SEO/BIRDLIFE BIRDS MONITORING PROGRAMMES

2011

SEO/BirdLife

PRESENTATION

Juan Carlos del Moral
SEO/BirdLife

The monitoring of bird populations, with the aim of learning all of their details to contribute to their conservation, has been the essence of this Society since SEO/BirdLife was founded in 1954.

Hundreds or thousands of people, many of them members, have contributed and still contribute to the fieldwork that has led to a relatively good understanding of birds in Spain. Thanks to them, SEO/BirdLife is able to undertake a huge conservation workload in Spain and not only on birds, but also on their habitats and, therefore, on biodiversity in general.

There is no other zoological group that enjoys this type of monitoring with such a high level of social implication in Spain, although it would be very desirable. We therefore call on the Ministry for Agriculture, Food and Environment to launch monitoring programmes for other zoological groups through social participation as SEO/BirdLife currently undertakes for birds. We consider this to be an important operational methodology: few things are able to achieve a higher awareness towards our environment than social participation in understanding and conserving it. We believe that monitoring by businesses or private individuals hampers the existence of non-governmental organisations that protect wildlife and also limits the direct involvement of all citizens, halting the creation of a naturalist culture within our society. Evidently not all zoological groups are as "easy" to monitor with volunteers as birds are. However, even using professionals in part, this work should be carried out by environmental NGOs, as they are a focus for the diffusion of and the participation in wildlife conservation in a way that the administration could never be. Environmental NGOs play a key participatory role in all advanced societies.

Despite this, the administration has already established legal norms on the monitoring of Spain's populations of wild fauna which must be permanently updated. It is helpful that everyone understands that, according to law 42/2007, the Spanish State is under the obligation to know the distribution, abundance and state of conservation of all of the components that make up our natural heritage. If this information was not available, it would not be possible to: 1) Adequately declare the Special Conservation Areas and the Special Protected Areas for Birds (article 44); 2) Count on a list of Wild Species under the Special Protection Regime (article 53) or 3) Dispose of a Spanish Endangered Species Catalogue (article 55), for example.

Furthermore, Royal Decree 556/2011, 20 April, sets out other obligations: 4) Develop a Spanish Inventory of Natural Heritage and

Biodiversity to supply the Nature Conservation Database [article 71]; 5) Create the description of its contents [Annexe I, 2a], by which the Spanish Inventory of Terrestrial Species must have an alphanumeric and documentary database structure, georeferenced by UTM grid [at least 10 x 10 km or 1 x 1 km]; 6) Compulsorily elaborate and update the atlas of distribution and abundance of all taxa. In this way, it establishes that this work must have a "Periodic revision: updating of the database will be continuous. The Atlases will be updated, at least, every 10 years. The Red Books and Lists and the taxonomic Lists will be revised, at least, every 5 years. The Spanish flora and fauna monitoring system will be continuously updated".

As well as the above mentioned laws, Royal Decree 139/2011, 4 February, also forms part of our legislation for the development of the List of Wild Species under the Special Protection Regime and the Spanish Endangered Species Catalogue, which makes compulsory the assessment of the state of conservation of species catalogued as Endanger of extinction at least every three years, a feasible compliance thanks to the work of the autonomous regions. Likewise, it obliges the species catalogued as Vulnerable and those not catalogued but on the List to undergo a state of conservation revision every six years. However, few or none of the autonomous regions set aside funds to monitor this group of birds: only the SEO/BirdLife monitoring programmes cover these species or groups of species in this category. Equally, the cited article points out that to facilitate the issuing of reports required by the European Commission in compliance with article 17.1 of the EU Council's Directive 92/43/CEE, 21 May 1992, in relation to the conservation of natural habitats and wild fauna and flora, and with article 12 of Directive 2009/147/CE, 30 November 2009, of the European Parliament and Council, in relation to wild bird conservation, the Spanish State must draw up reports on the situation of all its fauna (every three years). We would welcome citizens to ask whether this is being done and with what information.

OUR LAWS ARE GOOD AND ALONG THE SAME LINES AS THE WORK THAT SEO/BIRDLIFE HAS ALWAYS UNDERTAKEN: KNOW MORE ABOUT BIRDS IN ORDER TO CONSERVE THEM. NOW THEY JUST NEED TO BE COMPLIED WITH.

Our laws are good and in tune with the work that SEO/BirdLife has always undertaken: know more about birds in order to conserve them. Now they just need to be complied with. We are all very clear about what the Spanish State's obligations are and SEO/BirdLife has proved to be a key element in the compliance of said obligations. We hope the Ministry for Agriculture, Food and Environment will continue to count on SEO/BirdLife to carry on mobilising thousands of people to undertake this work and continue to create environmental awareness in citizens through their direct participation.

This bulletin sums up the tremendous work carried out by SEO/BirdLife, with the help of volunteers, in the contribution to nature conservation. The Ministry has funded the nationwide coordination of a large proportion of the monitoring programmes mentioned here between 2005 and 2011. The 2012 season, at the time of editing this publication (May 2012), no longer counts on this funding for this season's work. We hope this situation changes but, even so, SEO/BirdLife will try to maintain this coordination through its own resources, as it has always done. We are banking on the help of all our partners: the SEO/BirdLife volunteers.

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Asian Brown Flycatcher.

BIRD TRENDS IN SPRING

Virginia Escandell
SEO/BirdLife

- The sampling unit is 20 census points located within a 10 x 10 km UTM grid.
- It is carried out in two days: the first between 15 April and 15 May and the second between 15 May and 15 June (earlier in the Canary Islands),.
- Five minutes is spent at each census point noting all species detected.
- It begins at dawn and ends after 3-4 hours.

This monitoring programme seeks to obtain bird populations trends, a very useful tool for their conservation. As well as Spain, this is carried out in almost the whole of Europe, and, on a bigger scale, in various regions around the world.

In every case the same aim is pursued: obtaining an indicator on the state of biodiversity based on birds. European bird monitoring programmes are coordinated by the EBCC (European Bird Census Council) through the PECBM (Pan-European Common Bird Monitoring) programme, charged with compiling and analysing the data from all European participating countries. The results can be viewed on their website: www.ebcc.info/

The establishment of indicators is now compulsory on all scales and, for example, is a key element in the elaboration of Rural Development Plans. According to the National Strategic Plan, one per Autonomous Region or Autonomous City. In this way, various autonomous regions

European Bee-eater.

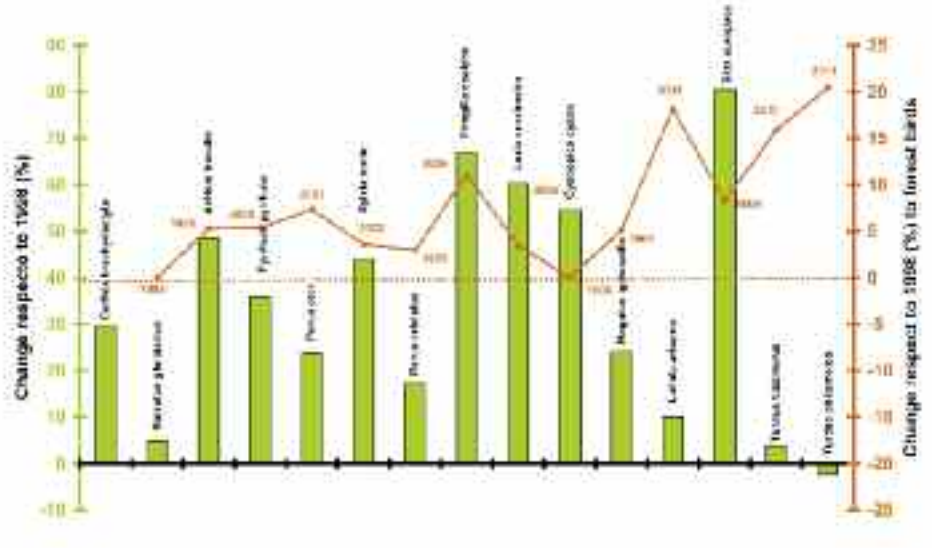
request information from SEO/BirdLife on common bird population trends for use as one of the indicators in their respective areas. In order to obtain adequate coverage and to assess a high percentage of common species in these regions, professionals were employed for the first time in 2011 to complement the work of volunteers, but only in these regions. This participation, funded in these regions, has first been offered to volunteers who already participate, as they are exactly the people most familiar with the methodology employed. Moreover, it is a way to thank them for their voluntary contribution to this programme. In the case of contracted professional samplers, the conditions are more demanding than those of volunteers, as they must travel to locations dictated by SEO/BirdLife and not where the volunteer chooses, and they must undertake the fieldwork in a collection of grids and not just one or two.

AS WELL AS OBTAINING BIRD TRENDS BY SPECIES, THEY CAN BE GROUPED ACCORDING TO THEIR PREFERRED ASSOCIATED ENVIRONMENT AND OBTAIN AN INDICATOR OF THAT ENVIRONMENT. THE TREND SHOWN ON THE GRAPHS CORRESPONDS TO THE COMBINED BIRDS ASSOCIATED WITH FARMLANDS AND FORESTS AND THE PERCENTAGE CHANGE IN THE CONSIDERED SPECIES.

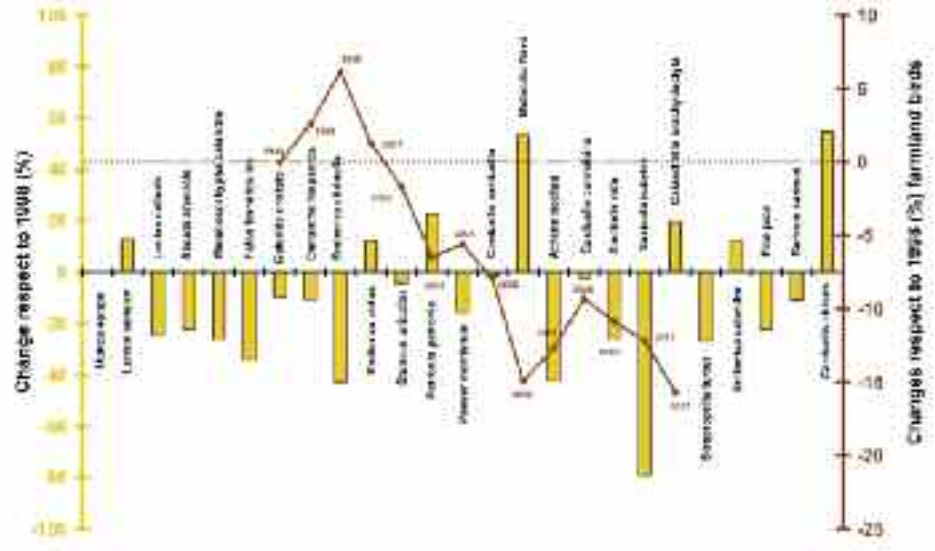
In the analysis contained in this document on bird population trends of species detected using SACRE programme methodology, some species belonging to groups of anatidae, limicoline, birds of prey, etc. have been excluded; even though they have been detected in these samplings, they will be more adequately assessed using other systems.

Besides obtaining birds' trends by species, they can be grouped according to their preferred associated environment and then obtain an indicator of that environment. The graphs show the joint trend of birds associated to farmland and forests and the percentage of change in the species considered in each habitat and whose analysis has been significant. Therefore, we are able to observe how each species contributes in the considered environmental value trend, whether decreasing or increasing with regard to the start year.

In the case of birds associated with forest environments, we can not only ascertain a positive trend in the state of the population as a whole, but also a positive percentage change with respect to 1998 in the bulk of the species considered. However, Song Thrush populations have shown negative



The population trend associated with forest environments is positive. Of all the species considered in this group and whose analysis has been notable, only the Song Thrush presents a negative percentage change with respect to 1998.



Birds associated with farmlands show a negative trend. Of the species considered in this group and whose analysis has been significant, not all of them present negative percentage change with respect to 1998.

Species	Grids (%)	Average annual change (1998-2011)	Change with respect to 1998 (%)
Acrocephalus arundinaceus	20	-4 (-6.3; -1.7)**	-20.3
Acrocephalus scirpaceus	26	2.3 (0.2; 4.4)*	59.4
Aegithalos caudatus	64	-1.2 (-2.6; 0.2)	-26.7
Alauda arvensis	66	-2.4 (-3.2; -1.6)**	-22.1
Alcedo atthis	16	-1.6 (-6.4; 3.2)	65.1
Alectoris rufa	87	-1.3 (-1.9; -0.7)**	-25.8
Anthus campestris	27	-0.7 (-2.9; 1.5)	41.1
Anthus trivialis	26	2.5 (0.8; 4.1)**	48.5
Apus apus	94	-0.1 (-0.8; 0.6)	-13.5
Apus pallidus	8	3.8 (-0.2; 7.9)	76.2
Athene noctua	55	-4.5 (-5.8; -3.3)**	-42.4
Burhinus oedicnemus	35	0.1 (-1; 1.3)	-22.2
Buteo buteo	86	-0.7 (-1.7; 0.2)	18.4
Calandrella brachydactyla	36	0.9 (-0.7; 2.4)	19.7
Carduelis cannabina	87	-1.1 (-1.9; -0.3)**	-2.1
Carduelis carduelis	95	-1.4 (-2; -0.8)**	-1
Carduelis chloris	94	1.8 (1.1; 2.4)**	55
Certhia brachydactyla	69	2 (1; 3)**	29.7
Certhia familiaris	3	7.8 (-8.9; 24.4)	58
Cettia cetti	75	-0.6 (-1.3; 0.2)	-13.9
Ciconia ciconia	53	1.9 (0.9; 2.8)**	89.2
Cinclus cinclus	12	3.3 (-1.2; 7.7)	61.4
Cisticola juncidis	59	-0.7 (-1.5; 0.2)	-22.6
Clamator glandarius	30	7.7 (4.8; 10.6)**	126.4
Coccothraustes coccothraustes	12	1.5 (-4; 7)	-55.8
Columba livia	63	0.3 (-1; 1.5)	12
Columba oenas	23	2.9 (-0.5; 6.3)	27.7
Columba palumbus	92	2.1 (1.4; 2.8)**	63.8
Corvus corax	75	-0.4 (-1.6; 0.8)	3
Corvus corone	71	-0.8 (-1.4; -0.2)**	-4
Corvus frugilegus	6	-1.9 (-8.4; 4.6)	-11.9
Corvus monedula	52	-5.3 (-6.3; -4.3)**	-53.4
Coturnix coturnix	75	-1.7 (-2.6; -0.9)**	-27.1
Cuculus canorus	90	1.2 (0.7; 1.7)**	28.1
Cyanopica cyana	24	3.5 (2; 5)**	54.7
Delichon urbicum	81	1 (0; 2)	35.7
Dendrocopos major	65	4 (3; 5)**	50.9
Dendrocopos minor	6	14.3 (6.5; 22.1)*	248.5
Emberiza calandra	86	-0.4 (-1; 0.2)	12.2
Emberiza cia	44	0 (-1.4; 1.4)	6.2
Emberiza cirlus	56	-1.7 (-2.9; -0.5)	12.6
Emberiza citrinella	18	-4.6 (-6.5; -2.7)**	-42.7
Emberiza hortulana	16	-1.5 (-3.9; 1)	6.4
Emberiza schoeniclus	3	-16.2 (-60.9; 28.6)	-99.6
Erithacus rubecula	63	0.8 (0.1; 1.5)*	16.7
Falco naumanni	24	8.5 (6.1; 10.9)**	122
Falco peregrinus	28	-2.3 (-5.2; 0.6)	10.1
Falco tinnunculus	92	-2.1 (-2.9; -1.2)**	-34.1
Ficedula hypoleuca	12	1.1 (-4.1; 6.3)	58.8
Fringilla coelebs	88	3.2 (2.7; 3.8)**	66.8
Galerida cristata	77	-1.2 (-1.8; -0.6)**	-9.6
Galerida theklae	40	2.2 (0.6; 3.8)**	31.9
Garrulus glandarius	59	1.3 (0.2; 2.4)*	4.9
Hippolais polyglotta	65	2.5 (1.4; 3.5)**	36.8
Hirundo daurica	39	1.1 (-0.7; 2.8)	70.1
Hirundo rustica	98	-0.8 (-1.5; -0.1)*	-21
Jynx torquilla	28	0.6 (-2; 3.1)	1.6
Lanius collurio	27	-1.1 (-2.8; 0.6)	-24.6
Lanius meridionalis	59	-7.2 (-8.4; -5.9)**	-61.5
Lanius senator	66	-1.6 (-2.7; -0.6)**	12.8
Loxia curvirostra	16	4.2 (1; 7.4)*	60.3
Lullula arborea	65	0.7 (-0.1; 1.6)	10
Luscinia megarhynchos	83	2.1 (1.6; 2.6)**	43.7
Melanocorypha calandra	43	-3.5 (-4.3; -2.6)**	-26

