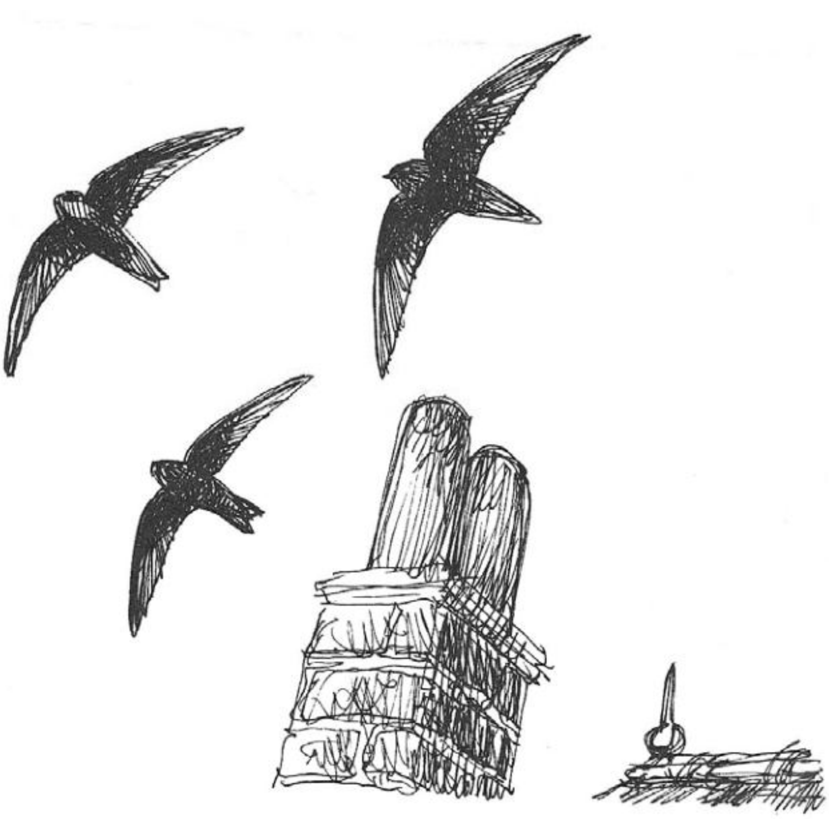
Bird Census News

Newsletter of the European Bird Census Council



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Bird Census News is the Newsletter of the European Bird Census Council or EBCC. The EBCC exists to promote the organisation and development of atlas, census work and population studies in all European countries; it promotes communication and arranges contacts between organisations and individuals interested in census and atlas work, primarily (but not exclusively) in Europe.

Bird Census News reports developments in census and atlas work in Europe, from the local to the continental scale, and provides a forum for discussion on methodological issues.

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Bird Census News

Volume 18 n°1, July 2005

Preface

The Pan-European Common Bird Monitoring (PECBM) scheme, a partnership of EBCC, RSPB, BirdLife International and Statistics Netherlands, is doing well! The farmland bird index, a composite population trend index, has been adopted by the EU as a Structural and Sustainable Development Indicator for measuring progress towards their and other European targets of halting biodiversity loss by 2010. In June this year, an updated set of wild bird indicators was released. At a workshop in Prague, Czech Republic in September, the further development of the project is on the agenda. In April, a special workshop on spatial modelling of large scale monitoring data was held in Solsona, Catalonia, organised by the Catalan Ornithological Institute and the Forest Technology Centre of Catalonia under the EBCC umbrella. The report is presented in this issue. Other topics are the Catalan breeding bird atlas, a summary of the new book on the conservation status of the continent's birds produced by BirdLife International, news from Andorra, a population status study of Mute Swan in Ukraine and the Books & Journals.

Due to some misunderstanding, the author's name of the article on the SACRE programme in Spain as indicated in BCN 17/1-2 was a wrong one: not Juan Carlos del Moral, but **Virginia Escandell** is the author. We apologize for this error.

Please note that I have a new email address: anny.anselin@ inbo.be and don't forget that the EBCC Bank account number (and Treasurer) has changed (see inside of cover). And..we are still short of original drawings for Bird Census News! Who can help us?
Enjoy this issue!

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Recent changes in the Mute Swan, *Cygnus olor* population status in Ukraine.

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Introduction

During the last decade great changes of the Mute Swan, *Cygnus olor* populations status in Ukraine have occurred. At the start of 90ths there were two isolated populations. Now it is hard to establish a boundary between them because of the considerable extension of the breeding areas of both. The number of Swans has grown significantly over the last years and the present population consist of over 55000 individuals. The breeding area occupies now most of the territory of Ukraine. A huge number of new nesting and wintering sites have been established. The recent status of the Mute Swans was surveyed by special questionaires sent to different professional and birdwatcher organizations throughout Ukraine, by census, and census data kindly provided by the Ukrainian Society of Hunters and Fishermen. In this article the results of the project are presented.

The former status of the Mute Swan in Ukraine

At the start of '90s there were two Mute Swan populations in Ukraine (Krivonosov, 1987). There was no interchange of individuals. The first population was located in Volynia region mainly on the Shatski lakes, and by 1991 it consisted approximately of 94-100 breeding pairs (Korzyukov et al., 1991; Serebryakov et al., 1991). The second population (more ancient in Ukraine) occupied mainly Black and Azov Sea coasts. Some nests were found at the Sivash Bay (in the western part of the Azov Sea).
Relatively few nests were found outside the area mentioned above. There were a few breeding sites on the Dnister (southern Khmelnytsk and Vinnytsya regions), the Southern Bug (Mykolayiv region) and the Siverski Donets (Kharkiv region) rivers, and several other breeding pairs scattered over the territory of Ukraine.
The wintering sites were located mainly along the Black and Azov Sea coasts and numbered up to 17,000 birds (Hagemeijer & Blair, 1997). In a few cases some individuals were recorded at the Shatski lakes and at several other sites.

Material and Methods

Mainly three types of data sources were used during the study. First of all we collected and analyzed materials provided by the Ukrainian Society of Hunters and Fishermen. The Society collects information on the status of a set of species of wildfowl and carries out a yearly census of those species throughout the territory of Ukraine. Besides this, we undertook a breeding bird count in several regions which were of particular interest (mainly western and north-western parts of Ukraine). Also we developed a net of professional and amateur birdwatchers to whom we sent special questionnaires which contained specific questions concerning the species studied (particularly, those related to numbers, nesting, wintering and migration).

To produce Figures 5-12 we used the program "Surfer". They visualize the data presented in Table 1 and reflect the relative Swan densities in Ukraine in time. The study territory is presented in Figure 1.

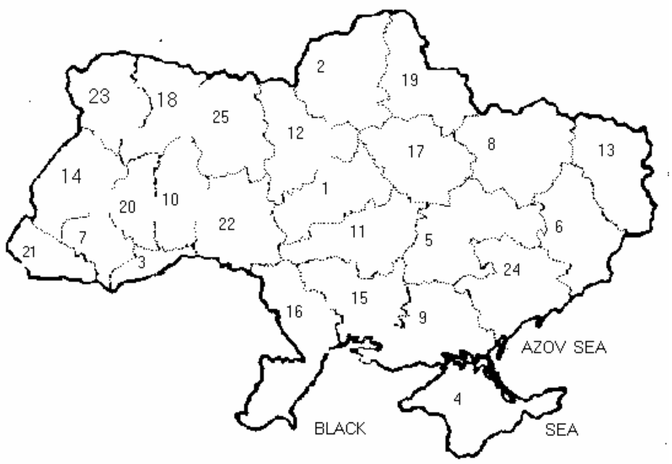

Fig. 1. The study area. 1. Cherkasy, 2. Chernihiv, 3. Chernivtsi, 4. Crimea, 5. Dnipropetrovsk, 6. Donetsk, 7. Ivano-Frankivsk, 8. Kharkiv, 9. Kherson, 10. Khmelnytsk, 11. Kirovohrad, 12. Kyiv, 13. Luhansk, 14. Lviv, 15. Mykolayiv, 16. Odesa, 17. Poltava, 18. Rivne, 19. Sumy, 20. Ternopil, 21. Transcarpathian, 22. Vinnytsya, 23. Volynia, 24. Zaporizhzhya, 25. Zhytomyr

Results

Extention of the distribution area

The recent increase of the Mute Swan breeding population in Ukraine follows the overall trend of the species elsewhere. The two existing populations, formerly isolated, have been expanding and form now one continuous breeding area which covers most of the Ukrainian territory.
During our study we discovered many new nesting sites. Many of them are situated in central, western and north-western Ukraine (Figure 2) where they were absent before.

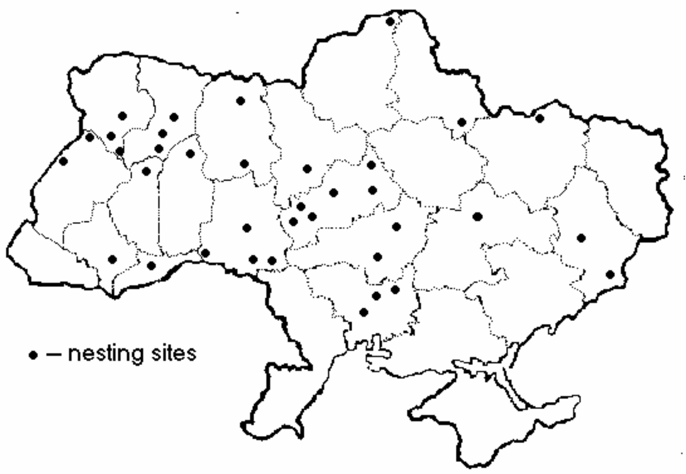

Fig. 2. The recent Mute Swan nesting sites discovered during the period 1996-1999.

As it can be seen from Figure 2 the Mute Swan has extended its breeding area (in relation to the start of '90s) considerably. Obviously, this process is still continuing. Figures 5-12 also partially demonstrate the process of Swans' advances to new locations (especially in central parts of the territory). As it was mentioned, the isolation between "Baltic" (NW-Ukrainian) and Azov-Black Sea populations (which was confirmed by ringing in '80s) obviously has disappeared. We are trying to identify which individuals origine from the "Baltic" population and which from the Azov-Black Sea one in order to understand the movement dynamics.

Birds of each of the populations have a specific behaviour and habitat selection pattern. They respond to human presence in different ways. Baltic birds , in contrast to their counterparts, do not avoid humans or very little, and are less agressive towards other species of wildfowl breeding nearby. These specific behaviour, together with ringing and other methods, could help identifying the origin of individual birds. Unfortunately we cannot provide enough reliable data yet, but are trying to increase the collection of information.

