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Bird Census News is the Journal 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.

Cover illustration by Toni Llobet

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EDITORIAL

By now, most observers will probably have the main part of their fieldwork behind them. Together with the yearly counts for the Pan-European Common Bird Monitoring Scheme, "Filling the Gaps" for the new European Breeding Bird Atlas, was an important challenge for the breeding season 2017. And yes, gaps have been filled in many parts of Europe. Enthusiastic volunteer birders from abroad formed team and joined forces with local ornithologists, others visited "blank areas" during private trips. In this way additional squares could be visited in less covered areas of e.g. Moldova, Albania, Russia, Greece, Ukraine, Macedonia, and even in Kazachstan, providing most valuable data to the EBBA2 project!

In this first issue of 2017 we start with an article by Jean-Yves Paquet and co-authors about a case study in Wallonia (Belgium) on how bird recording web portals can deliver. We are very interested to receive more of this kind of analyses, which could be published in a separate "EuroBirdPortal" section.

In the European Atlas News section, Sergi Herrando and co-authors of the EBBA2 coordination team give a review of their recent activities on producing maps, modelling and the planning of further European Atlas work. Dilek Eylül Dizdaroğlu and Kerem Ali Boyla present the first results of the Turkish national breeding bird atlas, a project that started in 2014 and is planned to be finalized in 2018. As they rightly put in the title, this is indeed "A Big Challenge in a Big Country"! João Rabaça and co-authors provide us with a synopsis of the innovative Portuguese Atlas of Winter and Migratory Birds, to be published near the end of this year.

In the European Monitoring section we go to Cyprus to learn more about the ten year running of the Cyprus Common Bird Monitoring Scheme, presented by Marin Hellicar and Christina Ieronymidou.

In the Books and Journals section we briefly comment on two publications: the Proceedings of the latest EBCC Conference in Halle and a new BirdLife report.

Finally, there is the News section with two items: the EBBA2 Species Sponsorship campaign and an interesting Job Announcement : coordinator of the Pan-European Common Bird Monitoring Scheme!

Enjoy this volume!

Anny Anselin
Editor Bird Census News

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Site-level Bird Monitoring: are bird-recording web portals delivering? A case study with Natura 2000 sites in Wallonia (Belgium)

Jean-Yves Paquet[1], Antoine Derouaux[1], Rudi Dujardin[1], Vincent Leirens[1] & Jérémy Simar[2]

[1] Département Études Aves-Natagora, Rue Nanon 98, B-5000 Namur, Belgium
jean-yves.paquet@aves.be
[2] Service Public de Wallonie, Département de l'Étude du Milieu naturel et Agricole, Chemin des préaux 10, B-7321 Bernissart, Belgium

Abstract. All over Europe, bird recording portals accumulate millions of casual records every year. Here, we evaluated how these opportunistic datasets could contribute to the monitoring of species of conservation concern at the site level. Our case study was the Natura 2000 site network in Wallonia (Southern Belgium). Data extracted from the popular portal Observations.be were used to establish breeding bird lists for each of 240 Natura 2000 sites in this region. These lists were compared to reference breeding bird lists that were established by expert assessments using a variety of data sources including specific census. On average, 62% of Natura 2000 breeding species were detected by casual observations only. The efficiency is positively correlated to the number of birdwatcher visits to Natura 2000 sites, and birdwatchers seem to visit sites with natural habitats (e.g. wetlands and moorlands) more often. There are large differences in detection efficiency between species: some species, although widely distributed like the Kingfisher *Alcedo atthis*, were poorly detected by casual observation data, while rarest species were generally well detected. Bird recording web portals are a valuable source of data for site-level monitoring, although structured monitoring is still essential, especially if abundance estimation is needed.

Introduction

Across the European Union, Natura 2000 sites are designated to ensure the long-term survival of Europe's most valuable and threatened species and habitats, listed under both the Birds Directive and the Habitats Directive[1]. Covering in total 18% of the EU land surface, these sites are not intended to be managed like strict nature reserves. Human activities are not excluded, as long as proper management ensures that the "conservation status" of target habitats and species is maintained or improved. Evidences of a positive effect on the focal species populations of this site-based conservation approach are available (Donald et al., 2007; Gamero et al., 2017). However, as underlined by the same authors, monitoring is key to inform site-level management options and increase effectiveness of this important supranational conservation policy instrument.

In the framework of the above-mentioned Directives, EU member states must update, on a regular basis, information on the species and habitats present in each Natura 2000 site. This is done by filling in a "Standard Data Form (SDF)" for each Natura 2000 site (The European Commission, 2011). Each SDF has to contain the following information: (1) a list of species (or habitats), among those targeted in the annexes of Birds and Habitats Directive, known to be present in the site, together with an estimation of their population sizes (or habitat extension) in the breeding season and/or separately in the migration and winter time, and (2) the conservation status of the site for the target habitat/species, following a bespoke scoring system. Updated SDF information on species is essential to test the efficiency of the site network; such tests has yet rarely been carried out at large-scale, but see Mazaris et al.

[1] "Natura 2000" network is composed of "Special Protected Areas SPA", designed under the Bird Directive, and "Special Areas of Conservation Areas SAC", designated under the Habitat Directive.

(2013). The process of updating SDF implies that not only the presence but also population size of all target species in all Natura 2000 sites should be assessed on a regular basis. For some species groups, such as wintering or colonial waterbirds, well-established specific long-term site-level monitoring could provide the basic data (Johnston et al., 2013), but for most of the non-colonial breeding birds, updating SDF data is a challenging task.