Species	Grids (%)	Average annual change (1998-2011)	Change with respect to 1998 (%)
Merops apiaster	75	-0.4 (-1.3; 0.6)	-4.8
Milvus migrans	66	2.4 (1.3; 3.5)**	75.7
Milvus milvus	43	-2.3 (-4.1; -0.6)**	-25.1
Monticola saxatilis	9	-4.9 (-9.5; -0.4)*	-44.8
Monticola solitarius	17	-3.2 (-6.2; -0.2)*	6
Motacilla alba	75	-3 (-4; -2)**	-15.3
Motacilla cinerea	35	-3.7 (-5.8; -1.5)**	-46.7
Motacilla flava	29	2.3 (0.8; 3.8)**	53.3
Muscicapa striata	30	-1.2 (-3.5; 1.1)	8.6
Oenanthe hispanica	48	-2 (-3.2; -0.8)*	-10.7
Oenanthe leucura	11	-6.7 (-10.8; -2.6)**	-30.5
Oenanthe oenanthe	41	-1.4 (-2.6; -0.2)*	-16.4
Oriolus oriolus	72	3.7 (2.9; 4.5)**	58.5
Otis tarda	17	5.3 (3; 7.6)**	21.7
Parus ater	49	1.7 (0.7; 2.8)**	23.7
Parus caeruleus	80	2.4 (1.7; 3.2)**	28.6
Parus cristatus	40	-0.1 (-1.7; 1.5)	17.3
Parus major	93	1.2 (0.7; 1.8)**	16.6
Parus palustris	8	-1.8 (-10.2; 6.6)	236.7
Passer domesticus	97	-1.2 (-1.8; -0.7)**	-10.7
Passer hispaniolensis	12	-1.7 (-7.5; 4)	55.9
Passer montanus	49	-2.4 (-3.8; -1.1)**	-15.5
Petronia petronia	48	1.3 (0; 2.6)	22.7
Phasianus colchicus	10	5.3 (1.2; 9.5)*	18.5
Phoenicurus ochruros	58	-0.8 (-2.1; 0.4)	24.1
Phoenicurus phoenicurus	9	4.9 (1; 8.7)*	183.3
Phylloscopus bonelli	41	4.6 (3.4; 5.7)**	123.6
Pica pica	81	-1.1 (-1.7; -0.5)**	-22.1
Picus viridis	83	-2.6 (-3.3; -1.9)**	-31.1
Prunella modularis	25	-2.5 (-4.1; -1)**	-19.4
Pterocles alchata	10	7.4 (4.1; 10.8)**	216.5
Pterocles orientalis	13	-6.3 (-9.9; -2.8)**	-71.9
Ptyonoprogne rupestris	32	0 (-2.4; 2.4)	-29.7
Pyrrhocorax graculus	4	-11.3 (-30; 7.3)	-47.3
Pyrrhocorax pyrrhocorax	32	1.4 (-1; 3.8)	43.6
Pyrrhula pyrrhula	21	-2.7 (-5; -0.4)*	36
Regulus ignicapilla	42	1.4 (-0.1; 2.8)	24.2
Regulus regulus	13	-3.8 (-8.8; 1.2)	-22.9
Remiz pendulinus	7	2.4 (-4.9; 9.7)	-34.1
Riparia riparia	14	-1.5 (-5.2; 2.3)	13.5
Saxicola rubetra	6	-13.1 (-19.9; -6.3)*	-79.1
Saxicola torquatus	84	-4 (-4.8; -3.2)**	-28.2
Serinus citrinella	4	7 (-6.1; 20.1)	195.3
Serinus serinus	96	-1.7 (-2.2; -1.1)**	-10.9
Sitta europaea	33	4.3 (2.7; 6)**	80.4
Streptopelia decaocto	80	15.3 (13.8; 16.8)**	715.4
Streptopelia turtur	80	-1.8 (-2.7; -0.9)**	-26.8
Sturnus unicolor	92	1.2 (0.4; 1.9)**	-4.1
Sturnus vulgaris	18	3.4 (0.4; 6.3)*	42
Sylvia atricapilla	77	4 (3.2; 4.8)**	76.7
Sylvia borin	26	-0.9 (-2.8; 0.9)	43.9
Sylvia cantillans	43	2.9 (1.3; 4.4)**	68.2
Sylvia communis	34	-2.7 (-4.2; -1.2)**	14.3
Sylvia conspicillata	23	-3.7 (-7; -0.5)*	3.8
Sylvia hortensis	23	6.8 (3.8; 9.7)**	187.3
Sylvia melanocephala	59	-0.3 (-1.1; 0.5)	-0.5
Sylvia undata	49	-4.6 (-6.2; -3.1)**	-31.8
Tachymarptis melba	12	-0.4 (-5.2; 4.4)	-14.1
Tetrax tetrax	26	-2 (-3.4; -0.7)**	-37.1
Troglodytes troglodytes	65	0.8 (0.1; 1.6)*	17.2
Turdus merula	95	1.2 (0.7; 1.7)**	28.4
Turdus philomelos	45	0.3 (-1.1; 1.7)	-2.3
Turdus viscivorus	50	0.7 (-0.9; 2.2)	3.7
Upupa epops	86	-0.7 (-1.4; 0)	0

Grids (%): percentage of grids where the species has been detected. Interannual trend: average interannual variations between 1998 and 2011. Change with respect to 1998 (%): population percentage change obtained nationwide with respect to 1998. It shows the statistically significant results (Wald Test: * p<0.05; ** p<0.01).

values with respect to 1998. This species in particular could be regarded as relatively stable, with the average annual change between 1998 and 2011 at 0.3 (-1.1: 1.7), as can be seen on the previous page.

In the case of birds associated with farmland environments, several species show a positive percentage change with respect to 1998, contrary to what has happened to this group as a whole, whose trend is negative. Of these, there are three, the Woodchat Shrike, Cirl Bunting and Corn Bunting, whose average annual change between years 1998-2011 is negative (see table on previous page). This should be taken into account when interpreting the result, as the positive value obtained in 2011 could be a one-off. If there really is a change in their population trend, this will be confirmed with data obtained in the following years.

The previous table shows the percentage of grids in which the species has been present and two values which report the population trend: the average annual change and the percentage change since 1998.

The most widely distributed species, detected in 95% or more of the grids, were: Barn Swallow, House Sparrow, Eurasian Blackbird and Goldfinch. It is important to highlight that all of these, except the Blackbird, present a negative trend and percentage change, which demonstrates that not only rare or scarce species have problems with declining populations, but also the most common and widely dispersed species, like these examples. Being very common and easily spotted, the unfavourable situation in which these birds are found can go unnoticed, but thanks to these monitoring programmes, with constant sampling over time, their decline can be detected.

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Corn Bunting.

© Javier Milla

Crested Tit.

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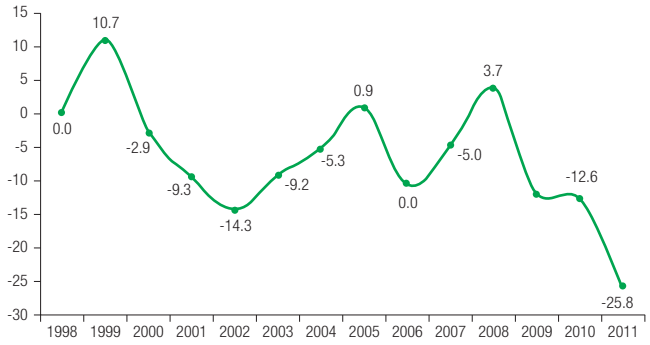
Subalpine Warbler.

Two values have been included that report the population trend: the first indicates the average variation that took place each year between 1998-2011 and the second reports the situation of the species' population in 2011 compared with the start year, 1998. Thus, a species' population is considered to have a sharp negative trend if both values are negative, as this points towards a continuous decline over several years. Although rare, there are cases where the average annual change is negative, but the final year indicates a positive percentage change. This has occurred, for example, in the case of the Woodchat Shrike, the Spectacled Warbler or the Cirl Bunting. This could be due to natural fluctuations in certain species or because of the beginnings of improvement in their populations. This can be ascertained in results obtained in future years. It is important to consider both values and interpret them jointly in order to assess what is happening with each species.

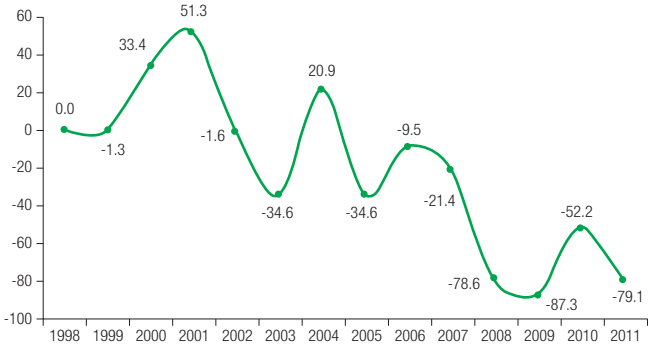
More information at:
www.seguimientodeaves.org

NOT ONLY RARE OR SCARCE SPECIES HAVE PROBLEMS WITH DECLINING POPULATIONS, BUT ALSO THE MOST COMMON AND WIDELY DISPERSED SPECIES. WITHOUT MONITORING OF COMMON BIRD POPULATIONS, THEIR STATE OF CONSERVATION WILL NEVER BE KNOWN.

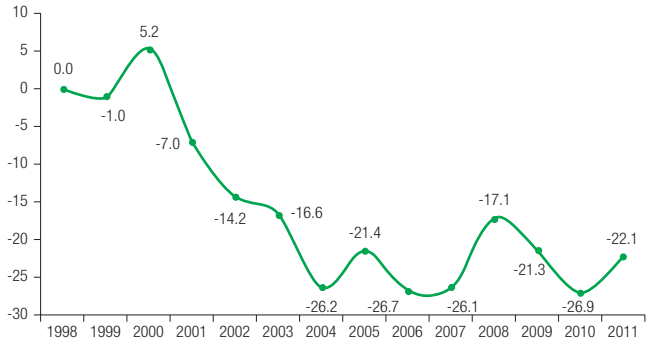
Alectoris rufa



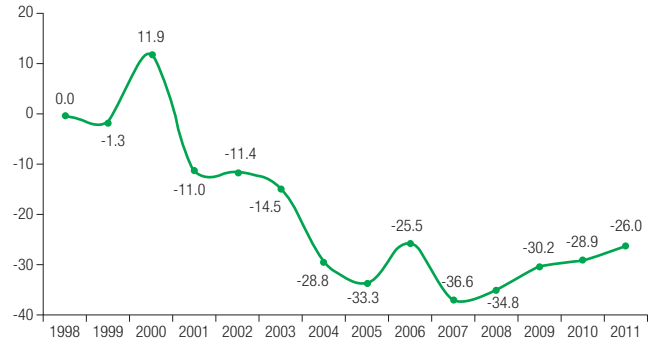
Saxicola rubetra



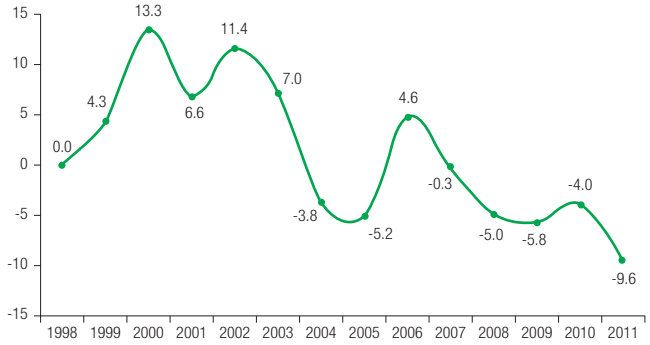
Alauda arvensis



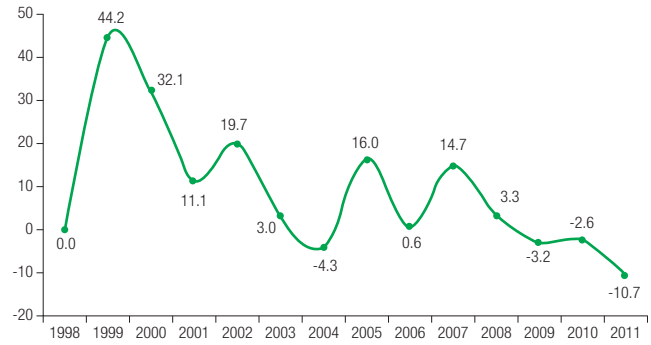
Melanocorypha calandra



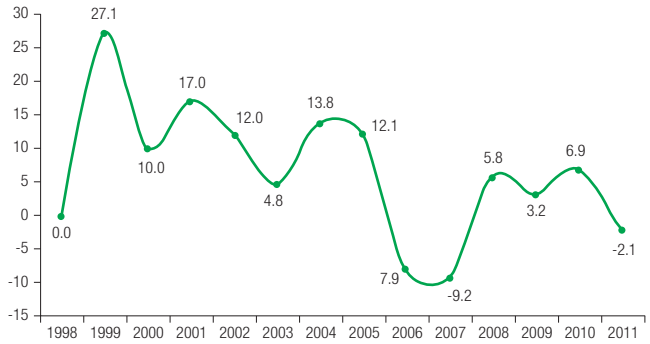
Galerida cristata



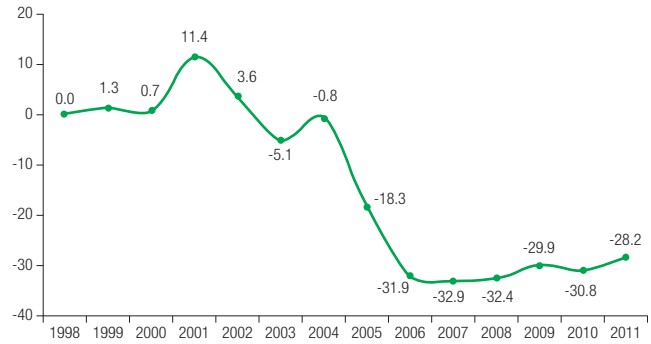
Oenanthe hispanica



Carduelis cannabina

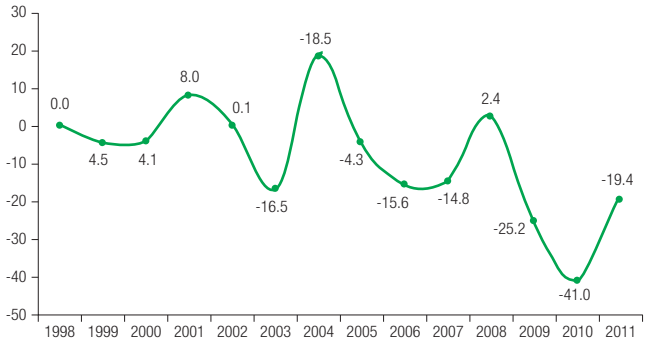


Saxicola torquatus

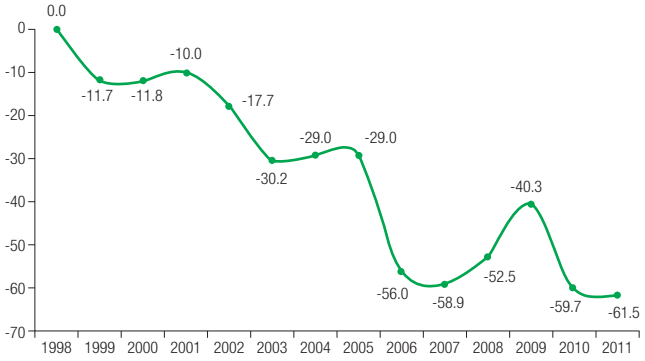


Bird population trends linked to farmland is of the greatest concern.