Wintering area

The main wintering areas at the beginning of the 90ties were several large sites at the Black and Azov Sea coast and at the Sivash Bay (North-East of Crimea, zie Figure 1). Outside these regions only a few irregular wintering sites were known, depending on the character of the winter.

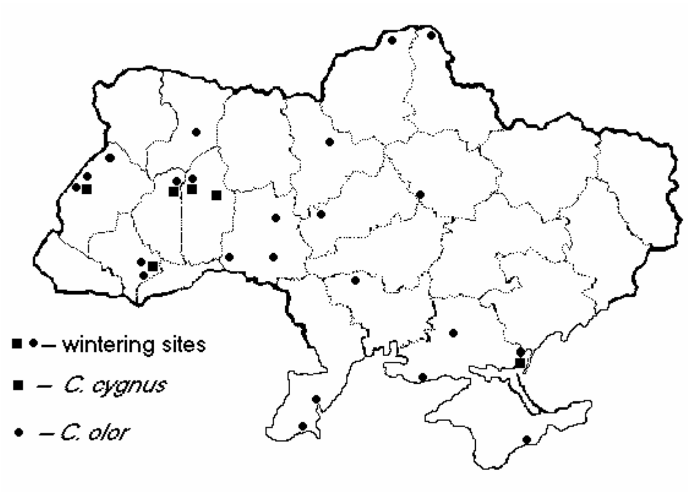

Fig. 3. The new Mute Swan and Whooper Swan wintering sites recorded for the period 1989-1999. Most of the records are from 1997.

We have discovered some new Mute Swan wintering sites (most of the records are from 1997), which will probably be more regularly occupied. Many of them have now been known for several consecutive years (Figure 3). Perhaps this was due to the recent warmer winters, but the number of wintering Swans is increasing form year to year. We have records of several other wintering sites, but this information is still unchecked and therefore not presented in this review. However, they probably reflect the increasing evidence that much of the population winters not far from their breeding sites. According to our observations most of the inland Swans winter in small family groups which often do not leave their breeding wetland sites untill these are entirely frozen. Even then, birds wander not far and settle to winter on the nearest waterbodies which are still ice-free. More numerous groups gather primarily at power plants settling pits with warm water where food is more abundant and easier to catch.

Some cases of wintering Whooper Swan (*Cygnus cygnus*) were also recorded at 1997 in Lviv, Ivano-Frankivsk, Ternopil, Khmelnytsk and Kherson regions (Figure 3). Ten years ago, Whooper Swan occurred in winter almost exclusively at the Azov Sea coast. There are a few observations (orally information) of Whooper Swan in Ukraine during the breeding season, especially in Chernihiv, Vinnytsya and Donetsk regions. However, breeding of the species has not been confirmed yet

Numbers

The numers of the breeding population of the Mute Swan in Ukraine have increased dramatically over the last decad. The total population can be estimated at 55000 individuals (Table 1). At the end ‘80s, the Azov-Black Sea population was estimated at 17000 individuals. The Baltic population only started to settle the North-West of Ukraine and numbered near 100 breeding pairs. As it can be seen fron Table 1, during the early ‘90s the total population number increased only slowly. At the end of the decade however, numbers started to increase rapidly and almost doubled (Figure 4, Table 1 and Figures 5-12).

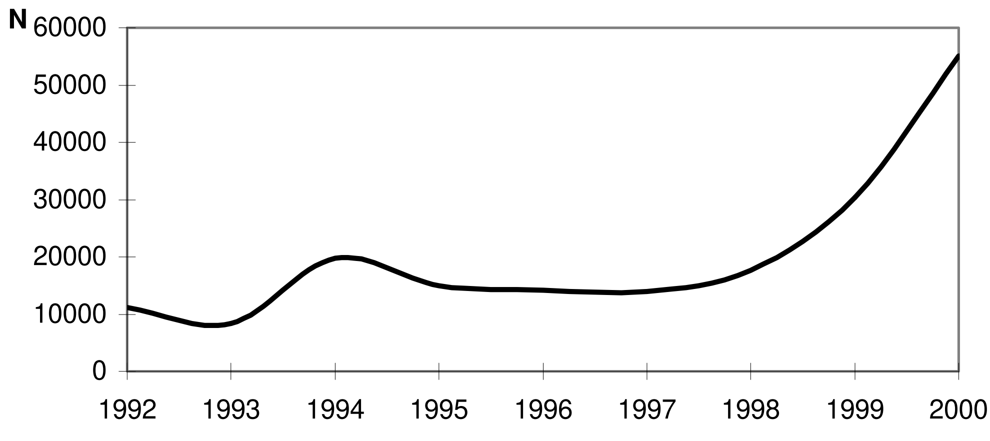

Fig. 4: Population trend of the Mute Swan 1992-2000. (N=number of individuals).

The reasons for this increase are probably mutiple and several explanations have been put forward. Effects of habitat change (a weakened agricultural and irrigation system) and cyclic global population dynamic changes have been suggested as probable factors, but the situation is still unclear.

Table 1. The Mute Swan population numbers in Ukraine accounted for the period of 1992-2000.

Year Region	1992	1993	1994	1995	1996	1997	1998	2000
Cherkasy	320	566	827	1120	974	932	1263	1565
Chernihiv	-	15	-	no data	100	42	70	46
Chernivtsi	16	-	-	no data	7	30	30	240
Crimea	3670	1000	8333	2087	3114	995	4119	33506
Dnipropetrovsk	97	65	40	no data	34	269	30	46
Donetsk	49	52	227	368	264	286	228	375
Ivano-Frankivsk	-	-	-	31	47	25	17	27
Kharkiv	3	2	52	185	234	101	167	238
Kherson	120	2010	1908	2050	391	138	620	1268
Khmelnytsk	199	259	408	572	611	755	947	2207
Kirovohrad	104	30	-	688	1036	823	1171	1315
Kyiv	66	143	92	100	501	469	624	989
Luhansk	-	14	-	8	32	16	72	99
Lviv	-	480	357	283	373	735	547	611
Mykolayiv	2410	949	4525	1405	1465	4045	2068	1015
Odesa	-	500	470	2150	1493	104	535	5350
Poltava	287	334	223	322	299	494	711	725
Rivne	306	332	304	641	545	650	570	622
Sumy	20	-	30	37	51	54	18	20
Ternopil	-	-	18	no data	20	90	230	604
Transcarpathian	-	-	-	no data	no data	no data	no data	no data
Vinnytsya	760	650	1004	1223	1230	1274	2017	2463
Volynia	2711	998	999	1583	1182	1553	1129	1089
Zaporizhzhya	-	-	7	62	6	10	248	473
Zhytomyr	70	22	-	108	145	43	200	200
Ukraine (Total)	11208	8420	1982 4	15023	14154	13933	17631	55093

Fig. 5. The Mute Swan distribution in Ukraine in breeding season in 1992.

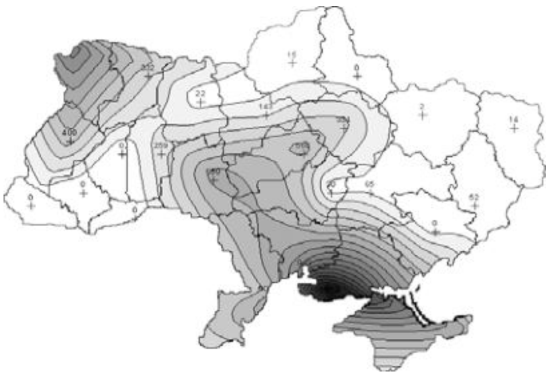

Fig. 6. The Mute Swan distribution in Ukraine in breeding season in 1993.

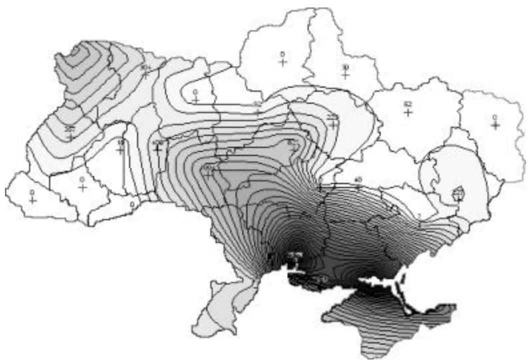

Fig. 7. The Mute Swan distribution in Ukraine in breeding season in 1994.

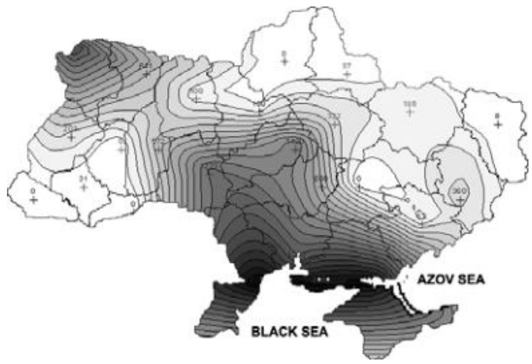

Fig. 8. The Mute Swan distribution in Ukraine in breeding season in 1995.

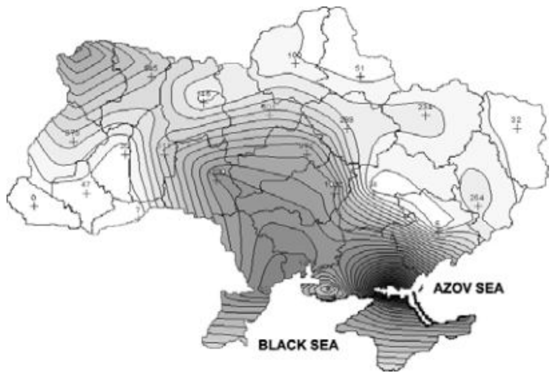

Fig. 9. The Mute Swan distribution in Ukraine in breeding season in 1996.

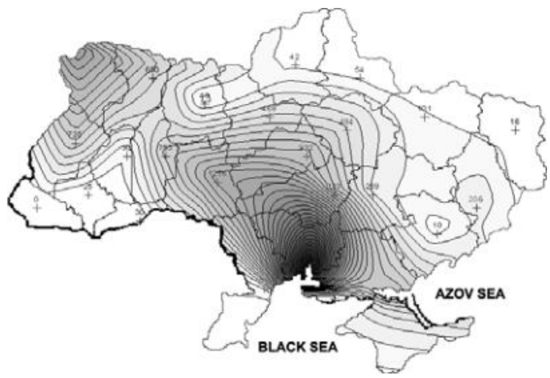

Fig. 10. The Mute Swan distribution in Ukraine in breeding season in 1997.