Citizen science has emerged as a possible way forward, both to obtain better data and to engage people locally in conservation actions (Grell et al., 2007). During the last 15 years, the development of web recording portals and associated mobile applications, which enable amateur birdwatchers to record any bird data in the field, have created a wealth of detailed data obtained outside more formal bird monitoring schemes. Web portal data have proved increasingly useful for a variety of applications, including informing conservation policy and actions (Sullivan et al., 2014). However, citizen science data pose considerable challenges when applied to site level biodiversity monitoring. The quantification of bird populations from non-systematic surveys, comparability between counts, detectability variation etc. are of course all potential issues. Another potential problem is the heavy geographical bias in data, because observers tends to go birdwatching in a non-systematic manner, neglecting what they judge as poor areas for birds and concentrating on bird-rich areas.

Here, we aim to assess how bird recording portals can contribute to site-level monitoring, taking as case study the Natura 2000 network in Wallonia (Southern Belgium) and Observations.be, a very popular data portal, intensively used by birdwatchers in this region (Paquet et al., 2013). We simply compare the list of breeding species per site, as extracted from Observations.be data, to the reference list of breeding species in the 240 Natura 2000 sites in Wallonia, updated in 2015 from a variety of data sources including dedicated field works. The experts in charge of SDF updates had also access to the Observations.be data, so it is not possible here to compare an assessment based on web portal data directly with one derived from "dedicated expert work" as the latter was not independent; rather, we aim to evaluate the completeness of web portal records against a reference list. We also explore relationships between site main characteristics and bird species, and the completeness of data provided by amateur birdwatchers, in order to better understand how the habits of birdwatchers in the field can explain site-level results.

Study area and methodology

Wallonia covers 16 844 km², representing 55 % of the Belgian federal state. It is a low-lying region but altitudes increase according to a North-West / South-East axis, from 80 m up to 694 m above sea level. The main land-uses are intensive agriculture (45.1 %), forestry (32.8 % — half semi-natural deciduous woodland, half coniferous plantations) and buildings (13.9 %). A network of 240 Natura 2000 sites, covering in total 220 000 ha or 13 % of the territory, was officially designated in 2001, in accordance with the Birds and Habitats Directives. In this paper, we consider together as Natura 2000 sites both "Specially Protected Areas" based on the Birds Directive and "Special Areas of Conservation" based on the Habitats Directive. Each Natura 2000 site was classified into one of the following dominant habitat type according to Corine Land Cover (CLC 2006, Version 18.5.1, European Environment Agency): woodland, farmland, natural/wetlands (including moorland). Five sites were too heterogeneous to be classified adequately.

In 2015, an assessment of population estimates for Natura 2000 bird species was performed for all individual Natura 2000 sites in Wallonia. This work was conducted by professional ornithologists and based on the best available knowledge from a variety of sources, including specific fieldwork and web portal data. Local experts were also consulted. Although these estimates are probably imperfect, we considered the lists of breeding species that were compiled as our reference for the purpose of the present work. Bird species considered here are official Natura 2000 bird species in Wallonia, which include (1) Bird Directive Annex I species and (2) non-Annex I species classified as "vulnerable" or worse in the Red List of endangered species in Wallonia (at the moment of site designation). The species list for a given site includes all breeding and wintering Natura 2000 species present at the site, even if present in small numbers only. However, for our analyses here, we consider breeding species only. These species lists were officially communicated to the EU through the "Standard Data Form (SDF)" system, and updated at the end of 2015 (see http://

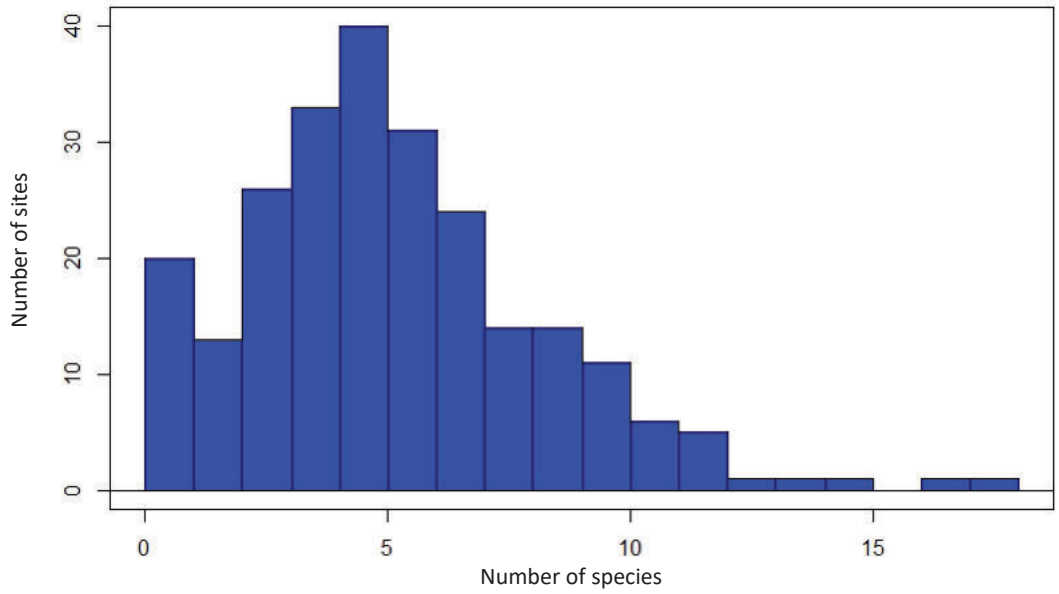

Figure 1. Number of Natura 2000 breeding bird species per site in Wallonia.

www.eea.europa.eu/data-and-maps/data/natura-7). There are 230 sites in Wallonia with a least one breeding Natura 2000 bird species.