Prunella modularis

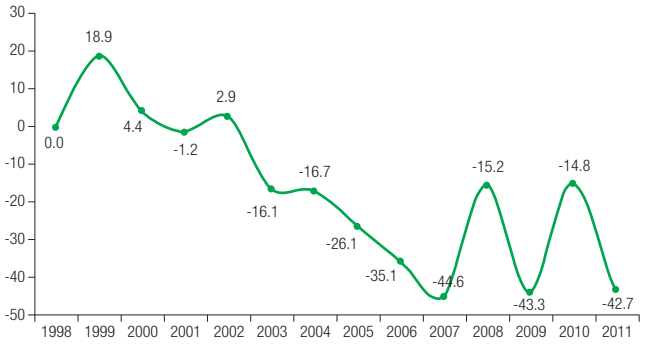


Lanius meridionalis

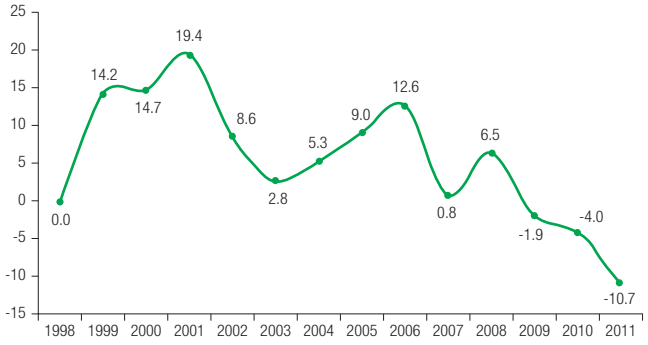


Sylvia undata

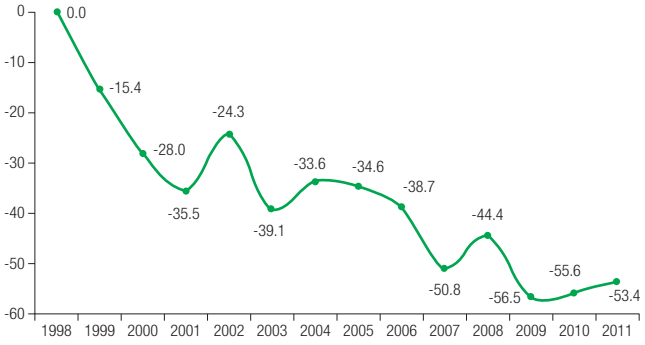
Emberiza citrinella



Passer domesticus

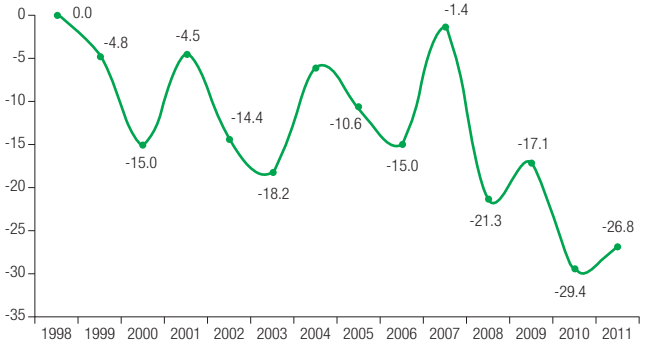


Corvus monedula



Picus viridis

Streptopelia turtur



Bird population trends with presence in scrub, lightly wooded environments or not specialised in farmland environments is worrying.

BIRD TRENDS IN WINTER

Virginia Escandell
SEO/BirdLife

- The sampling unit is 8 itineraries, consecutive, if possible.
- Located within a 10 x 10 km UTM grid.
- It is carried out in two days: the first between 15 November and 31 December and the second between 1 January and 15 February.
- One walks very slowly (400-700 m in 15 minutes).
- It begins at dawn and ends after two hours.

In Spain, common bird population sampling in winter commenced in the 2008/2009 season.

After three seasons' of continuous work, 2008/2009, 2009/2010 and 2010/2011 bird population trends in this season started to become established. Bird population sizes in winter in each region are very much conditioned by the climatic characteristics of each particular winter, unlike in spring, and greater variations can be expected than in the breeding season, which may delay the establishment of clear trends among the overwintering contingent.

The table shows the percentage of grids (of those selected for analysis) in which each species has been detected, the average interannual variations from 2008 to 2011 and the percentage change with respect to the first sampling year. According to the results, the species most widely distributed, present in over 80% of the grids, are: Chaffinch, Blackbird, Great Tit, European Robin, Goldfinch and House Sparrow. All of these populations present an apparently favourable state in winter, with a positive average interannual trend and percentage change, when compared to the first sampling year, which was also positive. Nonetheless, as mentioned earlier, over longer periods of time, clearer trends will be defined.

When the data gathered in winter are compared with those from the breeding season, it is worth emphasising that some species like the Southern Grey Shrike, Sky Lark, Eurasian Crag-Martin, Common Kestrel, Yellow-billed Chough, Red-legged Partridge and Ruby-crowned Kinglet share negative population trends in both periods of the year, which points to a very unfavourable situation for these species.

© Gonzalo Deán

Eurasian Blackbird.

To ensure consistent results in the following years it is important to continue with the sampling and to augment the coverage in order to have a representative picture in all regions.

Consult annual coverage at:
www.seguimientodeaves.org

Species	Grids (%)	Interannual trend	Change with respect to 2008/2009 (%)
Aegithalos caudatus	71.0	2.9 (-6.7; 12.5)	5.9
Alauda arvensis	41.2	-13.9 (-22.5; -5.2)*	-25.8
Alcedo atthis	10.0	0.1 (-30.5; 30.7)	0.2
Alectoris rufa	53.0	-15.4 (-25.4; -5.5)*	-28.5
Amandava amandava	0.9	46.8 (-137.7; 231.2)	115.4
Anthus pratensis	63.9	14.9 (3.9; 26) **	32.1
Anthus spinoletta	6.63	-43.1 (-73.1; -13.2)*	-67.6
Calandrella rufescens	0.5	-39.7 (-74.2; -5.2)*	-63.6
Carduelis cannabina	62.5	14.1 (0.4; 27.7) *	30.1
Carduelis carduelis	86.7	16.8 (6.9; 26.7)*	36.3
Carduelis chloris	66.8	19.6 (2.5; 36.7) *	43
Carduelis spinus	23.2	43 (13.3; 72.6)*	104.5
Certhia brachydactyla	52.6	-3.8 (-15.3; 7.6)	-7.5
Certhia familiaris	0.5	0 (-38.7; 38.7)	-100
Cettia cetti	28.4	9.7 (-6.1; 25.4)	20.3
Cisticola juncidis	19.4	-3.9 (-30.7; 22.9)	-7.7
Coccothraustes coccothraustes	18.9	1.3 (-28.1; 30.7)	2.6
Columba livia	43.6	21.3 (-0.4; 43.1)	47.2
Columba oenas	7.6	71.6 (-14.5; 157.8)	194.5
Columba palumbus	73.9	3.2 (-7; 13.4)	6.5
Corvus corax	61.1	16.7 (0.8; 32.5) *	36.1
Corvus corone	60.1	-0.9 (2 -9.9; 8.2)	-1.7
Corvus monedula	25.5	-6.3 (-26.7; 14.2)	-12.1
Cyanopica cyana	24.6	-16.6 (-30.9; -2.2)*	-30.4
Dendrocopos major	56.8	6.8 (-4.1; 17.7)	14.1
Dendrocopos minor	2.8	24.4 (-58.9; 107.7)	54.7
Dryocopus martius	0.9	-18.4 (-101.5; 64.8)	-33.3
Emberiza calandra	45.9	-12.1 (-22.9; -1.3)*	-22.7
Emberiza cia	42.1	2.8 (-12; 17.5)	5.6
Emberiza cirlus	38.3	-5.2 (-21.4; 11)	-10.1
Emberiza citrinella	8.5	39 (-3.8; 81.8)	93.3
Emberiza schoeniclus	10.4	-3.9 (-34.3; 26.4)	-7.7
Erithacus rubecula	88.1	6.6 (1.1; 12.1) *	13.5
Falco columbarius	11.3	-1.2 (-63.4; 60.9)	-2.5
Falco tinnunculus	60.1	-21.2 (-31; -11.3)**	-37.8
Fringilla coelebs	93.8	11.9 (4.7; 19.2) **	25.3
Galerida cristata	54.0	-5.3 (-13.9; 3.3)	-10.3
Galerida theklae	23.6	3.2 (-10.1; 16.6)	6.6
Garrulus glandarius	57.8	6.1 (-3; 15.3)	12.7
Grus grus	16.5	37.1 (1.6; 72.6) *	88
Hirundo rustica	8.5	3 (-79.4; 85.3)	6
Jynx torquilla	1.89	45.7 (-116; 207.4)	112.2
Lanius meridionalis	44.5	-16.6 (-28.6; -4.7)**	-30.5
Loxia curvirostra	14.2	50.2 (15.4; 85)*	125.6
Lullula arborea	35.0	0.8 (-14.4; 16)	1.6
Luscinia svecica	0.9	-13.4 (-96.6; 69.8)	-25
Melanocorypha calandra	19.4	-2.6 (-21.4; 16.2)	-5.1

Species	Grids (%)	Interannual trend	Change with respect to 2008/2009 (%)
Monticola solitarius	4.8	14.3 (-40; 68.6)	30.7
Motacilla alba	77.2	1.7 (-6.6; 10)	3.4
Motacilla cinerea	28.4	16.4 (-7.3; 40.2)	35.6
Oenanthe leucura	4.3	-9.5 (-48.8; 29.9)	-18
Parus ater	42.6	19.8 (7.7; 31.9)*	43.5
Parus caeruleus	77.7	0.9 (-6.4; 8.3)	1.8
Parus cristatus	41.2	-0.9 (-12.6; 10.8)	-1.8
Parus major	90.0	5.4 (-0.4; 11.2)	11
Parus palustris	9.0	8.7 (-20.9; 38.4)	18.2
Passer domesticus	81.0	21.4 (9.9; 33)**	47.5
Passer hispaniolensis	10.0	-6.2 (-26.1; 13.7)	-12
Passer montanus	28.4	46.6 (11.6; 81.5)*	114.9
Petronia petronia	18.0	-15.4 (-43.5; 12.8)	-28.4
Phasianus colchicus	2.4	-28.1 (-124.2; 67.9)	-48.4
Phoenicurus ochruros	67.7	-0.1 (-8.1; 7.9)	-0.2
Phylloscopus collybita	67.2	20.3 (8.8; 31.8)**	44.8
Pica pica	69.6	-6 (-11.2; -0.7)*	-11.6
Picus viridis	60.6	-1.7 (-11.5; 8.1)	-3.4
Prunella collaris	1.9	-45 (-126.6; 36.6)	-69.7
Prunella modularis	33.1	10.3 (-7.9; 28.4)	21.6
Ptyonoprogne rupestris	14.6	-42.4 (-57.2; -27.6)**	-66.8
Pyrrhocorax graculus	1.9	-48.1 (-90.2; -6)*	-73.1
Pyrrhocorax pyrrhocorax	22.2	-2.3 (-24.1; 19.6)	-4.5
Pyrrhula pyrrhula	19.4	-12.9 (-33.3; 7.6)	-24.1
Regulus ignicapilla	49.7	-0.9 (-11.2; 9.4)	-1.8
Regulus regulus	20.3	-27.6 (-45.2; -9.9)*	-47.5
Remiz pendulinus	6.2	-2.5 (-34.3; 29.3)	-4.9
Saxicola torquatus	61.1	-5.5 (-15.2; 4.2)	-10.7
Serinus citrinella	4.3	-19.3 (-122.4; 83.8)	-34.8
Serinus serinus	67.2	-1.5 (-12.8; 9.8)	-3
Sitta europaea	32.2	-2.2 (-13.1; 8.6)	-4.5
Streptopelia decaocto	48.8	5.8 (-9; 20.6)	11.9
Sturnus unicolor	79.1	-4.9 (-13.3; 3.4)	-9.6
Sturnus vulgaris	30.3	79.8 (39.1; 120.6)**	223.4
Sylvia atricapilla	48.8	20.5 (7.8; 33.3)*	45.3
Sylvia melanocephala	43.1	12.1 (2.5; 21.8) *	25.8
Sylvia undata	36.4	-7.6 (-21.1; 5.9)	-14.7
Troglodytes troglodytes	52.1	8.2 (-0.7; 17.1)	17.1
Turdus iliacus	28.9	-28.9 (-46.8; -10.9)**	-49.4
Turdus merula	91.9	3.9 (-1.3; 9.2)	8
Turdus philomelos	76.3	2.4 (-4.8; 9.6)	4.9
Turdus pilaris	11.3	132.5 (20.7; 244.4)*	440.6
Turdus torquatus	0.9	7.7 (-82.6; 98.1)	16.1
Turdus viscivorus	64.9	5.9 (-5.7; 17.5)	12.2
Upupa epops	25.1	-10.5 (-25.9; 5)	-19.9
Vanellus vanellus	34.6	5.6 (-9.7; 20.8)	11.4

Grids (%): percentage of grids where the species has been detected, interannual trend: average interannual variations between 2008/2009 and 2010/2011. Change with respect to 2008/9 (%): population percentage change obtained nationwide with respect to 2008/9. It shows the statistically significant results (Wald Test: * p<0.05; ** p<0.01).

noctua

NOCTURNAL BIRD TRENDS

Virginia Escandell
SEO/BirdLife

- The sampling unit is 5 census points located within a 10 x 10 km UTM grid.
- It is carried out over three days: the first between 1 December and 15 February, the second between 1 March and 15 May and the third between 16 April and 30 June.
- 10 minutes is spent at each census point taking note of all the species detected. It begins at dusk and ends after approximately two hours.

Nocturnal birds are one of the most unknown groups.

With the aim of learning their population trends, SEO/BirdLife coordinates their sampling using a similar methodology to the SACRE programme, less demanding, however, with regard to the number of census points (5 instead of 20), the time spent on fieldwork (around two hours) and the ease of species detection (with a maximum of 9 species for detection). This simpler methodology helps to encourage participation despite the less attractive night sampling.

COME AND JOIN THE NOCTUA PROGRAMME

We would like to point out the importance of participating in this programme. With the data gathered so far, all analyses show a negative trend in almost all nocturnal bird species. Although these results give us an idea of the adverse state

Barn Owl.