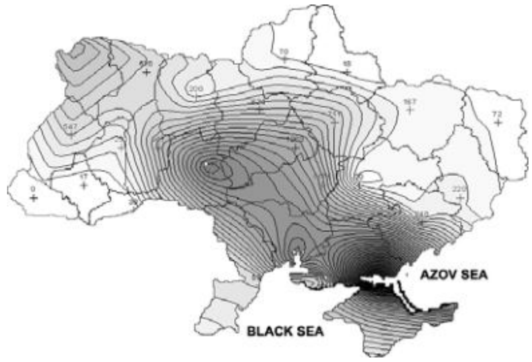

Fig. 11. The Mute Swan distribution in Ukraine in breeding season in 1998.

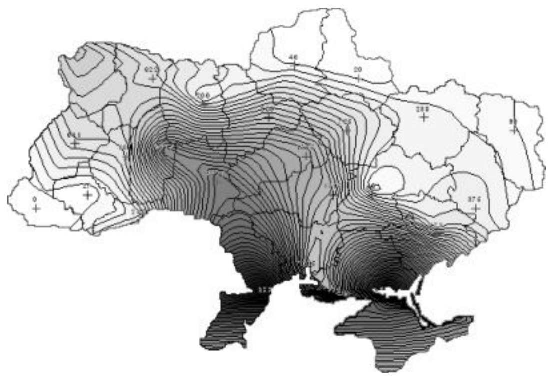

Fig.12. The Mute Swan distribution in Ukraine in breeding season in 2000.

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Birds in Europe 2 – reassessing the conservation status of the continent's birds.

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Introduction

In 1994, BirdLife International published *Birds in Europe* (Tucker & Heath 1994). The aim of this book was to identify species in need of special conservation attention (Species of European Conservation Concern, or SPECs). In close collaboration with the EBCC and a network of more than 400 ornithologists, national population and trend data (covering the period 1970–1990) were collected for almost all European countries, producing the European Bird Database, with c. 50,000 records. Assessment of these data against a set of SPEC criteria showed that 195 species (38% of the European avifauna) had an unfavourable conservation status, many of which were associated especially with farmland habitats.

As the first ever review of the conservation status of all European bird species, this book had a large impact on many audiences and proved to be a very popular publication. It provided an objective means of prioritising bird conservation efforts across Europe, and was one of the main foundations of BirdLife's own conservation work throughout the last decade. By 2001, however, it was becoming outdated. Recognising the need to ensure that bird conservation efforts across Europe remain well informed and based on sound science, BirdLife's European Partnership agreed that it was an urgent priority to update the book. With core funding from the Dutch Government, staff from BirdLife's European Division Office started the *Birds in Europe 2* project in 2002.

Data collection

The geographical scope of the project was the same as that covered by Tucker & Heath (1994) and Heath & Evans (2000). It extended from Greenland in the west to the Urals in the east, and from Svalbard in the north to the Canary Islands in the south. Increased political stability in the Balkans and the Caucasus allowed data to be collected from all European countries for the first time. Data were collected through a network of national coordinators, who sought input from relevant experts, monitoring organisations and regional contributors. The data derive from huge amounts of fieldwork carried out over the last few decades by thousands of ornithologists, including countless volunteers.

For each species, national data were gathered on breeding population size (in or around the year 2000) and trend (over the period 1990–2000). Many of these data were supplied by EBCC delegates or collaborators, and for some common and widespread species the information was identical to that used by the Pan-European Common Bird Monitoring Scheme (http://www.ebcc.info). Where available, equivalent winter population data were also collected, mainly for waterbirds covered by the International Waterbird Census run by Wetlands International. In total, some 14,000 population/trend records were received, many of which were of higher quality than those in Tucker & Heath (1994). Together with the existing data from 1970–1990, these new data were used to reassess each species's conservation status in Europe.

Status assessment

Tucker & Heath (1994) developed a set of quantitative criteria to identify SPECs according to their global and European status, and to classify them by the proportion of their global population or range in Europe. For *Birds in Europe 2*, an extensive consultation process concluded that these criteria could be strengthened by incorporating the IUCN Red List Criteria, which represent the universally accepted system for assessing species' relative extinction risk (IUCN 2001). IUCN recently published guidelines for applying the Red List Criteria at a regional level (IUCN 2003), which allowed them to be integrated into the existing SPEC criteria. Following the system used by Tucker & Heath (1994), each species was assigned to one of five categories (Table 1).

Table 1. Categorising Species of European Conservation Concern (SPECs) and Non-SPECs.

Category	European species of global conservation concern	Conservation status in Europe	Global population or range concentrated in Europe
SPEC 1	Yes	-	-
SPEC 2	No	Unfavourable	Yes
SPEC 3	No	Unfavourable	No
Non-SPEC^E	No	Favourable	Yes
Non-SPEC	No	Favourable	No

Note: Non-SPEC^E is equivalent to SPEC 4 in Tucker & Heath (1994). The name of this category has been changed because the species it contains have a favourable conservation status in Europe, and thus are not SPECs.

A species was considered to be of global conservation concern if its status was classified as Threatened, Near Threatened or Data Deficient under the IUCN Red List Criteria at a global level (BirdLife International 2004a; IUCN

2004). It had an unfavourable conservation status in Europe if its European population was either classified as Threatened under the regional application of the IUCN Red List Criteria (IUCN 2003), or if its population was small (<10,000 pairs), declined by 10–30% during 1990–2000, was depleted (following earlier declines), or was highly localised (with >90% of its European population concentrated in 10 or fewer sites). All these criteria mirrored those in Tucker & Heath (1994) closely. A species was considered to be concentrated in Europe if more than 50% of its global breeding or wintering population or range occurs in Europe.

Results

In total, 524 species were assessed. Of these, 226 (or 43% of the European avifauna) were considered to have an unfavourable conservation status in Europe, with 40 species (7.6%) classified as SPEC 1, 45 (8.6%) as SPEC 2 and 141 (26.9%) as SPEC 3 (Figure 1). All of these percentages exceeded those in Tucker & Heath (1994), when 195 species (38% of the 511 assessed) were classified as SPECs.

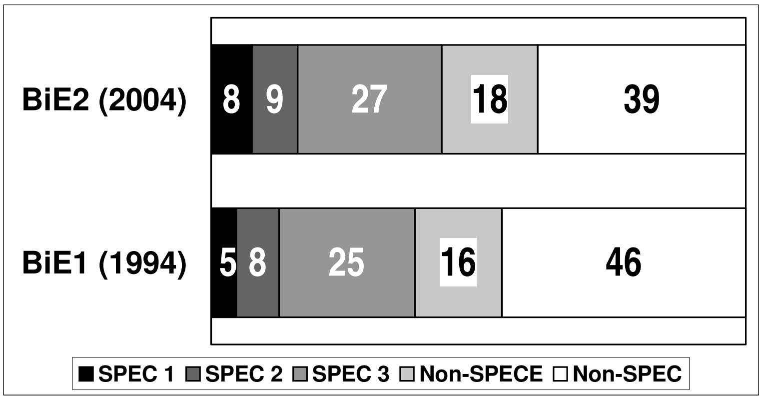

Fig. 1. Percentage of European bird species in each category in Tucker & Heath (1994) and BirdLife International (2004b).

The increased number of SPEC 1 species largely reflects the reclassification (under the revised criteria) of globally Near Threatened species, which were previously listed as SPEC 2 or 3, but are clearly of global conservation concern. However, the increased number of SPEC 2 and 3 species is truly alarming, because it means that the European conservation status of many more birds (45 species) has changed from favourable to unfavourable than vice versa (14 species; Table 2).

Species	**2004 SPEC category**
Favourable to Unfavourable	
Podiceps auritus Horned Grebe	SPEC 3
***Puffinus griseus* Sooty Shearwater[2]**	**SPEC 1**
***Puffinus mauretanicus* Balearic Shearwater[2]**	**SPEC 1**
***Geronticus eremita* Northern Bald Ibis[2]**	**SPEC 1**
Anas clypeata Northern Shoveler	SPEC 3
Aythya ferina Common Pochard	SPEC 2
Aythya fuligula Tufted Duck	SPEC 3
Milvus milvus Red Kite	SPEC 2
Ammoperdix griseogularis See-see Partridge	SPEC 3
Vanellus indicus Red-wattled Lapwing	SPEC 3
Vanellus vanellus Northern Lapwing	SPEC 2
Philomachus pugnax Ruff	SPEC 2
Gallinago gallinago Common Snipe	SPEC 3
Tringa erythropus Spotted Redshank	SPEC 3
Actitis hypoleucos Common Sandpiper	SPEC 3
Larus genei Slender-billed Gull	SPEC 3
Larus armenicus Armenian Gull	SPEC 2
Uria lomvia Thick-billed Murre	SPEC 3
Otus brucei Pallid Scops-owl	SPEC 3
Ketupa zeylonensis Brown Fish-owl	SPEC 3
Apus unicolor Plain Swift	SPEC 2
Apus affinis Little Swift	SPEC 3
Halcyon smyrnensis White-throated Kingfisher	SPEC 3
Ceryle rudis Pied Kingfisher	SPEC 3
Upupa epops Eurasian Hoopoe	SPEC 3
Ammomanes deserti Desert Lark	SPEC 3
Calandrella cheleensis Asian Short-toed Lark[2]	SPEC 3
Delichon urbica Northern House-martin	SPEC 3
Erythropygia galactotes Rufous-tailed Scrub-robin	SPEC 3
Oenanthe oenanthe Northern Wheatear	SPEC 3
Oenanthe xanthoprymna Rufous-tailed Wheatear	SPEC 3
Prinia gracilis Graceful Prinia	SPEC 3
Phylloscopus bonelli Bonelli's Warbler	SPEC 2
Phylloscopus sibilatrix Wood Warbler	SPEC 2
Phylloscopus sindianus Mountain Chiffchaff	SPEC 3
Parus palustris Marsh Tit	SPEC 3
Parus cristatus Crested Tit	SPEC 2
Sitta krueperi Krueper's Nuthatch	SPEC 2
Sturnus vulgaris Common Starling	SPEC 3
Passer domesticus House Sparrow	SPEC 3
Passer montanus Eurasian Tree Sparrow	SPEC 3
Carduelis cannabina Eurasian Linnet	SPEC 2
***Pyrrhula murina* Azores Bullfinch[2]**	**SPEC 1**
***Emberiza aureola* Yellow-breasted Bunting**	**SPEC 1**
Miliaria calandra Corn Bunting	SPEC 2
Unfavourable to Favourable	
Hydrobates pelagicus European Storm-petrel	Non-SPEC[E]
Morus bassanus Northern Gannet	Non-SPEC[E]
Branta leucopsis Barnacle Goose	Non-SPEC[E]
Netta rufina Red-crested Pochard	Non-SPEC

Gyps fulvus Eurasian Griffon	Non-SPEC
Falco peregrinus Peregrine Falcon	Non-SPEC
Recurvirostra avosetta Pied Avocet	Non-SPEC
Limosa lapponica Bar-tailed Godwit	Non-SPEC
Prunella ocularis Radde's Accentor	Non-SPEC^{E}
Saxicola torquata Common Stonechat	Non-SPEC
Oenanthe cypriaca Cyprus Wheatear	Non-SPEC^{E}
Hippolais olivetorum Olive-tree Warbler	Non-SPEC^{E}
Sylvia melanothorax Cyprus Warbler	Non-SPEC^{E}
Bucanetes githagineus Trumpeter Finch	Non-SPEC

[1] Species of global conservation concern (i.e. SPEC 1) are highlighted in bold.
[2] Species not assessed by Tucker & Heath (1994).