In order to assess the performance of data from bird recording portals in detecting presence/absence of species at the site-level, we used data from the www.observations.be[2] website. This system was developed by the "Stichting Natuurinformatie", in collaboration with Natuurpunt and Natagora, the BirdLife partners in Belgium. It allows for easy recording of field observation for all taxonomic groups and is very popular in the birdwatching community in Belgium. In Wallonia, about 400.000 bird records are entered annually by a community of several thousand users. Although recording of complete observation lists or specific monitoring scheme are possible on Observations.be, the vast majority of these data are casual observations. A previous analysis of this dataset has shown that, on average, 80 % of observations are localized with great accuracy (< 100 m) by the observers (Paquet et al., 2013), suggesting that this dataset is suitable for site-level monitoring.

All observations located inside or at less than 100 m of Natura 2000 sites between 2010 and 2015 were selected to calculate a number of visits per site. A visit was counted if one observer entered one record of any bird species in a given site on a given date. To perform a proper assessment of the contribution of amateur birdwatchers, we discarded all observations and visits made by professional ornithologists from Aves-Natagora and the Public Service of Wallonia (DEMNA).

Observations were then classified as related to "possible breeding" if they were made during the breeding period of the species, as defined by SOVON (van Dijk & Boele, 2011) or to "probable" or "certain breeding" if they met the same period criteria and if the observer mentioned a behaviour code indicating at least a probable breeding according to EBCC criteria. As mentioned earlier, observations related to non-breeding birds were not considered in the present analysis.

We then compared, site by site, the lists of species obtained from Observations.be against the reference list of breeding Natura 2000 species. Results were expressed as the proportion of species in the reference list that were found in Observations.be data. The comparison was also done at the species level (proportion of sites where a species is known to be present, where at least one record was reported in Observations.be).

Results

Between 2010 and 2015, a total of 76 046 field visits were performed by 3 440 non-professional birdwatchers within the Natura 2000 network in Wallonia. About 70% of these birdwatchers were

[2] This system is also known in Flanders as www.waarnemingen.be, in the Netherlands as www.waarneming.nl and as a worldwide system www.observation.org.

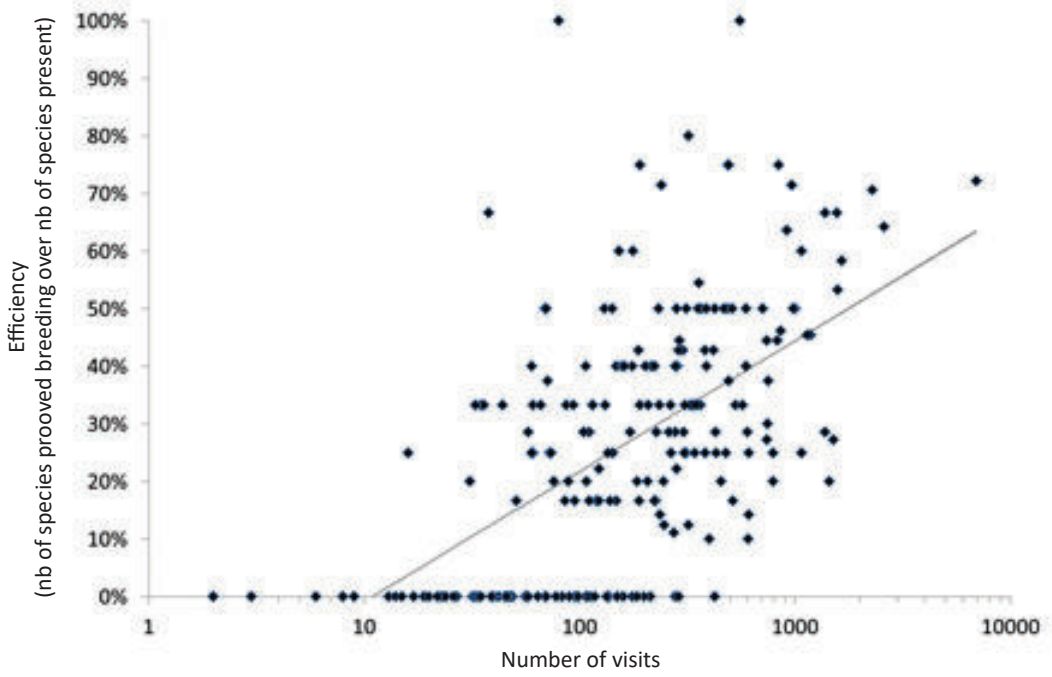

Figure 2. Relationship between efficiency of portal data to detect breeding bird species and the number of visits by amateur birdwatchers.

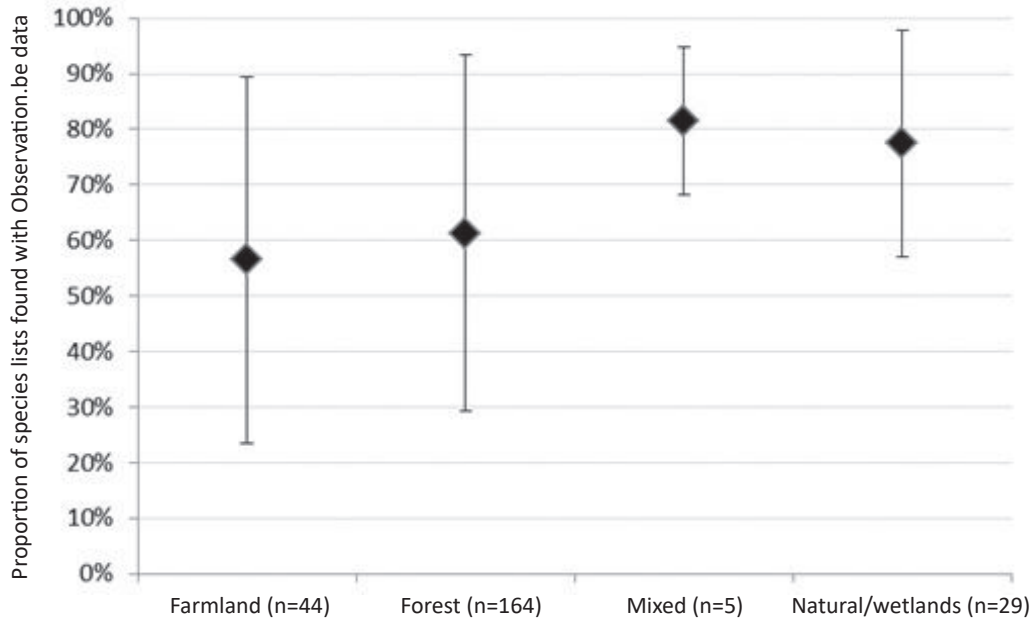

Figure 3. Variation in detection efficiency according to dominant habitat in Natura 2000 site.

only occasional visitors, as they recorded less than 10 visits. The 10 most active birdwatchers accounted for about 13 % of all field visits.