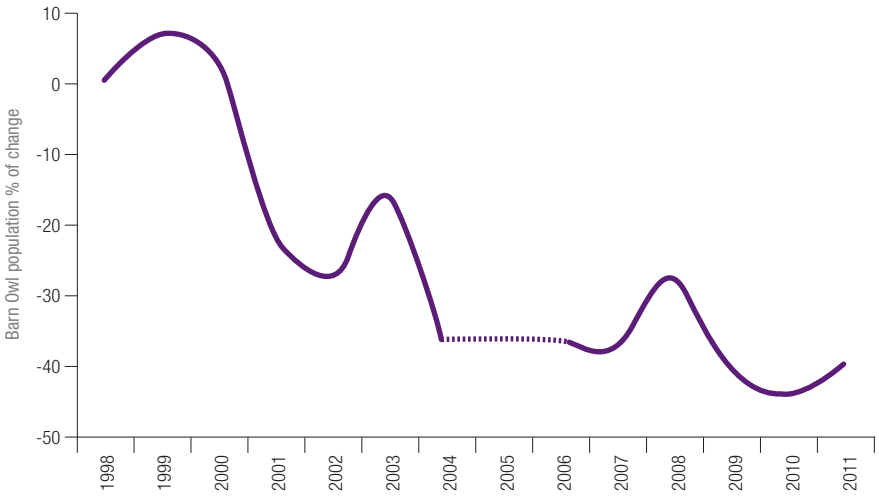
of this group of birds, increased participation could give a more precise and better representative picture across the whole territory. If you would like to contribute in improving the results in the state of conservation of this group of birds join us, the methodology is simple and you don't need to be an expert.

Verifying a species' decline helps SEO/BirdLife work on its conservation problems by including the species on one of the International Union for the Conservation of Nature's threat categories, and in turn, establishing the necessary steps for its protection. If there is no consistent data to demonstrate this, the species will remain unprotected and their populations will continue to diminish if the adverse conditions affecting them do not disappear. Furthermore, with the sampling from this monitoring programme, not only are data collected to obtain the population trends of these species, the basis for their conservation, but also the fieldwork is exploited to gather data on other variables: moon phase, cloud cover, presence/absence of fog, time and temperature, all of which may affect their activity, thus enabling a better understanding of their biology.

After attaining positive trends for the Eagle Owl over several years, this is the first species to show a negative percentage change. The Long-eared Owl, Rufous-cheeked Nightjar, Barn Owl and Little Owl have presented population declines since the start of this monitoring programme.

The bulk of these species in decline have a high presence in humanised spaces or agricultural environments, where population declines have also been registered for common passerine birds like Larks, Calandras, Corn Buntings, etc.

More information at:
www.seguimientodeaves.org



Barn Owl trend in Spain.

Species	Grids (%)	Average annual trend (1998-2004)	Average annual trend (2006-2011)	Change respect to 1998 (%)
Asio otus	31.3	-17.7 (-26.6; -8.8)**	-3.7 (-12.2; 4.8)	-59.12
Athene noctua	77.3	-10.1 (-13.8; -6.4)**	-0.5 (-3.7; 2.6)	-46.24
Bubo bubo	46.6	-8.6 (-17.3; 0.1)	12.8 (6.8; 18.8)*	-4.19
Caprimulgus europaeus	62.6	insufficient data	1.5 (-2.7; 5.7)	15.58 (1)
Caprimulgus ruficollis	54.6	-2.9 (-9.2; 3.4)	-6.9 (-10.9; -2.9)**	-37,00
Otus scops	83.7	0.1 (-3.3; 3.5)	-2.8 (-5.4; -0.3)*	-2.14
Strix aluco	48.6	0.7 (-5.6; 7)	-1.8 (-6.8; 3.2)	-0.73
Tyto alba	39.9	-7.6 (-13.2; -1.9)**	-2.2 (-9.5; 5.2)	-39.98

(1) with respect to 2006.

Grids (%): percentage of grids where it has been detected. Average annual trend (1998-2004): average interannual variations between 1998 and 2004. Average annual trend (2006-2011): average interannual variations between 2006 and 2011. Change with respect to 1998 (%): population percentage change obtained nationwide with respect to 1998. It shows the statistically significant results (Wald Test: * $p<0.05$; ** $p<0.01$).

Current programme coverage.

paser

BIRD RINGING IN SPRING

Arantza Leal
SEO/BirdLife

- **Ringing stations in a specific habitat.**
- **Ringing At least ten days of sampling are carried out, every ten days, from the end of March to the beginning of August..**
- **Ringing Each sampling day lasts five hours and the nets must be ready at dawn.**
- **Ringing Every year the same sampling work is undertaken: same number of nets in the same place.**

This coordinated bird ringing programme in the breeding season (end of March to beginning of August) first got underway in 1995.

In 2011, around 60 ringing stations, involving more than 250 ringers and volunteers, took part in the 10-day ringing campaign, crucial for the undertaking of standardised and coordinated monitoring of common breeding birds. In 2011, all the Paser stations spread throughout the Iberian Peninsula and Ceuta captured 17,744 birds belonging to 126 species.

Such systematised information obtention over the years provides better and better consistency and more valuable analyses.

Large-scale bird population monitoring, over time, will be possible with the methodology used in this programme and which is also used in many European countries (Euro-CES projects). Ringing enables the identification of species and also their age and sex, thus determining the number of youngsters and the number of adults (abundance) of certain species in each breeding season, ascertaining productivity (number of youngsters captured in relation to overall captures) of the 20 species most commonly caught in Spain.

Comparing this productivity each year gives us a reliable indicator, over the years, of breeding bird trends.

Changes in the total number of adults captured each year provide a measure of change in population sizes, while the proportion of juvenils (birds in their first year) captured shows a measure of breeding success.

Species	1st fledgling ringing date	1st fledgling average ringing date
Serinus serinus	17/04/2011	17/06/2011
Turdus merula	24/04/2011	21/06/2011
Carduelis carduelis	27/04/2011	22/06/2011
Aegithalos caudatus	30/04/2011	05/06/2011
Carduelis chloris	08/05/2011	27/06/2011
Parus caeruleus	08/05/2011	25/06/2011
Acrocephalus scirpaceus	14/05/2011	08/07/2011
Sylvia atricapilla	14/05/2011	23/06/2011
Acrocephalus arundinaceus	15/05/2011	05/07/2011
Erithacus rubecula	15/05/2011	27/06/2011
Parus major	15/05/2011	21/06/2011
Fringilla coelebs	17/05/2011	04/07/2011
Passer domesticus	19/05/2011	30/06/2011
Sylvia melanocephala	19/05/2011	28/06/2011
Certhia brachydactyla	21/05/2011	26/06/2011
Troglodytes troglodytes	21/05/2011	25/06/2011
Hippolais polyglotta	23/05/2011	10/07/2011
Cettia cetti	24/05/2011	27/06/2011
Luscinia megarhynchos	28/05/2011	26/06/2011
Phylloscopus bonelli	12/06/2011	11/07/2011

Date of capture of first fledgling (EURING code for age - 3) and average fledgling capture date of most captured species in the Paser programme.

Capturing birds and determining their age enables the date registration of the first

fledglings captured in the year, as the Paser programme attempts to span the entire breeding season. With the 2011 data for the most captured species we can see that European Serin fledglings appear earliest, while Bonelli's Warbler fledglings are the last to emerge.

More information at:
www.seguimientodeaves.org

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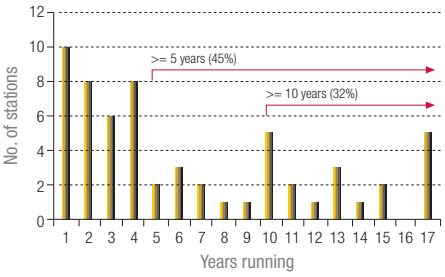
Members of the ornithological group SEO-Monticola during a break at the Ornithological Congress held in Santander. Current ringers and veterans of the group, all of them have collaborated at the Paser station "Las Minas".

Distribution of Paser and Sylvia constant effort ringing stations running in 2011.

During 2011, five stations celebrated their 17th anniversary, that is to say, they have been operational since the start of the programme, so we would like to expressly mention their work:

Station No.	Station Name	Current coordinator (ringing group)
P0001	Cola de Garaio, Ullibarri-Gamboa reservoir	Francisco María Zufiaur González de Langarica (Txepetxa)
P4101	Senda de los Bigotudos, P. N. El Hondo	Ignacio García Peiró (GALA)
P5302	Las Minas	Rubén G. Moreno-Opo Díaz-Meco (SEO-Monticola)
P5303	Parque del Oeste	José I. Aguirre (SEO-Monticola)
P5401	La Higueruela	Óscar Frías Corral (Troglodytes)



Forty-five percent of operational stations have been functioning for more than five years and 32% for more than ten.

© Carlos Ponce

Reed Warbler captured for marking. It is one of the most captured species during the Paser period.

Species	Productivity index 2011 Average±E.E.	Trend Station No.	1998-2011
Acrocephalus arundinaceus	23.3+1.3	19	0.34
Acrocephalus scirpaceus	23.3+0.3	45	0.45
Aegithalos caudatus	66.5+1.2	40	0.31
Carduelis carduelis	42.9+0.9	42	0.38
Carduelis chloris	31.7+0.8	47	-0.13
Certhia brachydactyla	54.0+2.0	38	0.25
Cettia cetti	52.3+0.6	44	0.24
Erithacus rubecula	63.8+0.5	45	0.26
Fringilla coelebs	46.8+1.2	37	1.16
Hippolais polyglotta	19.1+0.6	49	0.01
Luscinia megarhynchos	26.8+0.4	56	0.16
Panurus biarmicus	42.0+2.9	3	-0.15
Parus caeruleus	61.6+0.8	48	1.04
Parus major	61.6+0.7	64	0.41
Passer domesticus	35.2+0.9	41	0.72
Petronia petronia	57.1+1.5	15	0.24
Phylloscopus bonelli	26.9+3.2	7	1.20
Serinus serinus	32.3+1.9	28	0.49
Sylvia atricapilla	51.9+0.8	55	-0.07
Sylvia melanocephala	54.0+0.5	59	-0.09
Troglodytes troglodytes	61.3+1.5	24	0.81
Turdus merula	68.8+0.6	37	0.19

Productivity index obtained in 2011 for the species with most captures. It indicates the average, standard error, number of stations where recorded and the trend in productivity between 1998 and 2011.

aves y clima

BIRD PHENOLOGY

Blas Molina
SEO/BirdLife

- Select participation sites which are visited frequently or daily.
- Register observation dates (first arrivals, first nests built, etc.).

The Birds and Climate programme's main aim is the better understanding of our birds' phenology. Year 2011 is the fifth season.

The number of collaborators has risen to the current 588 and the number of registrations surpassed 3,600 from among the 600 or so sites. There is also the Observers' Network of the National Meteorology Agency, pioneers in the collection of this type of information. Moreover, 16 educational centres have joined the programme as another activity to develop with their students, every year recording dates of the easiest species to monitor. There are collaborators in every province, although unequally distributed and in some areas with very low participation.

The database now contains around 77,000 phenological records, after incorporating the new information from the latest phase (2007-2011) from SEO/BirdLife and the National Meteorological Agency's historical phenology file. It includes data on 229 species with the easiest species to spot like the Swallow, House Martin, European Bee-eater or Common Nightingale accounting for most of the records each season.

Phenology permits the study of how certain biological phenomena are coupled to seasonal rhythms, related to the climate and weather conditions each year at each site. Thus, different scientific studies have shown that some species' phenology has altered in relation with climate change. For this reason, the constant and regular supply of data from collaborators is crucial to obtain good information that allows the assessment of how species' phenology changes from one season to the next.

Species	Average date of arrival to the breeding zone in 2011	Size of sample (no. of sites)
Apus apus	17 April ± 15 days	73
Ciconia ciconia	13 April ± 34 days	33
Circaetus gallicus	16 March ± 18 days	48
Clamator glandarius	7 March ± 21 days	34
Cuculus canorus	6 April ± 13 days	46
Delichon urbicum	6 March ± 32 days	72
Hieraaetus pennatus	5 April ± 11 days	38
Hirundo daurica	15 March ± 26 days	34
Hirundo rustica	12 March ± 19 days	90
Lanius senator	30 March ± 22 days	30
Luscinia megarhynchos	5 April ± 10 days	44
Merops apiaster	11 April ± 12 days	34
Milvus migrans	18 March ± 12 days	26
Neophron percnopterus	16 March ± 20 days	22
Oriolus oriolus	27 April ± 12 days	28
Otus scops	29 April ± 13 days	61
Upupa epops	20 March ± 24 days	24

The busiest time with the highest registry is at the end of winter and the start of spring; this is when many species arrive from overwintering areas of both sub-Saharan and pre-Saharan Africa. This period in 2011 was characterised by a normal or slightly warmer winter –according to average

temperatures– with the average temperature for the whole of Spain just 0.2ºC above what is considered to be normal. However, the year was damper than usual, exceeding 20% of the average figure, according to precipitation data. Spring (March-May 2011) was very hot or extremely hot in all regions, with an average temperature for the whole of Spain 2.3ºC higher than what is considered normal and precipitation was up 10% on normal values, stressing that March exceeded the average for the whole of Spain by 50% (source: AEMET). The normal value considered is the average for the reference period 1971-2000.

More information at:
www.avesyclima.org

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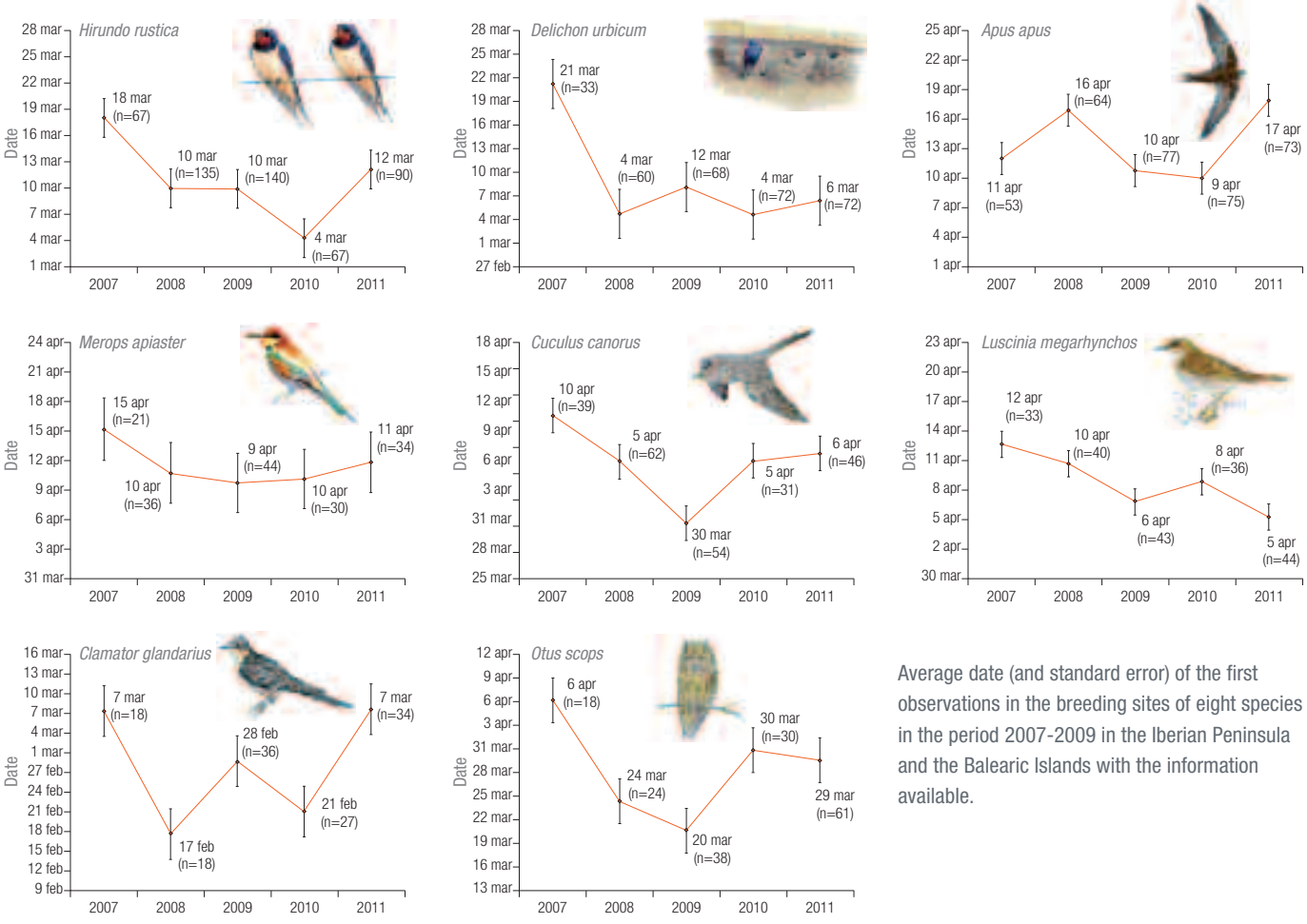
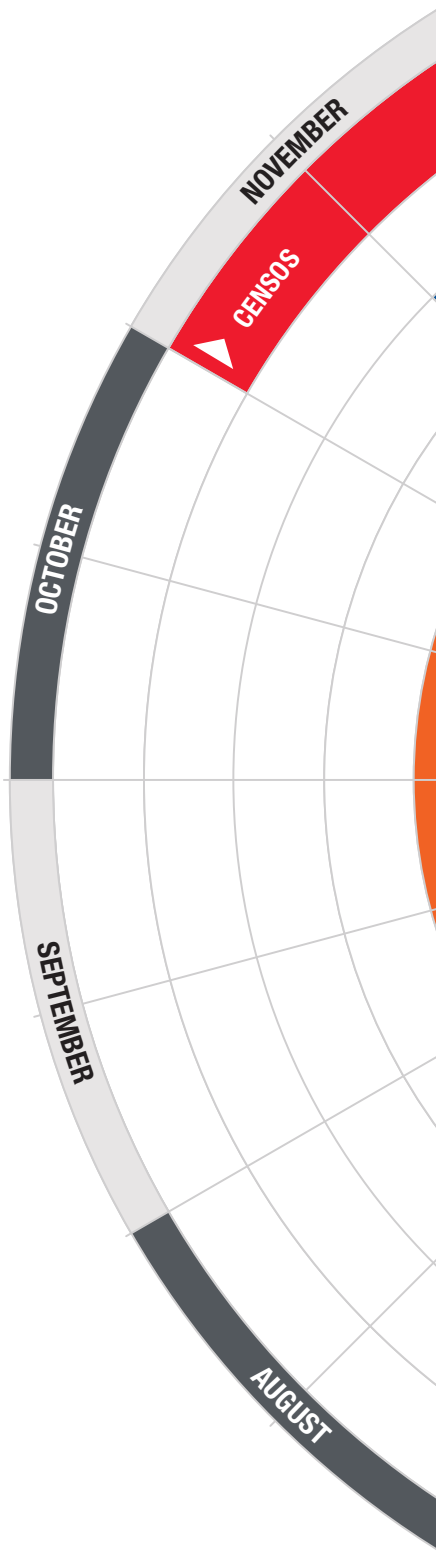
Common Swift.