Table 2. Species whose European Conservation Status changed from Favourable to Unfavourable (or vice versa) between Tucker & Heath (1994) and BirdLife International (2004b).

Given the magnitude of declines during 1970–1990, particularly those affecting farmland birds, the populations of many SPECs remain heavily depleted. However, a few species have recovered and are now classified as having a favourable conservation status in Europe. The recovery of Peregrine Falcon *Falco peregrinus* is a good example, illustrating the benefits of targeted conservation action. Many SPEC 1 species are also increasing in Europe, due to the effective implementation of species action plans (SAPs) over the past decade. It will take time before these species can be reclassified, but progress to date indicates that co-operative actions that are planned well and funded adequately can indeed reverse declines and restore species to a more favourable status (Nagy & Crockford 2004).

Of the 129 species that declined significantly during 1970–1990, 79 (61%) continued to decline during the 1990s, including many farmland birds, waders and raptors. Their plight is particularly worrying, especially as they have now been joined by 35 declining species formerly considered to have a favourable conservation status in Europe (Table 2). These include many long-distance migrants, several waterbirds, and some of Europe's most familiar species, such as House Sparrow *Passer domesticus* and Common Starling *Sturnus vulgaris*.

Discussion

These results are sobering, particularly when most governments around the world have pledged to reduce the rate of biodiversity loss by 2010, and the European Union is committed to halting this loss completely (http://www.countdown2010.org). For most taxa, assessing whether these targets are met will be very difficult, but birds are an exception. The main requirement for such assessments is modest long-term support for monitoring, both to sustain existing schemes and to develop and implement strategies for other species groups. This would allow governments to meet their reporting obligations, and to prioritise their conservation efforts so that limited funds are targeted most effectively. Such support would also facilitate regular status reviews like this one, with *Birds in Europe 3* currently scheduled for 2012–2014.

The time left to meet these targets is short, so it is vital that biodiversity concerns are integrated fully into all sectoral policies that affect the environment. Europe already benefits from some of the finest biodiversity conservation legislation in the world. The Birds Directive, the Bern Convention and the Convention on Migratory Species were all landmarks when they were adopted 25 years ago, and have already achieved a huge amount (see e.g. BirdLife International 2004c). Yet, as *Birds in Europe 2* demonstrates, many challenges remain, and the need to apply these tools to maximum effect for biodiversity will only increase over the next 25 years.

Conclusions

The overall message from BirdLife International (2004b) is as clear as that from Tucker & Heath (1994). Birds in Europe continue to be threatened by widespread environmental change, and many populations are now in deeper trouble than a decade ago. As birds are good environmental indicators, the ongoing decline of so many species sends clear signals about the state of European biodiversity and the health of the wider environment. Given the scale of the problem, the massive and urgent response that was called for a decade ago is now even more pressing. Action must be taken immediately, not only to stop the continuing loss of Europe's once rich and abundant avifauna, but also to show serious commitment to halting biodiversity loss by 2010.

Acknowledgements

We are extremely grateful to the thousands of European ornithologists, both volunteers and professionals, whose hard work, expertise and commitment over the last few decades made this review possible. Although we cannot thank them individually, we owe them a great debt and wish to recognise the important contribution that each has made to bird conservation in Europe by participating in census or monitoring work. In particular, we thank the national coordinators and contributors listed at the front of BirdLife International (2004b), and the numerous organisations that they represent or with which they are associated. This includes many EBCC delegates and members of the Executive Committee, thanks to the ongoing collaboration established during the production of the original edition and the European Breeding Bird Atlas. For funding the project, we thank the Netherlands Ministry of Agriculture, Nature and Food Quality (through the PIN/MATRA Funds of the Ministry of Foreign Affairs), the European Commission, the Swedish Environmental Protection Agency, the Dutch Postcode Lottery, and the BirdLife Partners in Finland, France, the Netherlands, Sweden and

Switzerland. Full acknowledgements can be found in BirdLife International (2004b), which is available for purchase from http://www.nhbs.com. Individual species factsheets can also be downloaded from http://birdsineurope.birdlife.org.

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The Catalan Breeding Bird Atlas 1999-2002

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Introduction

In 1984 the Atlas of Breeding Birds of Catalonia and Andorra was published (Muntaner et al, 1984). This pioneer work stood as a significant step forward in the knowledge of European Mediterranean avifauna and as one of the first extensive atlas published in southern Europe. In 1998 the Catalan Ornithological Institute (*Institut Català d'Ornitologia, ICO*) realised that there was a need to update the information provided by the first atlas and move forward in order to include information on species distribution changes occurred in Catalonia during the period between the two atlases. Bearing this in mind, the idea was proposed to the private foundation *Fundació Territori i Paisatge* and to the Catalan government's Ministry of the Environment. Needless to say, both institutions welcomed the proposition and from the very beginning funded the project, providing the necessary support for its success.

The present Catalan Breeding Bird Atlas includes information about the distribution of breeding birds in Catalonia during the period 1999-2002, presented in the same UTM 10×10 km grid used in the previous atlas. In this way, taking into account the sampling effort employed at each square in the two atlases, we could provide a robust evaluation of changes in species distribution during the last 20 years. Furthermore, the atlas contains maps of relative abundance at fine resolution for most species, information about habitat and landscape use and selection, as well as density estimates for several habitats obtained from the Catalan Common Bird Survey (SOCC). Finally, the book also reports for the first time exhaustive population estimates and conservation status at a regional level for all the breeding bird species.

Study area

Catalonia is an autonomous region situated in north-east Spain measuring nearly 32,000 km^2, roughly the size of Belgium. The country is located in the Mediterranean Basin, but in spite of its small size, it is remarkably heterogeneous, including a range of landscapes from alpine habitats to coastal marshes and from evergreen forests to steppes.

Sampling methods

A total of 385 10×10 UTM squares were surveyed during the atlas field work. The aim of this survey was to detect the maximum amount of evidence of breeding for all the species present. To do this, the observers were asked to try to find birds in all habitats, even minority ones, present within their square in order to avoid overlooking any species. Besides the generic sampling conducted in each UTM 10×10 square, observers surveyed a stratified subset of UTM 1×1 km squares within the former units. This approach is similar to the one used in the British, Swiss, Dutch and Flemish ornithological atlases (Gibbons et al. 1993, Schmid et al. 1998, SOVON Vogelonderzoek Nederland 2002, Vermeersch et al. 2004). Two 1-hour censuses were conducted for each one of the selected UTM 1x1 squares during which every square was entirely surveyed and every species detected was recorded. For nocturnal species, two additional 1-hour censuses were conducted at night. The number of individuals for a given species was not recorded. In total, 3,077 1×1 UTM squares corresponding to diurnal censuses and 1,204 to nocturnal ones were surveyed.

Study period

The field work was conducted during the period 1999-2002. As a general rule, the gathering of evidence of breeding was restricted to the period March-July inclusive but the surveying period for nocturnal raptors was brought backward to February in order to allow detection of territorial songs of species that call mainly in winter. In the UTM 1×1 squares, the first survey was conducted in March/April and the second in May/June to adapt to the periods of maximum activity of early and late breeders.

Changes in species' distribution

For a particular species, the quantification of changes in its distribution can be estimated by means of an analysis of the changes in occupied UTM 10×10 squares. However, this approach generates a problem: a temporal variation in sampling effort is often associated with a significant bias in the estimates of distribution changes. Unfortunately, the data collected for the first atlas was not standardised in relation to the sampling effort applied to each UTM 10×10 square. Furthermore, despite the timed censuses conducted in the UTM 10×10 squares, a large portion of the data obtained for the new atlas comes from observations gathered in a non-standardised way.

The methodology used to solve the problems originating from changes in the sampling effort consisted of indirectly estimating the effective sampling time in every UTM 10×10 square for both atlases. These estimates were used as co variables in further analyses of changes in species' distribution between atlases. The analytical approach was based in the use of the timed censuses conducted in the sample of UTM 1×1 squares located within each of the UTM 10×10 squares. Species-time accumulation curves were drawn from these data and later used to estimate the effective surveying effort required for any particular value of species richness by reversing the process. The results of these trend analyses are shown in form of a table for each species together with the map that shows the distribution of the 1999-2002 period superimposed on the map from the 1975-1983 period (Figure 1).