Efficiency by site

For the 230 sites with at least one breeding Natura 2000 species, the average richness was 5.6 breeding bird species (with a maximum of 18 species, see Figure 1). The average efficiency of identifying present breeding bird with casual observations only was 62% when considering possible breeding, and down to 25% when looking for "probable" breeding evidence. Efficiency (for both simple presence and evidence of breeding) was positively correlated with number of visits by amateur birdwatchers (correlation for breeding evidence: r=0.43 with 95% confidence interval 0.31–0.53; Figure 2).

When looking at differences between habitat types, there appears to have been a better detection efficiency for sites dominated with "special" habitat like wetlands and moorlands (Anova F=3.381, df=3, p=0.0191; Figure 3). These types of habitat are known to be particularly attractive to birdwatchers; these sites have a higher "frequency of visit" by birdwatchers. We found no correlation of detection efficiency with neither distance to major cities nor distance to major highway; Wallonia being a small region with a dense road network, this is not surprising.

Efficiency by species

There are 43 Natura 2000 species breeding within the Natura 2000 network in Wallonia. Table 1 presents, for each of these species, their frequency of occurrence among the 230 sites and the number of sites for which observations.be data were efficient in detecting the presence or the breeding of the species.

Some species, although widely distributed like the Kingfisher *Alcedo atthis*, were poorly detected by casual observation data. The rarest species were generally well detected, except for the most cryptic: Corncrake *Crex crex* and Hazelhen *Bonasia bonasa*. Rare species from wetlands/moorland are well detected by amateur birdwatchers, as expected. Of the five more widespread species (Black Woodpecker *Dryocopus medius*, European Honey-buzzard *Pernis apivorus*, Common Kingfisher, Middle-spotted Woodpecker *Dendrocopos medius* and Red-backed Shrike *Lanius collurio*), only the shrike was proved as a breeder through Observations.be in more than 50% of the sites were it was known to breed. Breeding evidence was rarely recorded for widespread forest species such as woodpeckers and raptors.

Discussion

During the last 15 years, in many countries, the development of web portals dedicated to the collection of bird observations by amateur birdwatchers have increased the availability of bird data tremendously. Using this wealth of records for scientific purposes and conservation action is a challenge, because of the non-systematic collection procedure, but numerous examples have already been described, for instance with the US-based system eBirds (Sullivan et al., 2014). Similarly, in Europe, the EuroBirdPortal project (www.eurobirdportal.org), developed under the auspices of the European Bird Census Council, is aimed at improving the value of these portals, by creating a common data repository and by promoting best practices that will maximize the scientific value of the information collected. In this framework, it is of great value to increase our understanding of amateur birdwatcher behavior and habits in the field, as only by knowing what they like or do not like can we engage them in better practice. Building on the case study of Natura 2000 sites in Wallonia, we highlight here some interesting findings concerning the use of web portal data in site-level monitoring.

Relatively to other regions of Europe, Wallonia is well covered by amateur birdwatchers. More than 3 400 different people entered bird data collected within the 220.000 ha of Natura 2000 sites in just 6 years. However, most of these observers carried out less than 10 observation sessions inside the network, and a very small number of them contributed a large amount of data. This suggests that, although general guidelines should be provided to all observers, investing time to provide specific recommendations to the most active birdwatchers is probably a time-efficient strategy.

It should be noted that the results here are obtained solely with opportunistic data, without a call being made to encourage participation, specific training or dedicated enquiry. Most observers are not even aware that they are birdwatching inside a Natura 2000 site, as they are rarely signed as such in the field. A better and more focused result could probably be obtained if observers were informed of the use of the data they submit for reporting upon sites; the importance of this particular use of bird records could be advertised in the numerous communication media used by birdwatchers.

All observational records undergo a validation procedure, conducted by a team of trained validators. The portal highlights "special" data (e.g. rare birds, migrants observed outside of their normal period) on a special screen for validators, who can then contact individual observers, and finally correct or invalidate individual records. Furthermore, validators make particular efforts to increase the geographical accuracy for Natura 2000 species data. The observer is contacted for further information if he enters his record at the site level, rather than pointing the exact location on the satellite map available on the recording form. More

Table 1. Proportion of sites where the presence or breeding of each species was identified by portal data.