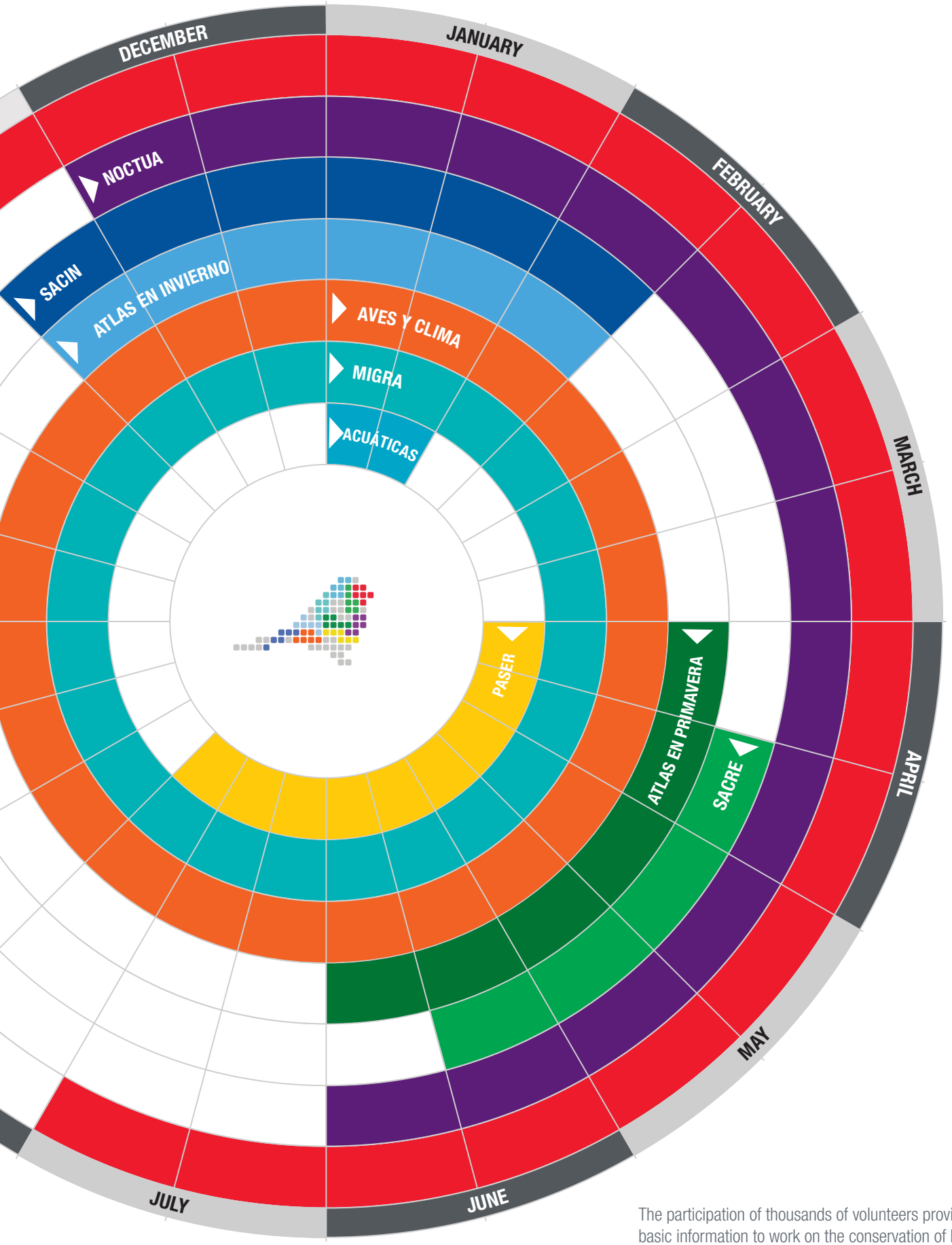
Average date (and standard error) of the first observations in the breeding sites of eight species in the period 2007-2009 in the Iberian Peninsula and the Balearic Islands with the information available.

SEO/BirdLife Birds monitoring programmes

- **sacre** — Bird trends in spring
- **sacin** — Bird trends in winter
- **noctua** — Nocturnal bird trends
- **paser** — Bird ringing in spring
- **aves y clima** — Phenology of birds
- **migra** — Bird migration
- **censos** — Bird population size
- **acuáticas** — Census of aquatic birds in winter
- **atlas en primavera** — Distribution of birds in spring
- **atlas en invierno** — Distribution of birds in winter



GET THE KNOWLEDGE TO CONSERVE



The participation of thousands of volunteers provide the basic information to work on the conservation of birds.
Collaborate and enjoy the countryside and the birds.

migra

BIRD MIGRATION

Javier de la Puente, Ana Bermejo and Juan Carlos del Moral
SEO/BirdLife

- **Monitoring of migration through the use of electronic devices.**
- **Constant effort sites, next boxes, etc. are used as tagging points for small species.**

Every year millions of birds undertake migratory journeys between their breeding grounds and their wintering areas, and for centuries man has been fascinated by this phenomenon.

Migration can be defined as birds' response to seasonal changes that take place in their distribution areas. Nevertheless, there are a great many aspects entailing bird migration that are still unknown. For this reason, in 2011, SEO/BirdLife launched this new monitoring programme, published here for the first time, where we summarise the activities that SEO/BirdLife is developing with the aim of gathering information to contribute to bird conservation.

The objectives of this programme are at the same time both very simple and very ambitious: the aim is to detail all aspects of their movements and the areas used by each species over the annual cycle.

Unlike other monitoring programmes like Sacre, Noctua or Birds and Climate, this programme does not require the collaboration of the bulk of the volunteers, although many will still be needed. Important areas of cooperation in this case are, for example, the constant efforts of ringing stations and specific, long-standing, coordinated and standardised ringing programmes. As mentioned below, information on recapture rates in each area and the fact that we can count on people experienced in handling birds can be an important contribution to this new programme. Likewise, another of the points where the volunteers will also play an important role in the development of this monitoring system is in ringing preparation (undertaken through establishing populations of determined, easily manageable species, via nesting boxes).

Thanks to this new programme, we will be able to ascertain where birds overwinter

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© Javier de la Puente / SEO/BirdLife

The sharp seasonal fluctuations between spring and winter mean that many species have to migrate.

and the routes taken by many migratory species. Birds may actually spend more of their lives in these areas than in their breeding grounds, which could have an impact on the factors that regulate their populations and thus, affect their endangered rating.

The question of what regulates bird population sizes was already raised by the pioneering British naturalist Gilbert White 250 years ago and is still unknown for the majority of migratory birds. In fact, population decline of various migratory species has been detected in Europe over recent decades, the cause of which may originate in the wintering zones.A similar lack of information occurs in some non-migratory species who undertake dispersive movements or a different kind of movement within a shorter range. For example, it is unknown where endangered Red Kites, which breed in Spain, go in winter or where their young go before settling as territorial pairs. Furthermore, the phenological analysis, the migratory strategy and wintering areas, as well as their progress over time, is particularly interesting in the light of global change, as factors that may be considerably affecting birds.

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European birds overwintering in Mauritania, in Diawling national park. Drought, overgrazing and human population expansion and its associated problems could be affecting breeding birds in Spain from their wintering zones, but for the bulk of species these areas remain unknown.

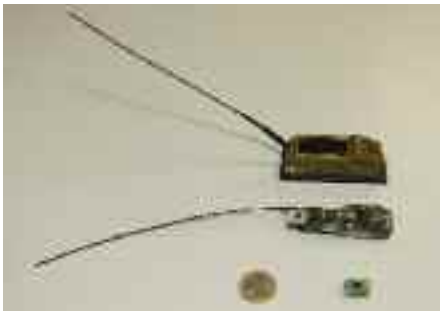
REMOTE MONITORING DEVICES

The most effective, economical and widely used method of studying bird migration is the traditional identification of specimens by metal rings. Up to now, this method has enabled the understanding of many aspects related to the biology and migration of various bird species (check, for example, the results of the Paser programme). However, its performance is very limited in finding out wintering areas and migration routes, due to the low rate of control of the birds outside of their breeding areas, especially in Africa.

Fortunately, scientific progress has given us new bird-marking technologies –in constant development– which can locate the individual several times a day over several years. These enable us to track how long they remain in the breeding and wintering areas, when they initiate their migration, their routes, which points and habitats they employ to replenish energy, their speed, altitude etc., and relate this to meteorological, geographical or any other factor that condition their movements.

© Juan Bécares

Geolocator on *Sterna hirundo.*



© SEO/BirdLife

Tagging devices.

However, birds need perfect aerodynamics to fly, they are difficult to recapture once released and in many cases are very light. For this reason the transmitters need to be small and light, with batteries that ensure correct functioning over the necessary time to obtain the desired information and be able to store or send it. In the first phase of the programme three types of monitoring device have been used: satellite transmitters, GPS data loggers and geolocators (more information at www.migraciondeaves.org). A large number of specimens cannot be marked due to the time and effort involved in their placement and the high cost of the devices.

THE FIRST YEAR OF THE PROGRAMME

After months of preparation for the launch and the search for funding, the programme got underway in the spring of 2011, funded by Fundación Iberdrola.

In the first step, we selected breeding species in Spain which we had captured

and marked in the past, but whose migratory movements were mainly unknown to us. This ensures that SEO/BirdLife's mid-term results serve as an example on some of the aspects pursued in this new line of work. We have been able to upload onto the website at least some of the birds tagged with GPS-satellite transmitters, delivering almost real-time data, since September 2011.

© Carlos Ponce

© Txepetxa

SEO/BirdLife technicians and collaborators carrying out fieldwork in 2011 in Castellón (left) and Vitoria (right).

Species	No. of birds marking	Marking device
Merops apiaster	17	Geolocator
Hieraaetus pennatus	7	Solar GPS (4) and data logger solar GPS (3)
Otus scops	12	Geolocator
Acrocephalus arundinaceus	30	Geolocator

Species and tagging devices used in 2011.

Great Reed-Warblers, European Bee-eaters and Booted Eagles were marked across a wide geographical area of Spain in the spring of 2011. All were breeding adults, with a lower mortality rate than the young and a high-level of philopatry to the breeding area (crucial in birds tagged with geolocators, as they need to be recaptured to obtain the compiled data, or in the case of GPS-data loggers where the information must be downloaded from less than a few hundred metres). The capture and marking of the specimens was thanks to the multitude of collaborators (all of them here at www.migraciondeaves.org).

All of the information is available for use at different levels. As an outreach tool on the website, in technical publications (where monographs will gradually appear, eventually becoming a migration atlas) and in scientific articles. All of this work will be coordinated by SEO/BirdLife but will be mainly carried out by research teams through collaboration agreements.

Moreover, many birds in Spain have been tagged with remote monitoring over the last twenty years. On occasion, these results have been published in scientific journals and also in technical reports, for the management of the species. Nevertheless, in many cases, this information is not available for outreach. Neither has there been any attempt to compile all of the data on a specific species at national level in order to analyse it as a whole and understand its movements and behaviour. The new programme seeks to invest

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Examples of European Bee-eater, Eurasian Scops-Owl and Great Reed-Warbler tagged with geolocators and Booted Eagle with GPS-satellite transmitter.

Species	No. of specimens	Entity
Hieraaetus pennatus	6	Junta de Extremadura (2) y SEO/BirdLife (4)
Circus pygargus	24	Estación Biológica Terra Natura de la Universidad de Alicante
Aegypius monachus	13	Parque Nacional de Cabañeros (10) y Parque Natural de Peñalara (3)
Ciconia nigra	2	SEO/BirdLife
Elanus caeruleus	4	Junta de Extremadura
Larus audouinii	23	SEO/BirdLife
Falco eleonorae	14	Estación Biológica Terra Natura de la Universidad de Alicante
Total	**86**	

Number of specimens by species and marking entity available at www.migraciondeaves.org.

great effort in compiling all of the available data in collaboration with the teams that have put it together in Spain. And, when it is possible to amalgamate this information with the rest of Europe, we will be able to understand species' movements across national barriers.

In 2011 the principle backers in this were the Terra Natura Biological Station and the University of Alicante, Cabañeros National Park and the Government of Extremadura. In addition, links are being established with other organisations and entities with the hope of bearing fruit over the course of 2012 and which will allow the gradual incorporation of further specimens on to the website and the monographic analysis of each species' movements

WWW.MIGRACIONDEAVES.ORG

One of the main investments in resources has been the construction of the website as the principle outreach tool of the new SEO/BirdLife monitoring programme, available in Spanish and English.

There are several sections with the top stories, number of species, specimens and available locations, general information on bird migration and the programme -description, techniques and methods, video-, list of birds in Spain and the species available on the website, collaborators, etc.