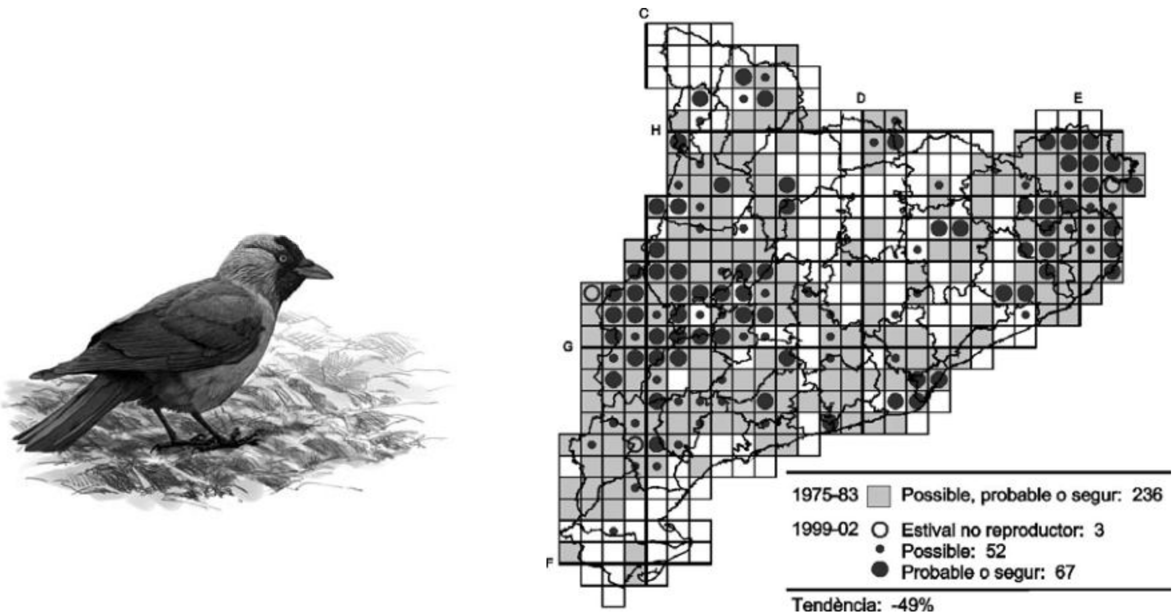

Fig. 1: Example of distribution map (Jackdaw) on a UTM 10×10 km grid. Circles present evidence of breeding in the period 1999-2002 in three categories: non-reproductive summer visitors (open circles), possible (small solid circles) and probable-confirmed (large solid circles). This distribution is superimposed on the map from the 1975-1983 period (solid squares). The trend (written in Catalan “tendència” *in the Figure) represents the changes in the number of 10×10 UTM squares occupied by the species, and is assessed by means of a statistical analysis that monitors the differences in sampling effort at each square between atlases.*

Abundance index maps

We also estimated the probability of occurrence of a species for all Catalan 1x1 UTM squares (roughly 32,000) by applying niche-based models to the data collected in the subset of 1×1 UTM squares that were surveyed. The models developed allowed us to estimate each species' response to a series of environmental variables and thereby obtain the predicted probability of occurrence for each species as a particular combination of environmental variables. The result of this procedure produced abundance index maps, which were finally produced for a total of 180 out of 232 breeding species (Figure. 2).

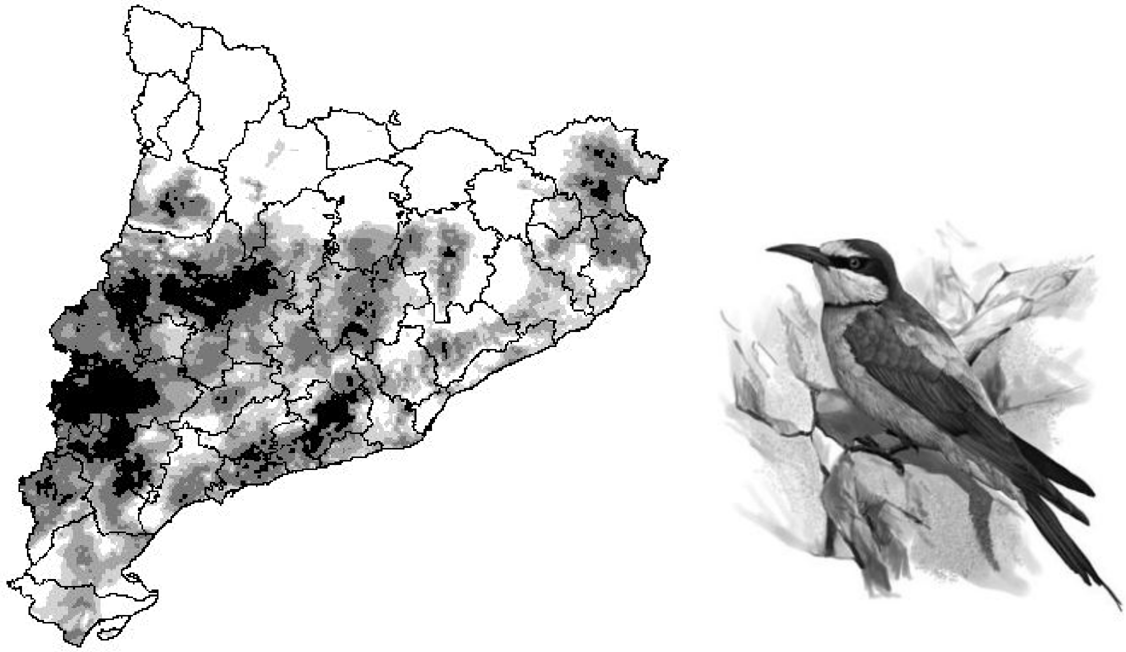

Fig. 2: Example of abundance index map (Bee-eater). This map shows the probability of detecting the species in each 1×1 km square during the breeding season with two 1-hour sampling periods (dark colour represents higher probabilities and light colour lower probabilities). This map has been generated by applying niche-based models to the data collected during 1×1 UTM square censuses.

In the modelling exercise used in the present atlas, we used a GLM with a logit link due to the binomial character of the presence/absence bird data employed (logistic regression, McCullagh & Nelder 1989). We used a cross-validation procedure to evaluate the accuracy of model predictions (Guisan & Zimmermann 2000). This procedure consisted of dividing the data (1× 1 UTM square surveys) into two different sets by randomly assigning 70% of occurrence values for each species to a calibration data-set and the remaining 30% of occurrences to an evaluation data-set. The calibration data-set was used to develop the niche-based model. The evaluation consisted in measuring quantitatively to what degree predictions from the models fitted the independent observations that were not used for the development of the model.

Ecological requirements

The main objective of a bird atlas is to report on the distribution of birds in the area under study. Nevertheless, bird distribution is strongly linked to the occurrence of a series of environmental factors that are necessary for the completion of their life cycles. In the Catalan atlas, these ecological requirements, which vary in strictness from one species to another, are described in terms of ranges in altitude and habitat use and selection. In the texts for each species, various experts discuss some of the species' main ecological requirements; also included in this section is information regarding the selection of altitudinal ranges (Figure 3) and habitat composition, as well as densities from the Catalan Common Bird Survey (SOCC) in the principal habitat types.

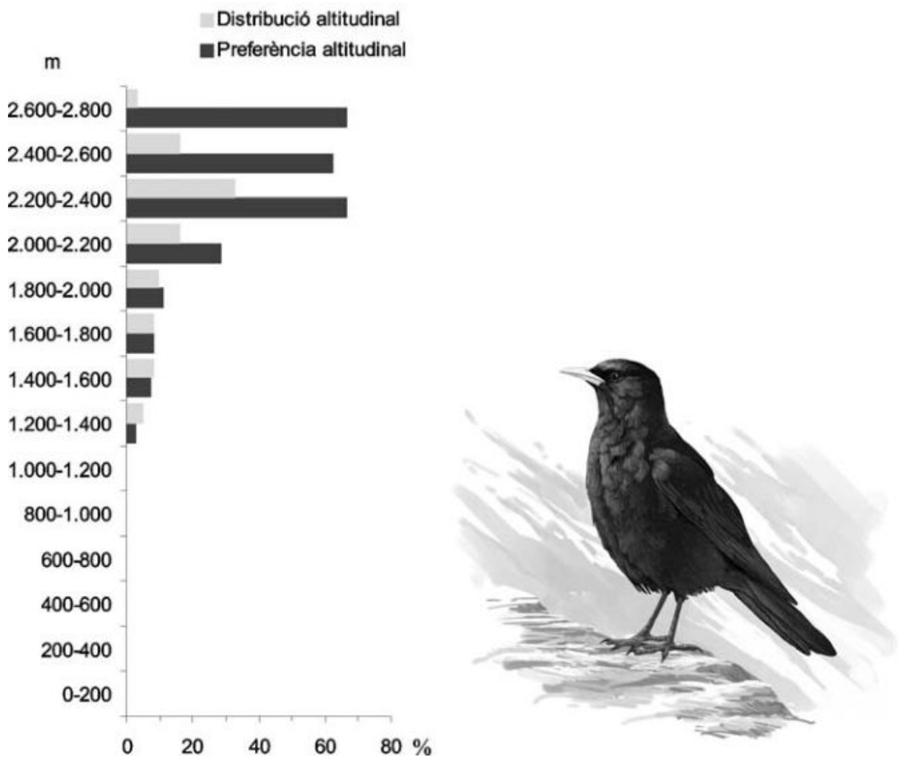

Fig. 3: Example of altitude graph (Alpine Chough). This shows the altitudinal ranges in which the species has been detected and which ranges are selected. Distribution bars (light grey) show the percentage of all observations of a species found in each altitudinal range; the sum of all the values for each range is 100%. Preference bars (dark grey), on the other hand, show the percentage of squares within an altitudinal range in which the species was found and indicate the selection for each altitudinal range.

Population estimates

One of the critical objectives of the present atlas was to generate reliable population estimates for the different bird species breeding in Catalonia. Generally, due to their scarcity, some species have been the target of greater conservation efforts and research institutes, governments and individuals have devoted a significant amount of time to estimate their populations. This atlas is a comprehensive attempt to integrate all information gathered by all these specific monitoring schemes. Nevertheless, specific procedures allowing direct evaluation of population size only exist for a few breeding species. Thus, two new methodologies had to be explored to address this issue which consisted in either, the use of qualitative field data estimation collected by atlas contributors at each UTM 10×10 km square or the combination of data from monitoring projects currently running in Catalonia such as the Catalan Common Bird Survey in Catalonia (SOCC) and the Catalan Ringing Constant Effort Site Network (SYLVIA).

This last methodology is exemplified by the Atlas-SOCC model, a procedure used to estimate the population of many common bird species from which both abundance index maps and density data from common bird surveys were available. The initial hypothesis behind this procedure is that the probability or frequency of occurrence of a species in a given area is related to its absolute abundance (see Gibbons *et al.* 1993, Robertson *et al.* 1995). Taking this into account, a statistical model for each species was built in order to relate the absolute abundance (pairs/km^2) of the SOCC transect (3 km) to the mean abundance index (from 0 to 1) of the 3 1×1 UTM squares in which this transect was located. We used this methodology to estimate the population of 65 species of common breeding birds in Catalonia (Figure 4).