Code	Name	Scientific	Nb of sites with known breeding	Nb of sites identified with portal data	proportion	Nb of sites where breeding proved by portal data	proportion
A103	Peregrine Falcon	*Falco peregrinus*	21	21	100%	17	81%
A055	Garganey	*Anas querquedula*	4	4	100%	3	75%
A292	Savi's Warbler	*Locustella luscinioides*	3	3	100%	1	33%
A193	Common Tern	*Sterna hirundo*	2	2	100%	2	100%
A409	Black Grouse	*Tetrao tetrix*	2	2	100%	2	100%
A026	Little Egret	*Egretta garzetta*	1	1	100%	1	100%
A119	Spotted Crake	*Porzana porzana*	1	1	100%	0	0%
A176	Mediterranean Gull	*Larus melanocephalus*	1	1	100%	1	100%
A217	Eurasian Pygmy-owl	*Glaucidium passerinum*	1	1	100%	1	100%
A298	Great Reed-warbler	*Acrocephalus arundinaceus*	1	1	100%	1	100%
A610	Black-crowned Night-heron	*Nycticorax nycticorax*	1	1	100%	1	100%
A074	Red Kite	*Milvus milvus*	66	62	94%	30	45%
A249	Sand Martin	*Riparia riparia*	18	16	89%	11	61%
A030	Black Stork	*Ciconia nigra*	100	86	86%	18	18%
A073	Black Kite	*Milvus migrans*	35	30	86%	13	37%
A612	Bluethroat	*Luscinia svecica*	14	12	86%	8	57%
A338	Red-backed Shrike	*Lanius collurio*	123	105	85%	91	74%
A052	Common Teal	*Anas crecca*	12	10	83%	8	67%
A295	Sedge Warbler	*Acrocephalus schoenobaenus*	17	14	82%	3	18%
A236	Black Woodpecker	*Dryocopus martius*	186	139	75%	27	15%
A246	Wood Lark	*Lullula arborea*	24	18	75%	8	33%
A233	Eurasian Wryneck	*Jynx torquilla*	26	19	73%	5	19%
A072	European Honey-buzzard	*Pernis apivorus*	167	121	72%	32	19%
A224	Eurasian Nightjar	*Caprimulgus europaeus*	14	10	71%	2	14%
A275	Whinchat	*Saxicola rubetra*	14	10	71%	7	50%
A215	Eurasian Eagle-owl	*Bubo bubo*	37	26	70%	20	54%
A238	Middle Spotted Woodpecker	*Dendrocopos medius*	159	107	67%	24	15%
A617	Little Bittern	*Ixobrychus minutus*	3	2	67%	2	67%
A688	Great Bittern	*Botaurus stellaris*	3	2	67%	0	0%
A223	Boreal Owl	*Aegolius funereus*	31	20	65%	3	10%
A081	Western Marsh-harrier	*Circus aeruginosus*	8	5	63%	3	38%
A082	Northern Harrier	*Circus cyaneus*	2	1	50%	1	50%
A222	Short-eared Owl	*Asio flammeus*	2	1	50%	0	0%
A667	White Stork	*Ciconia ciconia*	2	1	50%	1	50%
A653	Great Grey Shrike	*Lanius excubitor*	39	18	46%	18	46%
A122	Corncrake	*Crex crex*	13	6	46%	1	8%
A234	Grey-headed Woodpecker	*Picus canus*	14	4	29%	1	7%
A229	Common Kingfisher	*Alcedo atthis*	163	43	26%	37	23%
A104	Hazel Grouse	*Bonasa bonasia*	13	0	0%	0	0%
A131	Black-winged Stilt	*Himantopus himantopus*	2	0	0%	0	0%
A027	Great White Egret	*Egretta alba*	1	0	0%	0	0%
A084	Montagu's Harrier	*Circus pygargus*	1	0	0%	0	0%
A132	Pied Avocet	*Recurvirostra avosetta*	1	0	0%	0	0%

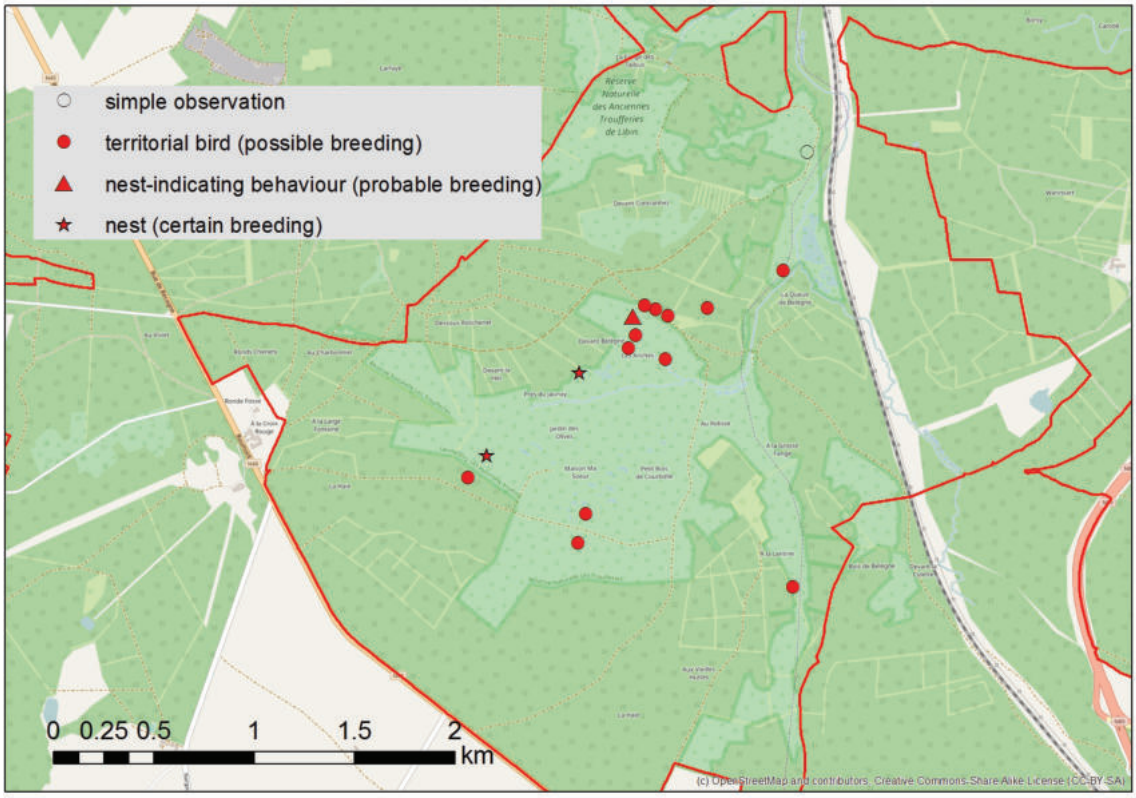

Figure 4. Example of data extracted from Observations.be that were used to estimate site-level population abundance. This example shows data from Red-Backed Shrike Lanius collurio, collected by several birdwatchers during 7 visits in late spring 2014, in a Natura 2000 from central Wallonia (red perimeter). Location of birds are accurately recorded (in some cases with GPS / smartphone) and in most cases, breeding behavior is mentioned by the observer. This (and data from other years) allowed the expert to estimate the breeding population for this site at 3–5 pairs, using a territorial mapping procedure.