One of the most attractive aspects is the inclusion of a single web page with information on all of the species, with the possibility of presenting their collective movements, which up to now, has not been available in such a visual way and with so many possibilities. Information on available specimens from previous years can be consulted along with daily updates on tagged birds currently in migration. You can access the available information about specimens on the website from the homepage in the route selector, from the species list or from each news item, and visualise their movements, with various possibilities, comparison between year and species, graphics showing distance from breeding zones, etc.

Display examples on the website www.migraciondeaves.org.

Each species has a record of general information, number of specimens tagged, year of marking, provinces, etc. Finally, each tagged specimen is summarised in order to learn, for example, whether it is male, female, youngster, adult, or in which country it can be found during winter. This web page will be updated with new versions, amplifying its possibilities: superimposition of winds, inclusion of documents relative to the migration of each species, etc.

More information at:
www.migraciondeaves.org

censos

THE ROOK IN SPAIN
BREEDING POPULATION IN 2011

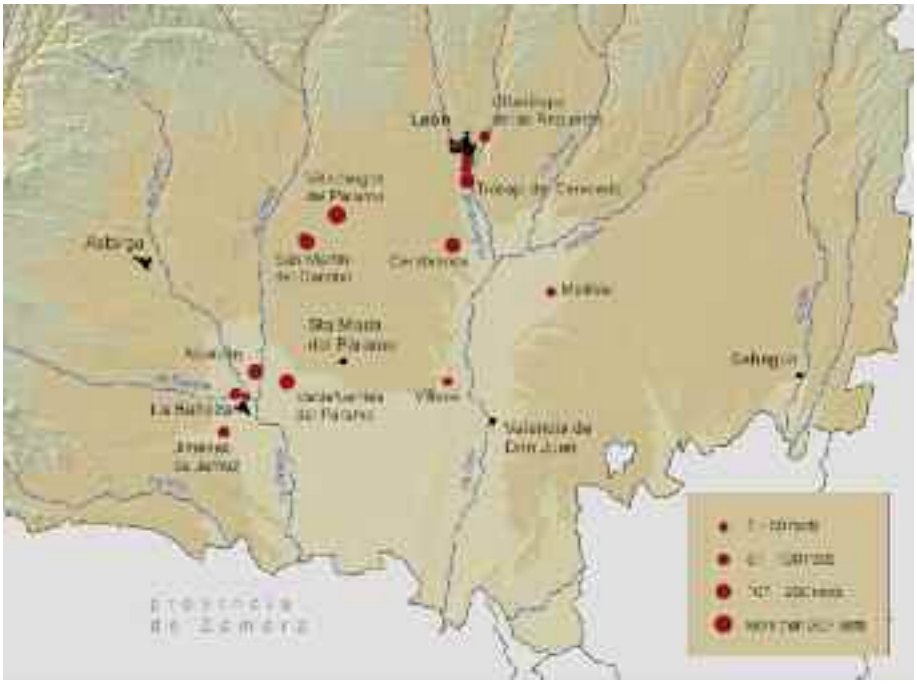
Javier García Fernández

- Census of all historical breeding places and potential points around.

The Rook breeding population was discovered in Spain in the 1950s; the first censuses were carried out in the1970s and we have known its annual trend since the beginning of the 1990s. Some 1,399 nests in 16 colonies were counted in the 2011 census.

The population is concentrated in a region in the south east of León province. Historically the Rook has occupied districts such as Ribera del Órbigo, the Páramo Leonés, the Vega del Esla, El Payuelo, Tierras de León and Tierra de Campos although currently it is principally concentrated in a few localities in Páramo Leonés and around the towns of La Bañeza and León.

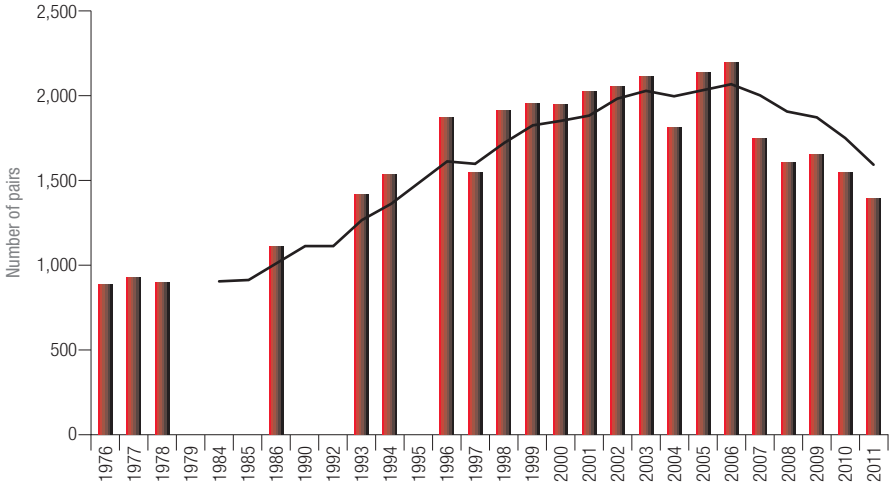
The trend in population sizes has been positive since estimates and censuses of the Spanish population got underway. There were estimated to be almost 900 pairs in 1978 and this population grew to around 2,200 nests in 2006. However, since 2006



The Rook's distribution in León in 2011.

a sharp decline has been detected, down to the current figure.

The census methodology is based on detecting the colonies at the start of the breeding cycle and counting the number of nests. Despite the conspicuousness of the breeding colonies and the fact that they often nest close to urban centres, some of them, especially smaller-sized birds, can easily go unchecked. There can be certain problems counting nests in large-sized colonies due to difficulties of access, meaning the count is undertaken from a great distance, or when there are multiple nests and various pairs share the same perch.



Trend of the Rook breeding population in Spain.

© Javier Fernández García

Rooks are commonly found on grasslands in farmland habitats.

THE TREND IN POPULATION SIZES HAS BEEN POSITIVE SINCE ESTIMATES AND CENSUSES OF THE SPANISH POPULATION STARTED. THERE WERE ESTIMATED TO BE ALMOST 900 PAIRS IN 1978 AND THIS POPULATION GREW TO AROUND 2,200 NESTS IN 2006. HOWEVER, SINCE 2006 A SHARP DECLINE HAS BEEN DETECTED, DOWN TO THE CURRENT FIGURE.

The proximity of the colonies to towns and cities bring about conflicts with the locals. Many local inhabitants believe the Rook causes serious damage to crops and are bothered by the noise produced by the colonies. There have been reports of felling trees which house breeding colonies in the middle of the breeding season, as well as the death of specimens by gunfire and poisoning.

Given the Rook's present situation, a population of less than 10,000 specimens concentrated in four localities, it should be considered as "vulnerable" according to the IUCN's D2 criterion.

The Rook's distribution in Spain in 2011.

censos

HERONS IN SPAIN
BREEDING AND WINTER POPULATION IN 2010-2011

José Rafael Garrido[1], Blas Molina[2] and Juan Carlos del Moral[2]
[1] EGMASA, Junta de Andalucía
[2] SEO/BirdLife

- **Spring: Census in the breeding colonies.**
- **Winter: Census in roosts in some species and general census in wetlands for the others.**

In the spring of 2011 SEO/BirdLife carried out a national census of colonial Herons (Black-crowned Night Heron, Squacco Heron, Cattle Egret, Little Egret, Great Egret and Grey Heron), and an approximation of the Eurasian Bittern's breeding population.

In the winters of 2010 and 2011 a census was undertaken on all Ardeidae (colonial and non-colonial, including the Little Bittern), as well as the Spoonbill and the Glossy Ibis.

The aim of both censuses was to learn the numerical contingent and the distribution of both of these groups, largely concentrated in winter roosts and colonies or breeding nuclei.

This is not the first census of wintering Ardeidae initiated in Iberia, the pioneering initiative of Manuel Fernández Cruz in Spain and J. C. Farinha in Portugal established the first figures on Heron winter populations in the Peninsula.

Neither is it the first attempt to quantify by direct and coordinated census the colonial Heron population during the breeding season in Spain, although there are specific censuses on some of them, like the Grey Heron, or general estimates of the group as a whole.

WINTER DISTRIBUTION AND POPULATION SIZE (2010-2011)

The specific wintering Ardeidae census in January 2011 surveyed 943 wetland areas or areas likely to house roosts, in all provinces and autonomous cities. These data were completed with the results obtained from the census of wintering waterfowl in January 2010, given that there are species that are not concentrated in a clear manner in roosts: Common Spoonbill, Glossy Ibis, Grey Heron and Great Egret. This census surveyed 2,333 wetland areas in all regions, except the Canary Islands, also determining the wintering location of the rest of the species not traced in the roost census.

The specific roost census detected around 217,000 Herons and related species, concentrated in 873 roosts, while the wintering water bird census detected around 65,000 birds. The total population can be estimated at around 232,510 specimens belonging to 12 distinct species.

Seventy-one percent of the population is concentrated in the south-western quadrant of the Iberian Peninsula (almost half of the total in Andalusia). Extremadura is the second region in terms of importance with regard to the Heron. Another 22% are clustered in the wetlands along the Spanish

Mediterranean coast and the Ebro river valley, especially in Catalonia and the Region of Valencia. These results demonstrate the remarkable colonisation of new wintering areas when compared with censuses of the early 1990s, expanding into the large river basins, especially the Ebro and Duero rivers and the Mediterranean and Cantabrian coastlines on the Peninsula, as well as the Balearic and Canary Islands.

The Cattle Egret was the most abundant species, accounting for 80% of detected specimens. The most widely distributed species were the Little Egret and the Cattle Egret, with over three hundred roosts each, although they are often seen together. It is worth pointing out the high number of Great Egret roosts detected, over one hundred, considering that 20 years ago this species was scarce in winter in the Iberian Peninsula.

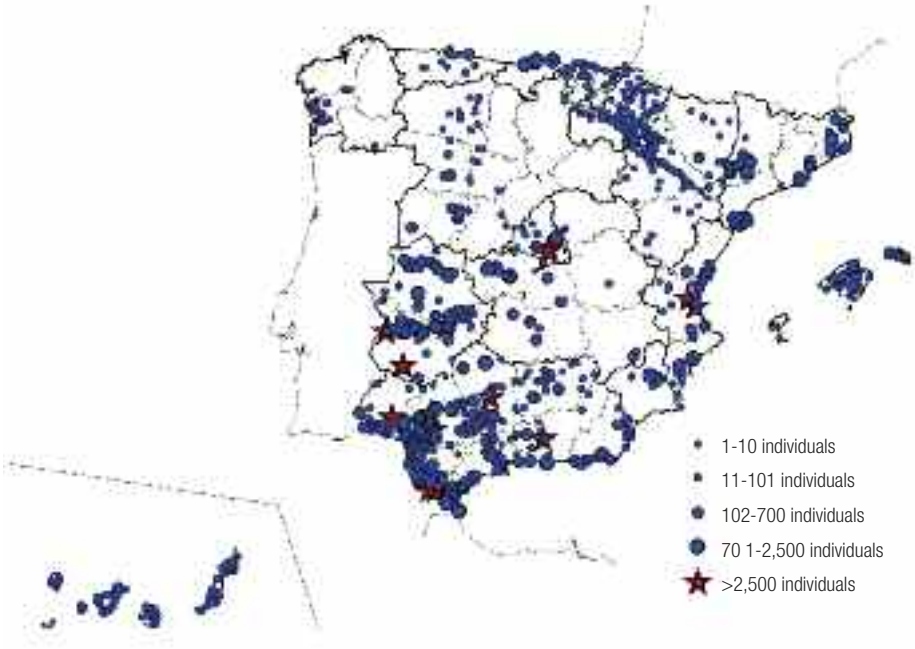
DISTRIBUTION AND SIZE OF THE BREEDING POPULATION (2011)

During the 2011 breeding Heron census, between 65,076 and 69,300 pairs were located in 463 breeding nuclei in 963 wetlands and known breeding sites or potential sites. Due to the high number of Eurasian Bittern territories identified, its data is also included. Eighty-five percent of the sites (393) housed breeding colonies, while only 72 pairs of different species bred in isolation, distanced from the rest.

During the breeding season Herons were spread all over Spain except for Asturias, Ceuta, Melilla, Soria and A Coruña. Over half the Heron population was concentrated in Spain's south-western quadrant with over two-thirds of the population, a quarter of the colonies (situated in Andalusia, largely in wetlands along the Atlantic coast) and 15% of the population in the Tagus and Guadiana river basins in Extremadura. Another 27% of the breeding population was concentrated along the Mediterranean coast, especially in Catalonia and the Region of Valencia. Castile-La Mancha also gains importance, especially the Tagus and Guadiana reservoirs and the Tablas de Daimiel, with 12% of the population.

Species	Type of census	Total	No. of roosts	Total estimate	%
Botaurus stellaris	A	20	9	35	0.0
	B	26			
Ixobrichus minutus	A	37	17	53	0.0
	B	16			
Nycticorax nycticorax	A	2,727	58	2,828	1.2
	B	1,382			
Ardeola ralloides	A	31	11	31	0.0
	B	20			
Bubulcus ibis	A	185,138	311	185,138	79.6
	B	25,843			
Egretta garzetta	A	17,545	336	17,545	7.5
	B	13,597			
Egretta alba	A	902	104	1,459	0.6
	B	970			
Egretta gularis	A	2	1	2	0.0
	B	0			
Ardea cinerea	A	8,604	587	17,364	7.5
	B	15,520			
Ardea purpurea	A	3	3	3	0.0
	B	0			
Plegadis falcinellus	A	1,690	5	6,385	2.7
	B	6,381			
Platalea leucorodia	A	676	9	1,674	0.7
	B	1,674			
Total	**A**	**217,368**		**232,517**	
	B	**65,439**			

General results by species in Heron, Glossy Ibis and Spoonbill censuses in 2010-2011.
A.- Heron census in roosts in the winter of 2010-2011, B.- Wintering water bird census in January 2010.



Number of Ardeidae, Glossy Ibis and Spoonbill by roost obtained in the wintering Heron census in the 2010-2011 season.

© Quique Marcelo

Squacco Heron.

Despite the wide distribution of the Heron breeding population, they tend to concentrate in a few enclaves, both around the great inland wetlands and along the coast. The largest colonies are found in Spain's great coastal wetlands, Doñana, the Ebro Delta and the Albufera of Valencia, accounting for over two-thirds of the Heron breeding population. Doñana had the highest population of Spanish breeding Herons, with 17% of the breeding population, concentrating over 50% of some species like the Eurasian Bittern or the Purple Heron.

TREND

From the first estimations and censuses of the different species of Heron in Spain up to the present, both wintering and breeding populations have, in the main, greatly recovered. The Eurasian Bittern was down to 20-30 territories by 1980 after a decline in the species during the second half of the twentieth century, remaining relatively stable on a national scale until 2003. From then on, there was a gradual recovery and recolonisation of previously abandoned territories in other regions.

The first estimates on the Black-crowned Night Heron during the breeding season established 1,313 pairs in 1986, while in 2011 the figure obtained was 5,354, implying an increase of 300% over these years. However, this population growth has not been coupled with a significant increase in its area of distribution. The Night Heron winter population has nearly doubled with respect to the census undertaken almost two decades ago in the Iberian Peninsula.

SOME 71% OF THE POPULATION IS CONCENTRATED IN THE SOUTH-WESTERN QUADRANT OF THE PENINSULA (WITH ALMOST HALF OF THE TOTAL IN ANDALUSIA).

In 1980 the Squacco Heron population was estimated to be 200 pairs and in 2011 just over 2,000 were detected, implying a 900% increase. Nevertheless, the bulk of specimens remain concentrated in three areas: the Ebro Delta, Albufera of Valencia and the Guadalquivir River marshes. The winter population also appears to have grown over the last 20 years, although rarely exceeding 100 individuals.

The Cattle Egret underwent huge geographical and demographical expansion from the start of the twentieth century up to the end of the 1980s, when there were estimated to be 70,000 pairs; but, from then on, there has been a considerable decline, with 40,000 pairs identified in this latest census.