Finally, in species for which the Atlas-SOCC model did not give reliable results and data from specific monitoring schemes were lacking, we used a methodology based on the qualitative estimates given by observers at each 10×10 UTM square (I: 1-9 pairs, II: 10-99 pairs, III: 100-999 pairs, IV: 1,000-9,999 pairs, V: >10,000 pairs). Then, the Catalan population was assessed following the methodology used in the EBCC atlas of European breeding birds (Hagemeijer & Blair, 1997), which is based on geometric means as the most reliable estimator of each square's population. This methodology tries to capture quantitatively contributors' impressions of bird numbers, since, although observers were not asked to count birds, they spent many hours covering the 10×10 square looking for birds.

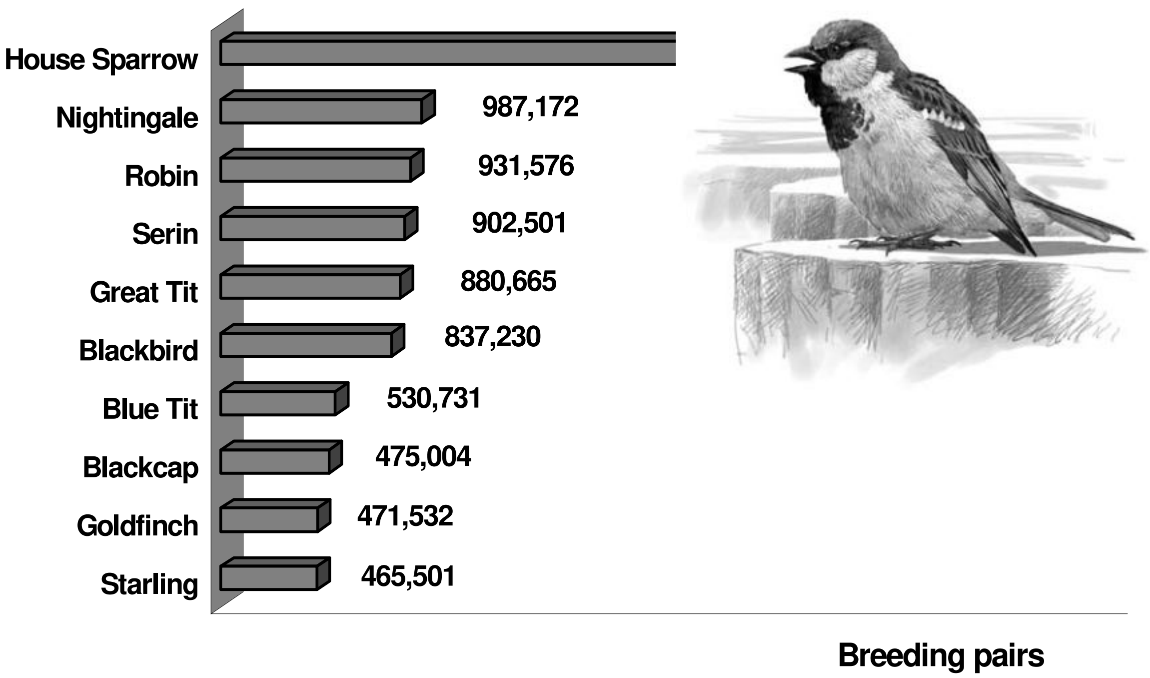

Fig. 4: Mean population estimates for the 10 most abundant breeding species in Catalonia. All these results come from the Atlas-SOCC model.

Species conservation status

Finally, the Catalan Breeding Bird Atlas 1999-2002 atlas provides a standardised and objective assessment of the conservation status of the bird species that breed in Catalonia. We decided to follow the IUCN (International Union for Conservation of Nature) criteria (UICN 2001) using regional corrections as proposed by Gärdenfors et al. (2001) to assess conservation status categories: Not Evaluated (NE), Data Deficient (DD), Least Concern (LC), Near Threatened (NT), Vulnerable (VU), Endangered (EN), Critically Endangered (CR) and Extinct (EX).

One of the most obvious usefulness of this work of classification is the representation of conservation status in relation to habitat type (Figure 5). The results of this work show very clearly that steppe species stand, as a whole, as the most threatened group of birds in Catalonia.

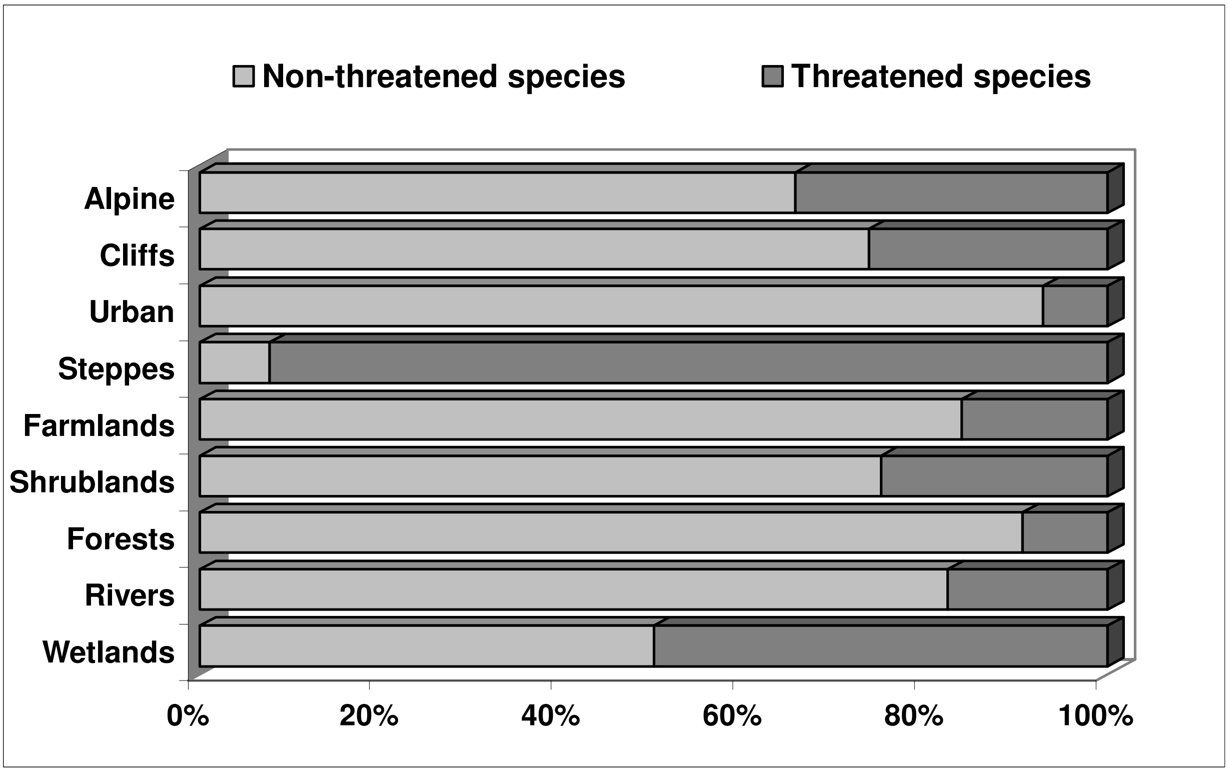

Fig. 5: Percentage of threatened (Vulnerable, Endangered and Critically endangered) and non-threatened species in the main habitat types. The species category was assigned following IUCN recommendations for the assessment of the conservation status at a regional scale. 90% of steppe species were classified as Vulnerable, Endangered or Critically endangered, a figure clearly higher than those obtained for the other habitat types.

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The Lanius Programme, the follow-up of Andorra's bird populations.

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Introduction

The Atlas of the Breeding Birds of Andorra, published by the Association for the Defence of Nature (ADN) in 2002, proved that the state of conservation of some species normally considered common was poor or showed a tendency towards poorness. It proposed 6 localities as areas of national importance for birds, specifying how well a species was performing or how grave the threat it faced.

Three years later ADN, in agreement with the Centre of Biodiversity of the Institute of Andorran Studies, called for a middle-term follow-up (2005-2009, 5 years) of endangered species that did not fall within the bounds of established research programmes, and for a study of the populations of common species in the areas of national importance. A new programme, 'Lanius' was started.

Aims of the Programma Lanius

The Lanius Programme has two lines of research:
1. The follow-up of threatened species not covered by established studies;
2. The follow-up of common bird populations.

Threatened Species Subject to Specific Study

A total number of 16 species are under study, 3 Falconiformes, 3 Strigiformes, 1 Coraciiforme, 2 Charadriiformes, 1 Galliforme and 6 Passeriformes.

Golden Eagle	Woodcock
Booted Eagle	Quail
Peregrine Falcon	Woodchat Shrike
Eagle Owl	Barn Swallow
Barn Owl	Tree Sparrow
Scops Owl	Rock Sparrow
Hoopoe	Ortolan Bunting
Dotterel	Corn Bunting

Table 1: Threatened Species subject to specific study

The follow-up of these species will be done by means of listening, waiting, beating, surveying and mapping during the breeding season, in accordance with the specific research objectives of each.

2. Follow-up of Common Bird Populations

The follow-up of Andorra's common birds (SOCA) is a census system of bird populations which allows the understanding of the seasonal tendencies which produce Andorra's abundance of common birds. The handling of a programme of continuous follow-up requires a minimum effort but the endeavour is consistent year after year.

The SOCA consists of counting and noting all individuals of the species detected (seen and heard) along a 3km longitudinal route covered on foot. Two surveys are undertaken along the route during the breeding season, one in May, the other in June. Two optional winter surveys can also be made, one in December and the other in January.

The aim at the end of 5 years of study is to have some twenty transects geographically distributed in the country's main habitats; the alpine stage, sub-alpine forests and valley bottoms that include urban nuclei, agricultural areas and deciduous woodlands. The SOCA method will be applied preferentially to bird areas of national importance based on the categories used in the Atlas of the Breeding Birds of Andorra (ADN 2002), shown in Table 2:

	Ornithological Value	Degree of Threat	Priority
Area	Critical/Low/Medium/High		

Table 2: Categories used to determine bird areas of national importance.

Apart from its scientific interest, the Lanius Programme also has a social aspect in that it involves members of ADN and anyone interested in birds in the follow up of species and SOCA surveys. The Lanius Programme is under the technical and voluntary co-ordination of three ADN members and relies on the dedication of a large number of bird lovers.

Results

From the results obtained with the Programme the relative densities of bird populations can be calculated, together with probability maps and other management methods. Further, the data on Andorran bird populations will be included in the European data bank.

Translated by Ann Matschke

Report on the workshop "Spatial modelling of large scale bird monitoring data: towards pan-European quantitative distribution maps".

Organised by the Catalan Ornithological Institute and the Forest Technology Centre of Catalonia under the EBCC umbrella.
Held in Solsona, Catalonia, Spain, 8 –9 April 2005.