rarely, details about breeding evidence are requested from the observer, if a potential breeding bird is mentioned without detail being given on its behavior. It is estimated that validators spend a total of at least 3 hours a day, on average, for this basic check of the data. We believe that this validation procedure partly explains the relatively good coverage described in this study. It also draws attention to observers that their data are useful and motivates them further.

Even in a region characterized by high accessibility (e.g. no mountainous areas, good road network), areas are heterogeneously covered. Sites within more open, natural landscapes with wetlands and moorlands tend to be better covered than forest or farmland sites. This geographical and habitat bias is reflected in the differences between species observed here. Forest birds are less well surveyed. The analysis identifies some particularly badly recorded species, like Kingfisher *Alcedo atthis*, which, in Wallonia, should be recorded by walking along linear water courses. This is apparently not a birdwatching habit for observers in Wallonia. Some species are recorded frequently, but breeding evidences are rarely documented, like for Black Stork *Ciconia nigra*.

Two main weaknesses are identified in web portal data when used for site-level monitoring. Firstly, absence of data does not indicate absence of a bird species. Although the number of visits is correlated to detection efficiency, even the more visited sites still hold species unreported in web portal data. Even using complete lists of observations to estimate effort would thus not be enough in such cases (for example for very cryptic species like Hazelhen *Bonasa bonasia*). Secondly, species abundance (i.e. number of breeding pairs per site) is not easily calculated from casual observations. In our example, expert assessments using different data sources were carried out to get these estimates. In some cases, specific field work to estimate breeding population at the site-level was conducted. However, in some cases, especially for easily detected species in well covered sites, a “minimal number of territories” could be estimated by mapping points with

breeding evidence (i.e. territorial/singing males) from the casual observations, using a simplified territory mapping procedure (Figure 4).

Some recommendations can be drawn from this case study concerning better practices in data collection through web portals. Encouraging observers to explore less covered habitats or geographical areas would help; "gamification" has been described as a possible way of increasing coverage (Ainsley & Underhill, 2017). As in many applications of web portal data, motivating birdwatchers to enter complete list of observations, rather than casual observations, would certainly increase data quality, especially because effort could be better tracked and coverage quality can be better estimated. However, for site-level applications like the one detailed here, complete list collection should ideally not influence two essential qualities of our web portal data: high accuracy of the localization of birds and notation of breeding behavior. The complete list tool in Observations.be allows for such a combination of detailed pointing of all birds, together with complete list of all observations (Paquet, 2012).

We conclude that bird recording web portals are a valuable source of data for site-level monitoring, although structured monitoring is still essential, especially if abundance estimation is needed. A good understanding of observer habits is essential to improve interpretation from web portal data. These new tools offer good opportunity to gather information at the site level for remotely surveyed areas in Europe, but validation, training and motivation of the observer network is heavily needed.

Acknowledgements

Work of this kind is only possible thanks to the dedication of thousands of observers, a warm thank you to all of them. A special thanks to Alain De Broyer for all the field work, and to Yannick Giot who collected most of the data presented in Figure 4. The validator team in Observations.be makes an essential work every day. Ruddy Cors, Quentin Smits, Patrick Verté, Pascal Ghiette & David Kever (all colleagues from SPW-DGO3-DEMNA) provided help for site-level bird population assessment. This work was supported and financed throughout by the Service Public de Wallonie (SPW-DGO3). Marc Eaton improved substantially the quality of the manuscript.

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EUROPEAN ATLAS NEWS

EBBA2: Latest pilot maps, modelling work and planning ahead

Promoted and organised by the European Bird Census Council

Sergi Herrando[1], Martí Franch[1], Petr Voříšek[2], Marina Kipson[2], Pietro Milanesi[3] and Verena Keller[3]

[1] Catalan Ornithological Institute. Natural History Museum of Barcelona. Pl. Leonardo da Vinci 4-5. 08019 Barcelona, Catalonia, Spain.
[2] Czech Society for Ornithology. Na Belidle 34 CZ-150 00 Prague 5, Czech Republic.
[3] Swiss Ornithological Institute. Seerose 1. CH-6204 Sempach, Switzerland.

e-mail addresses by order of signature:
ornitologia@ornitologia.org, marti.franch@ornitologia.org, EuroMonitoring@birdlife.cz, kipson@birdlife.cz, pietro.milanesi@vogelwarte.ch, verena.keller@vogelwarte.ch

Abstract. The last fieldwork year of EBBA2 is ongoing in 2017. A third pilot data for the European Breeding Bird Atlas 2 (EBBA2) was requested in 2016. Preliminary 50×50 km data for 15 species from all European countries were provided in a new effort of international collaboration and pilot maps were made available to the whole European atlas community. In parallel, a great progress in 10×10 km modelled maps was made thanks to the timed surveys data provided in 2015. This article summarises this work and the planning ahead up to EBBA2 publication.