The Great Egret appeared as a breeding bird in 1997 in the Ebro Delta and in Doñana in 1998. Since then, the breeding population has grown in number of pairs and breeding areas, reaching the current 53 pairs. The winter population has also increased at the same rate.

Little Egret breeding populations experienced significant numerical and geographical growth in the last decades of the twentieth century, since then, however, numbers have fallen to just over 1,000 pairs. According to data from wintering water bird censuses in Spain over the last 20 years, winter populations showed a clearly positive trend up to 2007, but have since declined sharply.

The Grey Heron population has also grown and significantly expanded its territory. Information on this species dates back to 1950 when around 168 pairs were estimated in four breeding areas. In the

Autonomous Region	No. of specimens	%	No. of roosts /overwintering sites
Andalucía	113,029	48.6	224
Extremadura	32,894	14.1	54
Cataluña	21,856	9.4	52
Comunidad Valenciana	21,579	9.3	38
Madrid	12,685	5.5	12
Castilla-La Mancha	6,379	2.7	21
Cantabria	4,406	1.9	7
Islas Baleares	4,250	1.8	21
Región de Murcia	4,037	1.7	6
Aragón	2,097	0.9	77
Castila y León	1,982	0.9	49
Navarra	1,863	0.8	113
Islas Canarias	1,502	0.6	134
Galicia	1,400	0.6	13
Ceuta	1,105	0.5	1
Asturias	814	0.4	14
País Vasco	536	0.2	37
La Rioja	96	0.0	*
Total	**232,510**		**873**

Number of specimens censused and roosts or wintering sites verified for some Heron or related species censused in each autonomous region in January 2010 and January 2011.
* No information.

Number of Ardeidae pairs by site in 2011 breeding season.

Species	Minimum No. of pairs	Maximum No. of pairs	%	No. of breeding enclaves	No. of colonies	No. of isolated pairs
Bubulcus ibis	38,137	40,057	57.8	101	99	2
Egretta garzetta	8,942	9,347	13.5	102	93	9
Ardea cinerea	6,487	6,994	10.1	285	241	44
Ardea purpurea	4,406	5,379	7.8	162	124	38
Nycticorax nycticorax	4,964	5,354	7.7	110	90	21
Ardeola ralloides	2,050	2,076	3.0	46	33	13
Egretta alba	51	53	0.1	13	8	5
Botaurus stellaris	39	40	0.1	13	8	5
Total	**65,076**	**69,300**	**100**	**832**	**696**	**137**

Number of pairs of each species located in the breeding Heron census and number of breeding enclaves. The number of colonies and isolated pairs are indicated by species (although breeding in colonies with other species) located in the 2011 breeding Heron census.

Autonomous region	Minimum No. of pairs	Maximum No. of pairs	%	No. of sites	%
Andalucía	23,091	24,953	36.0	113	24.4
Cataluña	10,367	10,422	15.0	25	5.4
Extremadura	9,914	10,277	14.8	84	18.1
Castilla-La Mancha	7,960	8,518	12.3	39	8.4
Comunidad Valenciana	7,700	7,701	11.1	13	2.8
Castilla y León	1,307	1,377	2.0	85	18.4
Murcia	1,053	1,807	2.6	7	1.5
Madrid	780	1000	1.4	15	3.2
Cantabria	621	709	1.0	6	1.3
La Rioja	506	580	0.8	6	1.3
Navarra	503	503	0.7	12	2.6
Islas Baleares	390	390	0.6	2	0.4
País Vasco	326	384	0.6	19	4.1
Aragón	332	360	0.5	23	5.0
Canarias	213	306	0.4	11	2.4
Galicia	13	13	0.0	3	0.6
Total	**65,076**	**69,300**	**100**	**463**	**100**

Number of pairs and enclaves with verified breeding corresponding to censused Ardeidae species in each autonomous region in spring 2011.

first decade of the new millennium this figure stood at 4,790 pairs in 75 colonies. The most recent census puts this figure at over 7,000 pairs. The winter population has also grown markedly, increasing by approximately 49% over the last 20 years.

Likewise, the Purple Heron has significantly increased its population and territory. Over the first half of the last century, a decline in breeding specimens was seen up to 1960; but since then a notable recuperation established 2,000 pairs between 1997 and 2003. The results here confirm a notable increase in the last decade, with over 5,000 pairs. Its winter population continues to be minimal.

In addition, the Glossy Ibis wintering population trend, in parallel with that of the breeding population, has been very positive in the last twenty years, with close to 38.5% annual growth. Along the same lines, censused Spoonbill winter populations have shown an increase over the last twenty years, parallel to the growth in local breeding and in wintering European populations.

More information at:
www.seguimientodeaves.org

acuáticas

CENSUS OF AQUATIC BIRDS IN WINTER

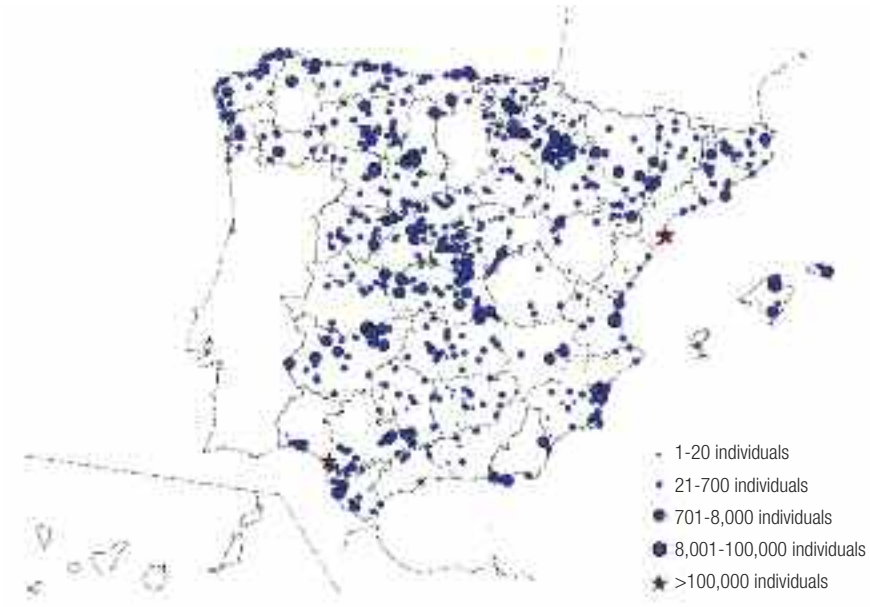
Blas Molina
SEO/BirdLife

- Census in all wetlands during the day
- Census at dawn or dusk in wetlands with large extensions of aquatic vegetation: inputs or outputs from his feeding areas.

Thanks to the work carried out by SEO/BirdLife since the 1950s in implementing censuses of wintering water birds in Spain, in collaboration with other countries undertaking the same task, there is a well-consolidated monitoring programme on wintering water birds on a national scale at our disposal.

Although for years the coordination of these censuses no longer depends on SEO/BirdLife and the fact that some regions carry them out with inadequate resources, or have even stopped them altogether, there is still plenty of information available to understand this group of birds' trends.

This bulletin includes the results of all monitoring programmes directly developed by SEO/BirdLife and those in which it has been involved in one way or another. In this case, SEO/BirdLife performs the national compilation for the Ministry of Agriculture, Food and Environment. As in past seasons, the wintering water bird data included here refer to the previous season:



Number of Anatidae and Coots obtained in the census of aquatic birds in winter in January 2010. The census did not take place in the Canary Islands.

Species	Long-term trend (1991-2010)	Short-term trend (2000-2010)
Anser fabalis	-20.6 (-30.6; -10.6) ** ↓↓	?
Aythya fuligula	-8.4 (-9.1; -7.7) ** ↓↓	-5.7 (-7.2; -4.3) ** ↓
Aythya ferina	-5.7 (-6.3; -5) ** ↓	-4.9 (-6.1; -3.6) ** ↓
Anas penelope	-4 (-4.4; -3.7) ** ↓	-0.5 (-1.6; 0.6) ↔
Netta rufina	-0.2 (-1; 0.7) ↔	-0.7 (-2; 0.7) ↔
Fulica atra	0.9 (0.5; 1.4) ** ↑	2.2 (1.4; 3) ** ↑
Tachybaptus ruficollis	1.2 (0.7; 1.6) ** ↑	-1.2 (-2.1; -0.4) ** ↓
Anser anser	1.5 (1.2; 1.9) ** ↑	-0.3 (-0.9; 0.3) ↔
Anas platyrhynchos	1.6 (1.3; 1.9) ** ↑	0.8 (0.2; 1.4) * ↑
Anas crecca	1.8 (1.4; 2.3) ** ↑	2.7 (1.9; 3.5) ** ↑
Anas clypeata	1.8 (1.4; 2.2) ** ↑	1.6 (0.9; 2.3) ** ↑
Podiceps cristatus	2.9 (2.4; 3.4) ** ↑	1.9 (0.9; 2.9) ** ↑
Anas strepera	3.1 (2.6; 3.6) ** ↑	2.4 (1.3; 3.4) ** ↑
Podiceps nigricollis	3.2 (2.4; 4.1) ** ↑	-7.1 (-8.5; -5.7) ** ↓↓
Anas acuta	3.6 (2.9; 4.2) ** ↑	2 (1; 3) ** ↑
Oxyura leucocephala	6.7 (4.8; 8.6) ** ↑	-8.3 (-11.2; -5.4)* ↓↓
Tadorna tadorna	5.4 (4.6; 6.1) ** ↑	14.2 (12.3; 16.2) ** ↑↑

Other aquatic birds	Long-term trend 1991-2010	Short-term trend (2000-2010)
Porphyrio porphyrio	17.6 (14.1; 21.1) ** ↑↑	-17.9 (-20; -15.9) ** ↓↓
Egretta alba	36.5 (28.7; 44.2) ** ↑↑	22.2 (18.1; 26.3) ↑↑
Platalea leucorodia	11.3 (10.1; 12.6) ** ↑↑	2.2 (0.7; 3.7) ** ↑
Phoenicopterus roseus	6.6 (6; 7.2) ** ↑↑	3.1 (2.1; 4.2) ** ↑
Egretta garzeta	6 (5.6; 6.4) ** ↑↑	3.9 (3.1; 4.7) ** ↑
Ardea cinerea	3.2 (2.9; 3.5) ** ↑	1.4 (0.8; 2) ** ↑
Limosa limosa	4.2 (3.6; 4.8) ** ↑	-2.1 (-2.9; -1.3) ** ↓
Actitis hypoleucos	3.6 (2.9; 4.3) ** ↑	-3.4 (-4.8; -2.1) ** ↓
Tringa ochropus	11.6 (10.6; 12.6) ** ↑↑	7 (5.7; 8.3) ** ↑↑
Tringa nebularia	11.6 (10.5; 12.7) ** ↑↑	10.2 (8.3; 12.1) ** ↑↑
Tringa totanus	5.1 (4.5; 5.7) ** ↑	-1 (-1.9; -0.1) ** ↓
Tringa erythropus	1.1 (-0.4; 2.6) ↑	6.4 (3.6; 9.2) ** ↑
Recurvirostra avocetta	2 (1.3; 2.7) ** ↑	-4.5 (-5.9; -3.2) ** ↓
Charadrius hiaticula	12 (11; 13.1)** ↑↑	9.5 (8; 11) ↑↑
Charadrius alexandrinus	5.9 (5.2; 6.6) * ↑↑	-0.1 (-1.4; 1.1) ↔
Himantopus himantopus	13.4 (12; 14.7) ** ↑↑	-4.9 (-6.1; -3.7) ** ↓
Calidris alpina	6.5 (5.9; 7) ** ↑↑	1 (0.2; 1.7) * ↑
Calidris minuta	8.5 (7.3; 9.7) ** ↑↑	-2.2 (-3.9; -0.6) ** ↓
Calidris alba	8.8 (7.3; 10.3) ** ↑↑	2 (0.1; 3.9) * ↑
Haematopus ostralegus	2.6 (2; 3.2) ** ↑	1.9 (0.6; 3.2) ** ↑
Arenaria interpres	4.6 (3.5; 5.8) ** ↑	1.8 (-0.4; 4.1) ↔
Numenius arquata	0.8 (0.3; 1.4) ** ↑	0.4 (-0.6; 1.4) ↔

Long-term and short-term trends for wintering water birds. Green indicates a statistically significant positive trend, red a statistically significant negative trend and blue stability. * p<0,05; ** p<0,01.

January 2010, although the rest of the information in this publication is from 2011.

The wetlands were well flooded in 2010 and the number of wintering water birds counted (around 1,900,000) was slightly above the best seasons and above average for the period 1991-2010 (1,685,000 aquatic birds). The number of Anatidae and Coots was also slightly over the average (800,000 birds compared to the 750,000 specimens for the period 1991-2010). Sixty percent of aquatic birds are clustered in 18 wetlands and just three of these (Guadalquivir river marshes, Ebro Delta and Albufera of Valencia) sheltered around 40% of aquatic birds in winter in Spain. Inland, Extremaduran wetlands feature once again, like the Sierra Brava reservoir and the Vegas Altas irrigation channels, which combined exceeded 77,000 individuals.

© Agustín Carretero

Tablas de Daimiel.

The results obtained per hydrographical demarcation, broadly speaking, coincide with the great basins of the main rivers (Gualaquivir and Ebro), surpassing 400,000 aquatic birds in the most important wetlands in these areas.

The Mallard was the most abundant species (some 225,000 birds). In general, the different Anatidae and Coot species showed similar trends as in previous seasons. The Tufted Duck and Common Pochard registered a long-term negative trend and the Eurasian Wigeon a short-term decline. Conversely, the Common Shelduck has a long-term positive trend, strikingly so in the last 10 years of censuses. Negative short-term values for the Black-necked Grebe and White-headed Duck, but the Purple Swamphen stands out most. Although this species has increased on east-coast wetlands, it has suffered a sharp decline in the number of specimens in its heartlands: the Guadalquivir marshlands.

The trends of other aquatic birds are disparate: the data reflect growth in Heron populations, while some species of shore bird show short-term negative values.