Lluís Brotons [1], Henk Sierdsema [2] & Stuart Newson [3]

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Background

Mostly using volunteers, cost effective regional and national large scale biodiversity monitoring programs, currently provide the basis for identifying population change at large spatial scales. These have been implemented across a number of countries for a range of taxa, of which birds are particularly noteworthy in being monitored now in most European countries using representative and well-designed sampling strategies.

Bird monitoring programs such as these provide us with a great deal of spatial data that have the potential to be used to create maps showing changes in species distribution and abundance. In fact, mapping patterns of species distribution have for a long time been a major issue in ecology. Knowing where a species occurs and recording changes in this distribution has major implications, ranging from theoretical ecology to conservation and species management. Interest in mapping species distribution has lead to a number of cartographic experiences amongst which atlas work such as those carried out on birds at large spatial scales, stand as paradigmatic examples.

In recent years, some bird atlases have attempted to apply statistical techniques to allow the extrapolation of sampled data to nearby areas from which information is lacking.

These methodologies represent a step forward in both the approach employed and in the quality of the obtained results. Furthermore, they allow a convergence between strict mapping attempts, such as those represented by atlases, and monitoring programs primarily aimed at recording a measure of abundance at sampling sites and describing temporal changes in this parameter.

Some early experiences in France, the Netherlands and the United Kingdom have already started to explore the potential of large scale monitoring bird data in producing quantitative bird distribution maps. Contrary to earlier static mapping initiatives (i.e. atlases), these maps have the potential for being updated with the same periodicity as which data is collected.

These methodological advances, new perspectives and recent initiatives became apparent at the last EBCC conference held in Kayseri, Turkey, in September 2004, and were recognised by a number of people from different organisations working on different subjects involving large scale mapping of bird monitoring data. The way to exchange information on this subject and move forward in a common way was discussed. It was agreed that a workshop be organised, aimed at setting the stage on spatial modelling of bird monitoring data by attracting different groups working on the topic. Furthermore, and given the role of EBCC in co-ordinating and integrating monitoring programmes at a pan-European scale, the idea arose of exploring the possibility of using the existing pan-European bird monitoring network as a seed to integrate data for different countries and explore the potential of these data for mapping purposes.

The final venue for the spatial modelling workshop was Solsona, a little town located in the foothills of the Spanish Pyrenees. The meeting took place between the 8th and the 10th of April, 2005 and was co-organised by the Forest Technology Centre of Catalonia and the Catalan Ornithological Institute under the umbrella of the EBCC.

Objectives of the workshop.

The objectives set up to be addressed during the workshop were as follows:

1. Define explicitly what it was meant to achieve by the proposed pan-European bird mapping initiative.

2. Compile and assess the different methodologies available for such a purpose and discuss their adequacy in different regions, and their general accessibility and usability.

3. Discuss how we may deal with the problem of a wide diversity of survey methodologies used in different areas (e.g. territory mapping, line transects, point counts, random versus, non-random) where counts are not directly comparable.

4. Conduct a pan-European mapping pilot study with a limited set of species. For the pilot study a number of datasets would be treated as if they represent actual abundances and will feed habitat-geostatistical models to generate such maps.

5. Define the conditions needed to start setting up a meta-database of European monitoring-datasets convenient for large-scale modelling. Protocol should include guidelines for data sharing, confidentiality and data ownership.

6. Discuss and generate ideas to raise funds and advance in the research lines described.

Experiences and approaches

The workshop involved 28 people from 13 European countries and consisted of presentations, hands-on sessions and discussions aimed at defining the current state of the art in spatial modelling of large-scale bird monitoring data and define the way to move forward.

The first session on Friday introduced, by means of short talks, recent experiences of bird mapping from different European countries. Marc Kery and Stuart Newson from Sempach and BTO discussed issues concerning the difficulties of converting counts obtained from field sampling to true densities. This topic is of major relevance to any attempt to map and integrate data on real densities across different regions. Stuart Newson also introduced some of the first's trials in using geostatistics to create abundance maps from BBS data. Such methodologies are being explored in Britain to visually show spatial changes in bird abundance as estimated by BBS data. Lluís Brotons from the Catalan Ornithological Institute described the methodology used to produce maps for the new Atlas of Breeding birds of Catalonia 1999-2002, which used a mixture of environmental and spatial models to map relative bird abundance at a regional level. Lluís Brotons introduced a range of niche based models (i.e. models that relate environmental data to species presence or abundance) as potential tools to be used in large scale bird mapping which is particularly critical in areas of poor coverage. Again using environmental data for predicting bird distribution, Javier Bustamante from CSIC showed that environmental data derived from satellite imagery might be extremely useful when used across a wide range of resolutions and qualities. Finally, Henk Sierdsema examined the potential of using abundance data from large scale breeding bird surveys to map changes in species distribution and showed a number of applications regarding this subject. Henk Sierdsema also touched on methodological issues regarding mapping and illustrated the potential of combining different, but to some degree complementary, modelling approaches (i.e. regression habitat modelling and geostatistical modelling).

The workshop continued with a hands-on session using participants' laptops and data aimed at producing tentative pan-European abundance maps for pre-selected focal species. To this aim, the workshop organisers previously contacted co-ordinators of major bird monitoring surveys in Europe in order to provide data on focal farmland species. In time for the workshop, monitoring data were available from Spain, Catalonia, France, the Netherlands, United Kingdom, Republic of Ireland, Italy and Hungary could be put together in a digital format appropriate for spatial modelling.

Group discussions on different chosen topics follow for most of Saturday and ended up in a summary session in the afternoon.

Main topics for discussion

- *Products derived from spatial mapping and usefulness.*

Two kinds of cartographic products that could be produced from bird monitoring data were identified, namely:

1) Distribution maps including information on species abundance.
2) Trends maps identifying spatial variability of temporal changes in species abundance (i.e. pan-European bird indicator trends).

These two products have a vast potential to be used in different contexts from basic ecology to biodiversity assessment at a continental scale. Some discussion arose regarding the need to specify in the coming stages of product development clear objectives regarding the use of each of the types of maps to be generated. Mapping of abundance may serve as the basis for a future new European Breeding Bird Atlas based on bird monitoring data. Meanwhile, attempts to map bird abundance at large spatial scales were agreed to be important in providing baseline data for a number of different applications.

Regarding the mapping of the spatial variability of changes in bird abundance, it was argued that such an approach may offer a great degree of complementarity with current efforts of the EBCC to produce pan-European bird trend indicators. At present, pan-European trend indicators lack an explicit spatial component. Mapping trends in bird abundance may offer a new tool to identify areas with larger change rates and thus guide future actions.

- *Methodological issues and mapping*

During the discussions it was clear that different mapping goals have different constraints and requirements and therefore, require different approaches. In particular, for the mapping of bird abundance, spatial accuracy appears to be critical given that maps will aim to reproduce real distribution patterns. In this case, use of surrogate environmental data and habitat modelling may appear especially useful given that such data offer a great tool to project data to regions with poor coverage. Accurate bird abundance maps may favour methodologies for estimating absolute population for common species for which at present only educated guesses are often available. Some problems may be envisaged regarding the kind of adequate data that may be used at European scale to run habitat models. Corine land cover, and satellite data offer good candidates but a critical comparison is required to test their effectiveness.

On the other hand, mapping of population trends may be useful at coarser resolutions than abundance mapping and should concentrate on the temporal comparability of the mapped abundance change index. Therefore, spatial accuracy may be less important and mapping methodologies used in this context should concentrate on sampled areas and rely more on interpolation techniques which offer the best spatial representation of sampled data. In these cases environmental information may not used at all or used only as ancillary data. The issue of comparability of samples across different temporal periods was object of discussion regarding the best methods potentially used to estimate within site trends in abundance. In this context, missing values are of critical importance since they may be behind local spatial biases in abundance change. The experience gained by EBCC in applying TRIM to solve this kind of missing data at a temporal scale may be useful in this context, although final solutions were not agreed upon.

An alternative option aimed at the spatial representation of changes in abundance was proposed by Javier Bustamante referred to as anomaly map. These maps could show, rather than absolute changes in abundance, standardised change estimation as calculated for each different monitoring methodology (i.e. accounting for the variance induced by each method).

- *Methodological issues concerning data combination from different sources*

Although it was not considered a priori an in depth-topic for discussion at this workshop, the issue of count-density conversion was the subject of debate during some group discussions. In particular, it was noted that given the wide range of monitoring methods with varying assumptions used in different countries, counts would not be directly comparable in tentative mapping exercises. However, this topic has been under debate ever since monitoring methods have been used to estimate population density and therefore, intrinsic difficulties in solving this issue suggested the progress should advance in two different fronts. First, national and regional monitoring programs should favour the use of techniques (distance sampling, capture-recapture, etc) that control for biases in detectability and to obtain estimates of absolute densities for each species.

However, progress in producing estimates of absolute densities from bird monitoring data is expected to be slow and asymmetric between countries and methodologies. Therefore, it was also suggested to investigate shortcut alternatives for allowing comparability of counts obtained from different monitoring schemes. At this point, the input from Lorenzo Fornasari offered some hope. He suggested using information on country area and population size to scale data from different monitoring surveys to the same units. In spite of the biases probably induced by errors in total country population estimations and lack of spatial representativity of many monitoring networks, preliminary results using this methodology applied to the French and the Italian data rendered promising results.

Conclusions/recommendations from the workshop

The workshop on spatial modelling held in Solsona confirmed a large deal of interest in this subject, it showed potential for producing large scale abundance and trend maps at a pan-European scales and to identify the main constraints expected in the road ahead. The main conclusions from the workshop were as follows:

- Pan-European mapping has a great potential and given the methodologies, data availability and experience accumulated, the present time offers a great opportunity for developing this initiative. The pan-European bird mapping initiative born from the Solsona workshop should explore methodologies and approaches to integrate data from monitoring schemes across Europe and produce spatial representations of such data.

- Two main types of maps may be initially produced. Distribution maps showing spatial variability on in species abundance, and trend maps showing spatial variability in changes of species abundance. Both pathways are promising but preliminary tests are required to solve identified problems such as homogenisation of abundance between countries (i.e. count-density conversion, estimation of alternative abundance indices comparable between methodologies), evaluation of habitat modelling across regions and suitability of environmental data available.

- Data integration from different survey methodologies was identified as a major issue. Progress at a country level in transforming counts to absolute densities and the investigation of shortcuts aimed at creating abundance indices comparable between methodologies were proposed.