Introduction

Thirty years after the production of the first European Breeding Bird Atlas (Hagemeijer & Blair 1997), the European Bird Census Council (EBCC) is working on a new European bird atlas to update the information on the distribution of breeding birds and to determine the changes occurred since then (Keller 2013). The network of national coordinators has provided three different pilot datasets during the EBBA2 fieldwork period (2013–2017). These data exchanges between national and European coordinators represented a valuable work to establish the protocols needed to mobilise the appropriate datasets in a common framework. In addition, expertise coming from all EBCC partners allowed a feedback process to fine tune the protocols for the final provision. Finally, pilot data provisions were very useful to identify gaps in coverage and capacity, and to generate preliminary maps for the promotion of the project both at European and national scales.

A previous report of the project in this journal showed the encouraging results of the first pilot data request, when 50×50 km data for five species (Eurasian Oystercatcher *Haematopus ostralegus,* Common Black-headed Gull *Larus ridibundus*, Northern Harrier *Circus cyaneus*, European Bee-eater *Merops apiaster* and Northern Wheatear *Oenanthe oenanthe*) were gathered (Herrando et al. 2015). In late 2015 a second provision of pilot data was carried out. In that case, preliminary datasets of standardised surveys were gathered and a series of pilot models were developed. In 2016 a third and latest pilot provision of 50×50 km data for 15 species was made. This report briefly summarises the results of these two provisions of preliminary data and shows the strategy developed for the final data provision, planned to be implemented during the second half of 2017 and beginning of 2018.

Figure 1. Locations of the timed surveys available for pilot modelling for EBBA2 in early 2017. For visualisation purposes the Atlantic archipelagos are not shown, but data were also available there.

The preliminary provision of timed visits and first pilot models

In 2015 national coordinators kindly provided to the EBBA2 coordination team a set of standardised data. These data were named "timed visits" because of the expected importance of the duration of the survey in terms of standardisation. In some countries, this dataset was later enriched with new timed visits data during the year 2016 and beginning of 2017. The set of standardised data includes more than 1.7 million observations in roughly 12,400 sites located in 44 countries (Figure 1). In total, records for more than 580 species were gathered. This is very probably the widest dataset of standard data ever collected in the whole of Europe and thus represents the fundamental pillar of the EBBA2 pilot modelling. In some countries, just a selection of data available was provided. In others, current fieldwork is constantly improving the coverage. This indicates that the final dataset for the real EBBA2 modelling will be even more impressive.

Currently, this dataset is being used to explore the best way of producing EBBA2 10×10 km maps by means of species distribution models (SDMs). SDMs allow inference of species occurrence in non-surveyed squares on the basis of knowledge of the patterns of species occurrence and environmental associations in a number of surveyed areas (Guisan & Zimmermann 2000). In order to achieve this goal we are evaluating 10 different algorithms to develop SDMs (Herrando et al 2017), as well as their ensemble predictions, combining species occurrences (presences/absence data) with environmental predictors (Milanesi et al. 2017). As result, a series of preliminary maps are produced, such as a first pilot map for the Sardinian Warbler (*Sylvia melanocephala*) (Figure 2).

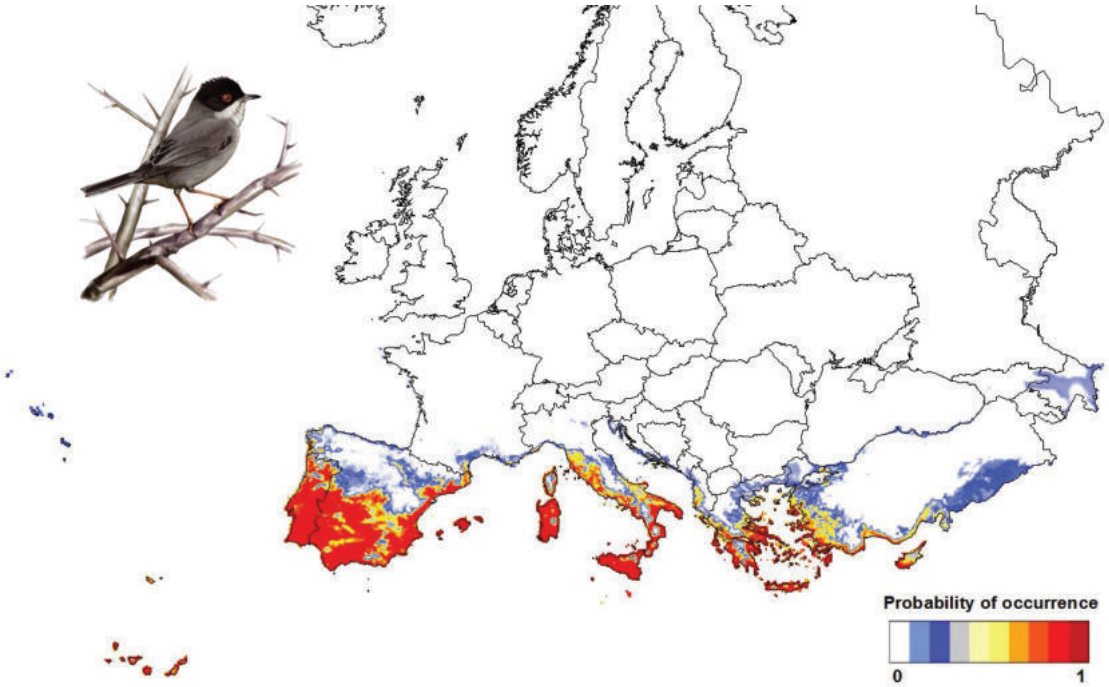

Figure 2. Pilot 10×10 km modelled map for the Sardinian warbler (*Sylvia melanocephala*) using ensemble predictions of different algorithms to develop SDMs. This first modelled pilot map shows a few inconsistencies with our current knowledge of the species distribution and will be improved with the final data.