More information at:
www.seguimientodeaves.org

atlas en invierno

DISTRIBUTION OF BIRDS IN WINTER

David Palomino, Ana Bermejo, Blas Molina and Juan Carlos del Moral
SEO/BirdLife

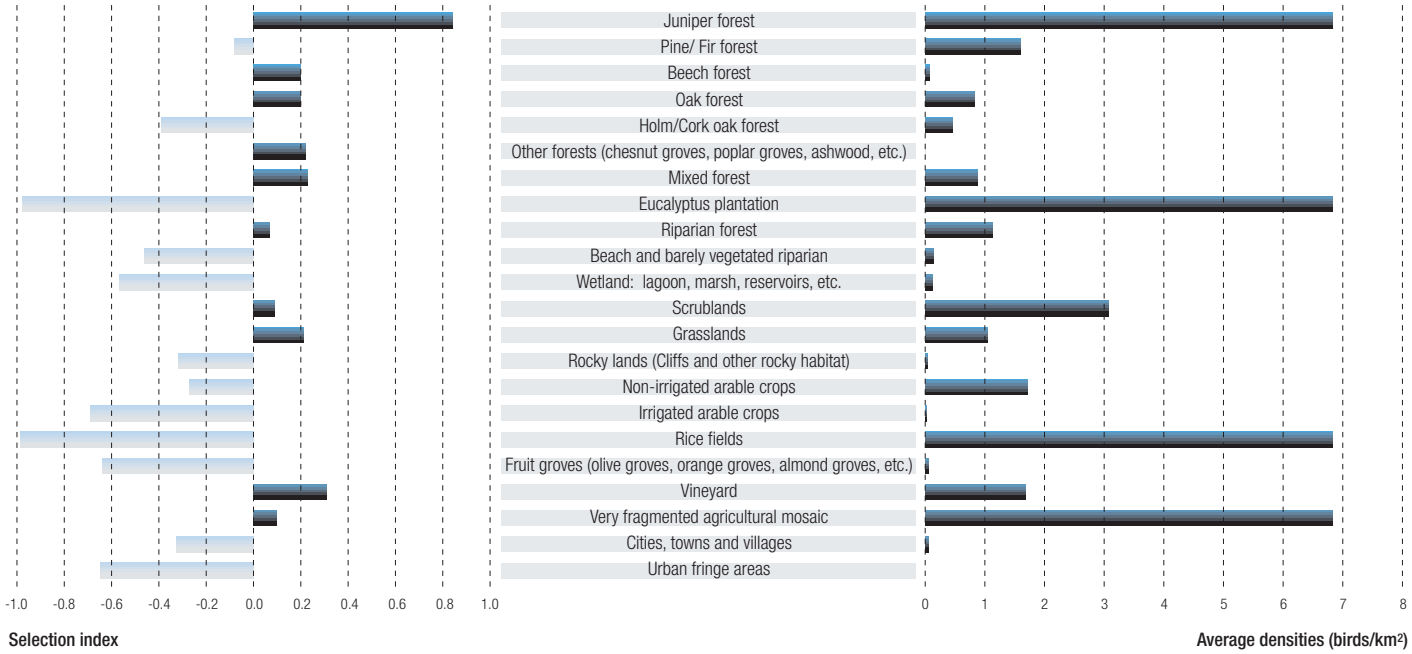
- Census unit: 10x10 km UTM grid.
- Transects of 15 minutes in same habitat.
- 60 transects per UTM grid, during three winter (20 per winter).
- Compilation also of all birds seen and heard out of standardized transects.
- Nocturnal birds: 5 points count per winter of 10 minutes separate at least 1 km.
- Seabirds: Census from coastal points during two hours per month.

Throughout 2011, the analyses and editorial work was completed on the first edition of the Atlas of Wintering Birds in Spain, to be published in 2012.

It will contain all of the basic information available on distribution patterns and the abundance of all the species present in Spain between 15 November and 15 February, or wintering, to use the term in a very general sense, as the phenological status of many species require more precise adjectives (during this period many species are migrating or even in middle of their breeding season).

To briefly explain the enormous effort invested, a few numbers should suffice. Since its official launch at the end of 2006, the project has entailed over five years work, including three consecutive winters of field sampling, involving more than 1,000 participants. Just taking into account standardised land sampling, constituting the central axis of this project, 120,300 15-minute itineraries on foot recording the presence of

Eurasian Bullfinch.



Example of figures for habitat selection and average density index of the Fieldfare.

birds, equivalent to walking 72,000 km (1.8 laps of the Equator) or the over 30,000 hours of fieldwork (three and a half years of uninterrupted sampling). This has resulted in a database containing more than 840,000 recorded birds, each accompanied by habitat information, date and location spotted. If we also consider the participation in other monitoring programmes, whose data have been incorporated into the atlas in one way or another (those based on nocturnal, aquatic or marine birds), the number of collaborators rises to almost 2,700 and the amount of effort involved (difficult to quantify) multiplies spectacularly.

After such a deployment, the list of detected taxa reaches 407 species. Of these, 314 species (77.1%) can be classified as "habitual", widely distributed across the whole country, or more locally concentrated, but quite common within their characteristic geographical areas. Another 35 species (8.6%) are far more sporadically present in Spain, constituting what is commonly known in ornithological jargon as "rarities", and their random sightings are often endorsed by specialist committees. Finally, the remaining 58 species (14.3%) make up the "exotic" group, which either did not arrive in Spain naturally or emigrated from other surrounding countries where they were introduced by man.

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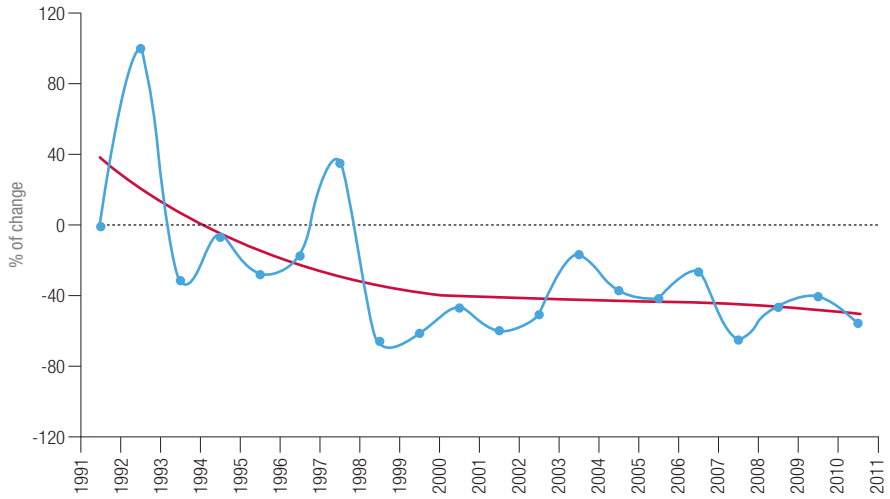
Short-toed Tree-Creeper.



Example figure of wintering water bird trends for the Eurasian Wigeon.

All of the species in the book are presented in detail and written by expert ornithologists, based on the atlas' results and on the descriptions of almost 2,400 compiled bibliographical references. With regard to the quantity and quality of the information available, it includes maps, descriptive figures and tables on birds' winter ecology in Spain, describing their distribution, habitat preferences, population trends, etc.

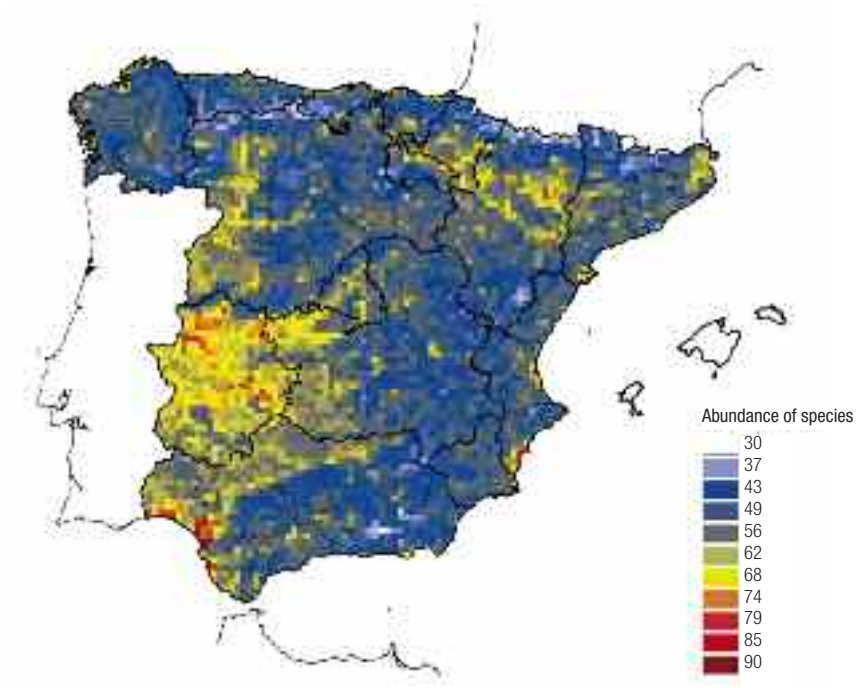
THE RESULTS SHOW THE REGIONS WITH THE GREATEST WINTER ABUNDANCE CAN BE FOUND IN SOUTH-WESTERN SPAIN, IN NORTHERNMOST AREAS OF CENTRAL AND WESTERN SPAIN AND A GOOD PART OF THE EBRO VALLEY.

As well as the sections dedicated to the 407 species considered, the atlas devotes four extensive chapters that examine very important aspects to help understand the phenomenon of wintering birds in Spain. The first of these (written by National Meteorology Agency personnel) describe the climatic characteristics of the three winters considered in the current atlas, each of them quite different. Thus, in the 2007-2008 winter, high or very high (extremely high in some points) temperatures dominated; 2008-2009 was characterised by normal or cold (in some zones very cold) temperatures; and 2009-2010 saw a combination of hot or very hot temperatures in the southern third of the country and normal, cold or very cold in the centre and north. On the other hand, precipitation also varied notably between the three years, summarising each as dry or very dry (2007-2008), normal (2008-2009) and very wet or extremely wet (2009-2010).

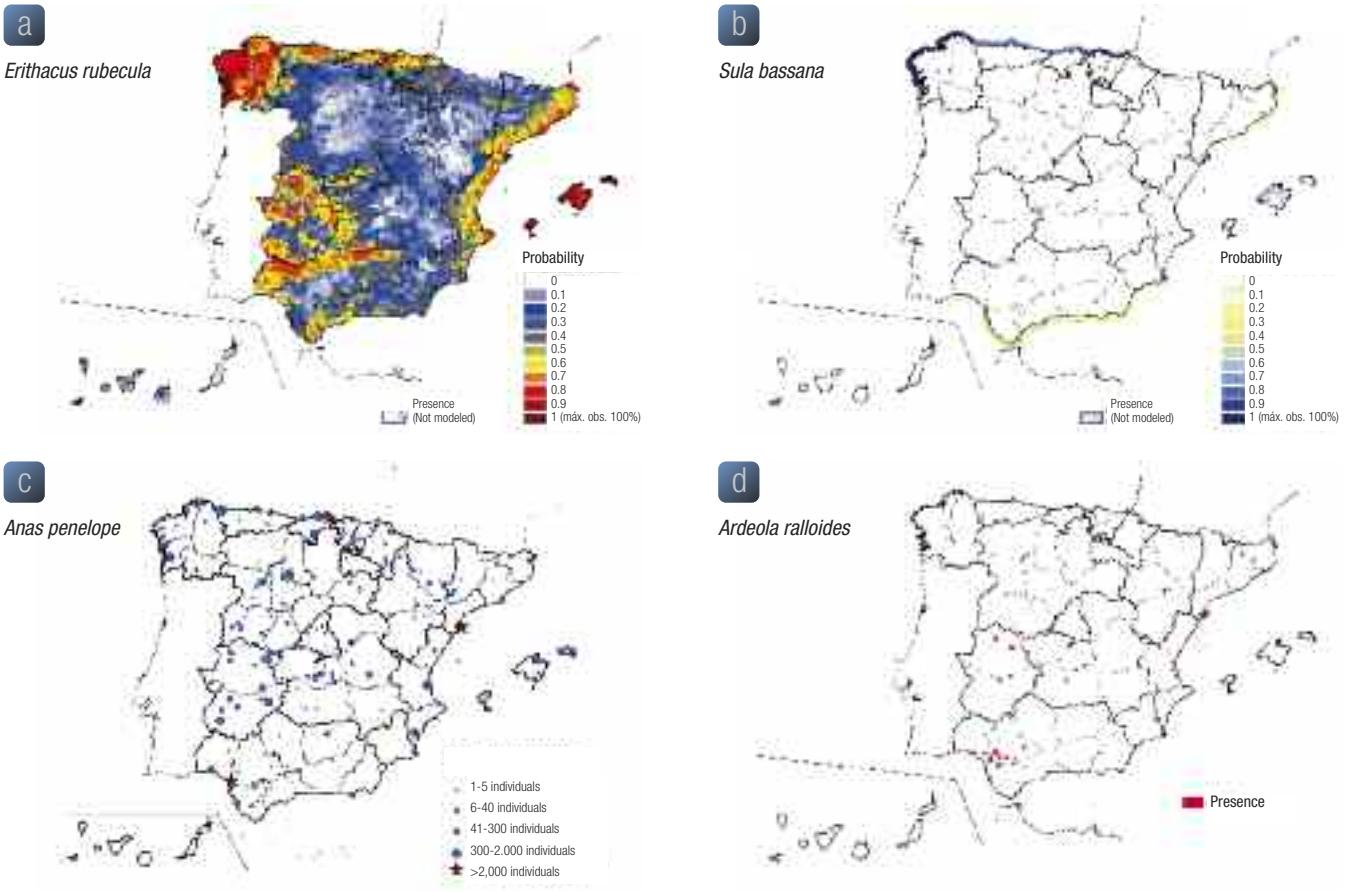
The following two chapters (both written by Spanish National Research Council—CISC by its initials in Spanish— researchers and SEO/BirdLife) focus on the geographical analysis of the abundance of wintering species in the Iberian Peninsula, identifying: a) in which regions the most diverse communities are located; b) which environmental factors have the most influence; c) what differences exist with regard to the richness of distribution in the spring period; and d) which prominent wintering areas are covered best or worst by the current network of protected areas.

The results indicate that the regions with the greatest winter diversity can be found in south-western Spain (Extremadura, Huelva and adjacent districts in neighbouring provinces), in the northernmost areas of the central and western provinces (León, Zamora and Salamanca) and in a large part of the Ebro Delta. A large number of species also congregate, on a more local basis, in the major coastal wetlands. Conversely, the great mountain ranges with altitudes above 2,000 metres have the least diversity of species.

The types of habitat are the main environmental factors with the greatest influence over these geographical patterns of abundance of species in winter. Overall, the number of species rises with greater variegated landscape cover such as wetlands, Holm Oak forests (dense or



Abundance of species in winter in the Peninsula.



Four examples of the types of map presented in the atlas: distribution of relative abundance modelled for common land species (a), shore species (b), distribution according to specific water bird censuses (c), and distribution of collected citations for very scarce species in winter (d).

scattered over farmland—dehesas), and herbaceous environments (both natural and agricultural). Contrary to this, the diversity of species declines with greater coniferous and deciduous forest cover, scrubland and arboreal crops. The abundance of species also sharply decreases the higher the altitude. In contrast, the effect of the climate variables themselves (except those linked to other environmental factors, like altitude) have little importance in influencing the distribution of winter bird diversity across the Peninsula.

Compared to the diversity in spring –when a large part of the Iberian Peninsula is adequate for numerous breeding species– during winter there are fewer regions able to give shelter to many wintering species and they are more intermittent. In addition, there is little seasonal consistency between areas with a greater or lesser number of species.

As regards the current network of protected areas for birds (IBAs—Important Bird Areas— and SPAs—Special Protected Areas for Birds), the atlas' results show that with these figures there is still not adequate coverage in areas of great relevance to wintering species, with large under-protected areas in the west of Castile and Leon or Sierra Morena, and some specific areas on the Mediterranean coast and the inland plateaus.

The fourth special chapter (drafted by staff of the Complutense University of Madrid), focusing on 80 migratory species leaving Europe in autumn en masse, but by compiling the known observations of peninsular wintering, concludes that this phenomenon is not as anecdotal as it might seem, given that about 50 trans-Saharan species are observed every year in mid-winter (predominantly non-passerines).

In short, this atlas provides an enormous quantity of information that has hardly been studied up to now and that, without doubt, will allow better knowledge-based work to get underway in improving the conservation of out birds.

120,300 15-MINUTE ITINERARIES ON FOOT RECORDING THE PRESENCE OF BIRDS, EQUIVALENT TO WALKING 72,000 KM OR OVER 30,000 HOURS OF FIELDWORK

More information at:
www.seguimientodeaves.org

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First and foremost, SEO/BirdLife wishes to thank once again the hundreds of participants for all the work included in the present document. In the electronic version of this bulletin (**www.seo.org/seguimientodeaves**) they are all included. Thanks to them, this good work continues.

We appreciate the help given by the Spanish Ministry of the Environment's General Directorate for Environmental Quality and Evaluation, especially the technical management team that funds the coordination of some of the programmes, summarised here by the Ministry: Ricardo Gómez Calmaestra. We also thank all of the autonomous regions that back this work every year. We are equally grateful for the support from the National Meteorology Agency, that continues to provide phenological information through their network of collaborators for the Birds and Climate programme.

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