOR.

While this species is worldwide classified as vulnerable, the Mediterranean subpopulation is now considered endangered. Sperm whales are one of the deepest diving mammals, spending long periods of time at deep depths for feeding, with relatively short surfacing periods, which makes them hard to observe. For this reason, the ASI comprised an important acoustic component to detect and register the presence of sperm whales and other deep diving species. ASI enabled an estimation of the Sperm whale Mediterranean subpopulation at about 4,500 animals.



The ASI

TASK FORCE

Orcinus orca
Killer whales
© Shutterstock/T.Kallman

ASI Observers

Boat-based survey on the Research
Vessel Song of the Whales, 2018
©ACCOBAMS/MCR



Grampus Griseus

Risso's Dolphin
©Shutterstock / T.Kallman



SCIENTIFIC OBSERVERS FROM ALL COUNTRIES OF THE REGION WERE INTENSIVELY TRAINED ON CETACEAN MONITORING METHODS, ANALYSES AND INSTRUMENTS.

The ASI task force now represents a contingent of more than 100 competent scientists who can be mobilized throughout the region to carry out future monitoring aerial and boat-based surveys. The ASI task force also includes experts, government representatives and contact persons in the administrations of all countries of the ACCOBAMS area who provided fundamental support in the implementation of such complex and large-scale operations.

THE STRENGTH OF ACCOBAMS NETWORK

ACCOBAMS is supported by a strong regional collaboration framework relying primarily on National Focal Points in the 24 state Parties, jointly providing a strong national support and anchoring. ACCOBAMS counts on a large and well-connected network composed of over 50 accredited ACCOBAMS Partner organizations and benefits from the close links with dozens of other organizations with diverse and varied expertise. All are best positioned to relay information at various levels and to support ACCOBAMS efforts and activities.

Recognized as a benchmark conservation tool at the regional and international levels, ACCOBAMS shares close links with other Regional Sea Conventions and International Organizations dedicated to the preservation of marine biodiversity. ACCOBAMS benefits from a strong scientific credibility, fuelled by the support and the work of its dedicated Scientific Committee, composed of renown scientists and experts from partner organizations such as the International Whaling Commission (IWC), the International Union for the Conservation of Nature (IUCN), The European Cetacean Society (ECS) and the Mediterranean Science Commission (CIESM).

A great opportunity for

AWARENESS RAISING

Stenella coeruleoalba
Striped dolphins
©ACCOBAMS/MCR

Moving

FOR WARD

With these first large scale surveys in 2018/2019, the ASI paved the way to ensure regular and close monitoring of cetaceans and marine fauna over time. The efforts after this first successful experience are now dedicated to transform the ASI into an ACCOBAMS embedded Long Term Monitoring Programme sustaining collaborative macro regional surveys every 6 years. Organizations are invited to join, support and benefit from this joint effort for the sake of the Mediterranean and the Black Sea region and to contribute to the next adventures. Be very welcome to embark on the next survey with ACCOBAMS.

Together, let us make the most of this remarkable initiative to raise awareness about the health of the seas and their magnificent inhabitants!



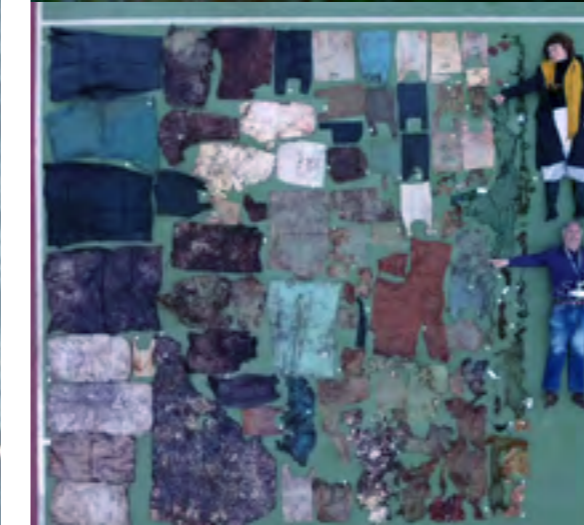
Balaenoptera physalus
Fin whale
©Shutterstock/wildestanimal



Rescue of an entangled Sperm whale
©TUDAV/A.Dede



Fin whale killed by ship strike
©Souffleurs d'Ecume/Jérôme Couvat



Sperm whale stomach contain
Greece, 2006
©Pelagos Cetacean Research Institute/A.Frantzis

A GREAT OPPORTUNITY FOR AWARENESS RAISING

An adventure of such magnitude is a rare opportunity to put the spotlight on the work of scientists and conservationists, and to highlight crucial issues related to the preservation of marine biodiversity.

The ASI was a source of exceptional images but also a concrete and accessible occasion to spread out the knowledge on scientific work dedicated to cetacean conservation.

ASI at sea and aerial campaigns have proven to be an excellent support to carry out communication and awareness activities, and to function as a platform to promote direct exchanges with scientists from all countries and cultures. Many local projects were supported in a wide range of countries, combining interventions targeting youngsters and economic stakeholders, like fishermen or tourism industries, also including public visits to research vessels, exhibitions, radio broadcasts and promotional campaigns on social networks.

The ASI was a unique occasion for spreading the word about the importance of preserving cetaceans and their habitat.

CONTACTS

ACCOBAMS Secretariat

Les Jardins d'Apolline - Bloc C
1, Promenade Honoré II
98000 Monaco
Tél.: +377 9898 2078/8010
secretariat@accobams.net

www.accobams.org

f @ACCOBAMSDolphinsAndWhales

t @ACCOBAMS

in @ACCOBAMS