- The pilot study conducted on a number of monitoring schemes produced the first tentative, abundance pan-European maps for a number of bird species ever. This showed the potential to develop a mapping initiative. These maps are intuitive and appealing. Since policy making is expected to be a major use of such maps, special care should be allocated to justification of methodologies used in different applications including limitations and orientation for data interpretation.

The way forward

Given the discussions and main conclusions agreed upon during the workshop, a number of steps were proposed to advance the application of spatial modelling to large-scale bird monitoring data.

- Promote experiences at regional and national level to advance the use of monitoring data in spatial modelling and map generation.

- Creation of a working group within the EBCC aimed at co-ordination, discussing and promoting spatial modelling initiatives within the EBCC context. The group is open to everybody and will be co-ordinated by Lluís Brotons (ICO, Catalan Ornithological Institute), Henk Sierdsema (SOVON, Dutch Centre for Field Ornithology), Stuart Newson (BTO, British Trust for Ornithology) and Frederic Jiguet (Musée d'Histoire Naturelle Paris).

- Collate data from different European monitoring schemes in order to complete the mapping initiatives carried out during the workshop. Given the recent adoption of the bird farmland index as a biodiversity indicator by the European Union, it was argued that mapping initiatives carried out in a first stage will prioritise the use of farmland bird species individually or as a group.

- Carrying out a pilot study on farmland birds that would serve to illustrate the potential of different methodologies and allow evaluation of its constraints and limitations. As a first step, the pilot study would concentrate on geo-statistical modelling of bird abundance and trends in bird abundance. This pilot study should assess the adequacy of different study resolutions to be used to generate pan-European maps.

- Collection of pan-European environmental data, Corine land cover, satellite data, and freely available data sets to identify suitable and convenient data to carry out appropriate habitat modelling aimed at careful mapping of bird abundance in Europe.

- Presentation of the mapping initiative to the scientific community. Tentatively to the IOC conference to be held in Hamburg, Germany, in 2006.

Acknowledgements

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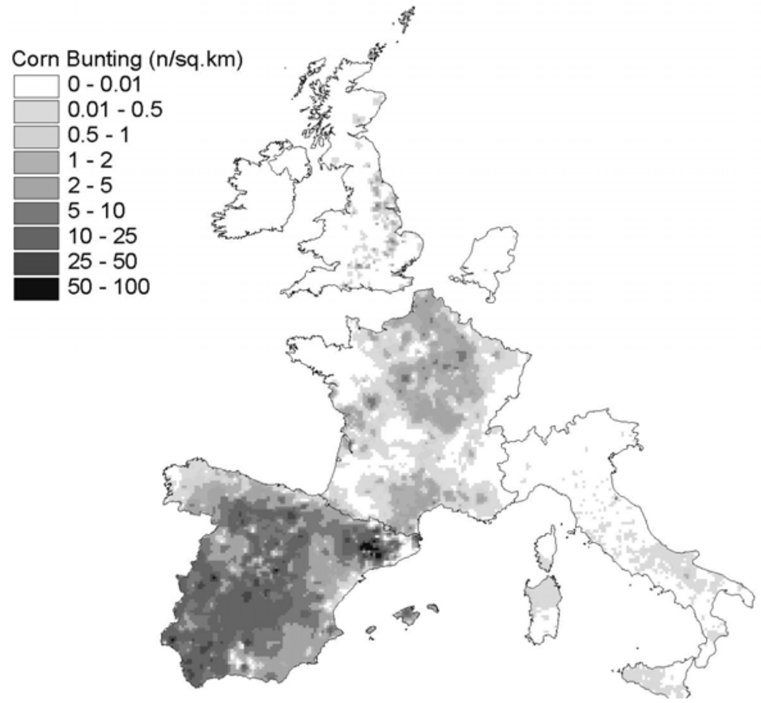
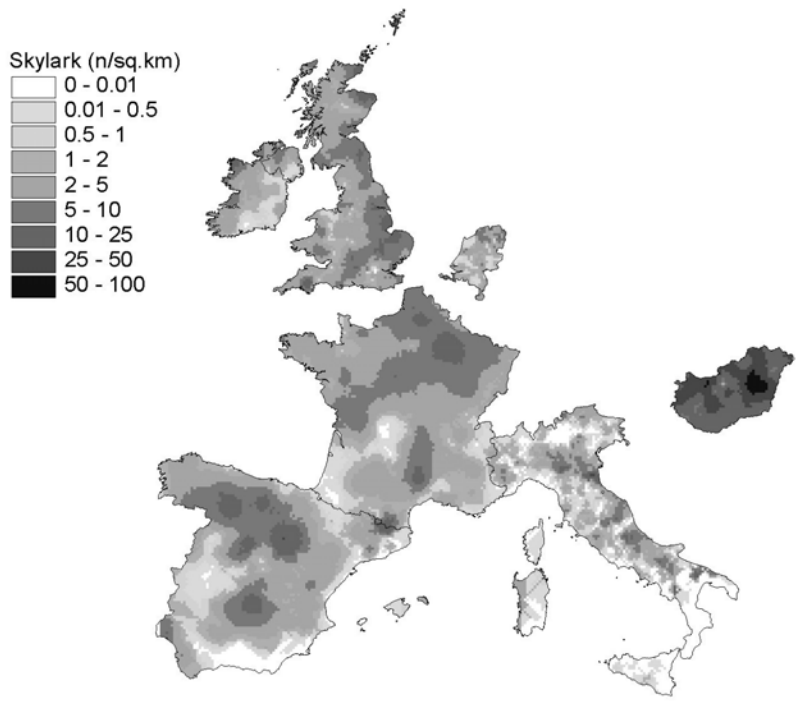
First tentative, pan-European abundance maps for the Skylark, *Alauda arvensis* and Corn Bunting *Milaria calandra*. The maps were obtained by means of kriging survey count data from Ireland, United Kingdom, the Netherlands, France, Spain, Catalonia, Italy and Hungary. Note scaling problems for the Skylark between Hungarian data and the rest of countries suggesting biases derived from count-density conversion. Units are pairs/km^2.





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Journals and Reports

In this Chapter a selected summary is given of the contents of journals and reports, most of them send to Bird Census News in exchange.

Lindström, Å & Svensson, S. 2005. Monitoring population changes of birds in Sweden. Annual report 2004, Department of Ecology, Lund University. 68 pp. (in Swedish, but with Summary, table and figure legends in English)

This report presents the results of the Swedish National Bird Monitoring programme, run by Department of Ecology, Lund University, as a part of the National Monitoring Programme of the Swedish Environmental Protection Board. The results from 2004 include data from 750 winter point count routes (29^{th} year), of which 322 were carried out during the Christmas/New Year count, and 273 summer point count routes (30^{th} year). A third program is running since 1996 with 724 Fixed routes, systematically (and therefore semi-randomly) distributed over Sweden (combined line transect and point counts). In total 401 Fixed routes were carried out in the summer of 2004 and 686 routes (95%) have now been censused at least once since 1996. The new programme of Fixed routes have been launched without apparently affecting the number of summer point count routes. It is now the largest of the two summer programmes. Trends were analysed using TRIM, being the European standard.

In the mid-winter count 2003/2004, about 130,000 individuals of 130 species were counted. Winter indices increased in 43% of the species compared to the winter before. Strong long-term increases are present in many waterbirds like Cormorant, Grey Heron, Mallard, Smew and Canada Goose, as well as in various species such as White-tailed Sea Eagle, Raven, Rook, Blue Tit, and Greenfinch. Long-term declines are prominent in Collared Dove, Black-headed Gull, Hooded Crow, Willow Tit, Marsh Tit, and House Sparrow.

On the point count routes in summer 2004, more than 95,000 birds of 203 species were counted. The TRIM indices increased in 37% of the species compared to the summer before. The strongest long-term positive trends in summer are present in Cormorant, Grey Heron, Canada Goose, Marsh Harrier, Crane, Raven, Wren, Blackcap, and Greenfinch. The following species show clear negative long-term trends: Black Grouse, Lapwing, Snipe, Curlew, Common Gull, Black-headed Gull, Stock Dove, Cuckoo, Wryneck, Skylark, House Martin, Hooded Crow, Great Tit, Willow Tit, Marsh Tit, Wheatear, Dunnock, Tree Pipit, White Wagtail, Yellow Wagtail, Red-backed Shrike, Starling, Linnet, Yellowhammer, Ortulan Bunting, Reed Bunting and House Sparrow. The Scarlet Rosefinch is declining very rapidly since around 1990, after having increased just as dramatically the previous 15 years.

From the Fixed routes were reported 123,000 birds of 211 species. Since the Fixed routes cover also northern Sweden (in contrast to the Point count routes), new species can now be monitored, such as Golden Plover, Greenshank, Whimbrel, Willow and Hazel Grouse, Capercaillie, Siberian Jay, Bluethroat and Rustic Bunting.

Bird indicators were calculated for Sweden based on the species selection and methods of the Pan-European Common Bird Monitoring Scheme. Common Farmland birds (11 species) show a 40% decline since 1975. Common Woodland birds (26 species) have declined with 20%, whereas a group of other common birds (21 species) show no average change in population size.

More information is available at the homepage: WWW.BIOL.LU.SE/ZOOEKOLOGI/BIRDMONITORING. On the homepage, graphs with trends are shown, and the report can be downloaded.

We still need drawings for Bird Census News!!

We are short of original drawings to illustrate our Newsletter. Who can help us? Are there artists who are willing to send us their bird drawings for free? Names of artists are always mentioned at the inner cover.
Thank you in advance!
Anny Anselin

Important note for mailing exchange journals or books:

In the address: please ALWAYS put my NAME on the first place before "Bird Census News" or "EBCC" or whatever is put after. With new regulations in the Belgium Post mail without the name of the addressee (and only the name of an organisation) is not delivered to private persons!

Your text in the next issue?

Bird Census is meant as a forum for everybody involved in bird census, monitoring and atlas studies. Therefore we invite you to use it for publishing news on your own activities within this field:

- you have (preliminary) results of your regional or national atlas,
- you have information on a monitoring campaign,
- you have made a species-specific inventory,
- you are a delegate and have some news on activities in your country,
- you are planning an inventory and want people to know this,
- you read a good (new) atlas or an article or report on census and you want to review it,

Do not hesitate to let us know this!

Send text (in MSword), figures and tables (and ilustrations!) by preference in digital format.

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anny.anselin@inbo.be

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Anny Anselin, Institute of Nature Conservation, Kliniekstraat 25, B-1070 Brussel, Belgium

You will be send a pdf-format of your article to use for reprints

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