There is still room for improvement. Actually not only precise locations of observations were reported in this preliminary data provision but also sampling method applied, time spent during each survey and date in which it was carried out. This information could be fundamental in order to overcome biased estimation of species occurrence due to the heterogeneity in data collection all around Europe. Therefore we are currently exploring possible ways to integrate them in SDMs. Moreover, we are carrying out further tests to estimate species-specific detection probability (estimated through repeated visits) and how to include it in SDMs as well as integrate information of bird occurrence at 50×50 km squares to overcome issues related to spatial autocorrelation. We expect that these additional tests will potentially strengthen the decision regarding the final modelling strategy to apply on the final data provision in the context of EBBA2.

The third data provision (50×50 km data)

The third data provision was similar to the first data provision since it referred to the EBBA2 information on breeding birds at 50×50 km level. In this occasion European coordinators requested data for the same five bird species included in the first data provision to evaluate project progress, particularly in the Eastern and Southeastern countries in which special efforts were implemented for EBBA2. In addition, a new set of 10 species was included with the intention to cover a diverse typology of species. Thus, this new set included species surveyed by means of very distinct fieldwork approaches or which have very different habitats, detectability, breeding status or recent taxonomic changes. So, the overall list of 15 species was the following: Great Cormorant (*Phalacrocorax carbo*), European Shag (*Phalacrocorax aristotelis*), Northern Harrier (*Circus cyaneus*), Baillon's Crake (*Porzana pusilla*), Eurasian Oystercatcher (*Haematopus ostralegus*), Common Sandpiper (*Actitis hypoleucos*), Common Black-headed Gull (*Larus ridibundus*), Yellow-legged Gull (*Larus michahellis*), Rose-ringed Parakeet (*Psittacula krameri*), Eurasian Eagle-owl (*Bubo bubo*), European Bee-eater (*Merops apiaster*), Sardinian Warbler (*Sylvia melanocephala*), Wallcreeper (*Tichodroma muraria*), Eurasian Blackbird (*Turdus merula*) and Northern Wheatear (*Oenanthe oenanthe*).

A total of 20,649 records from a total of 3,952 50×50 km squares were gathered from all European countries, the great majority compiled and

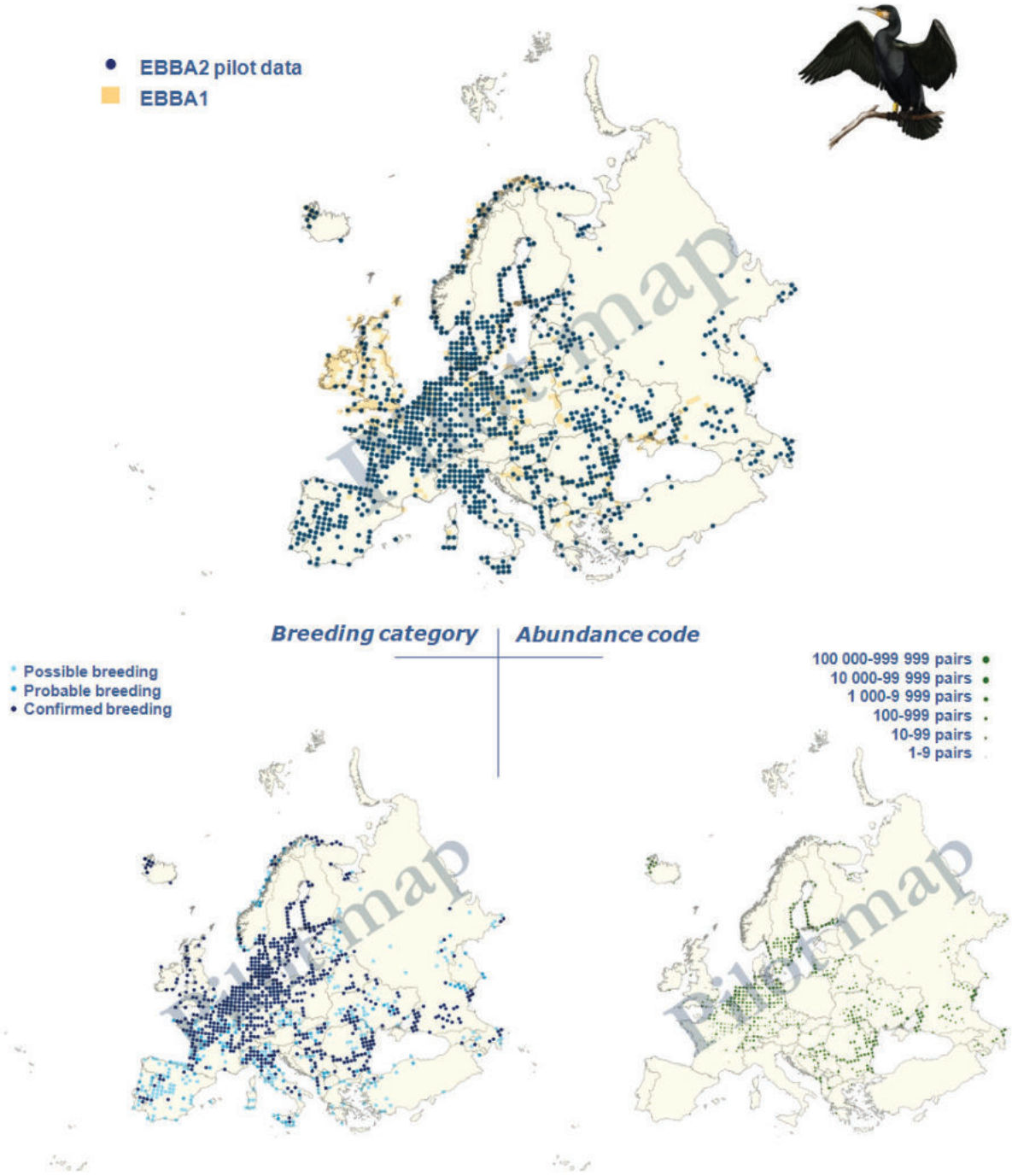

Figure 3. Maps for the Great Cormorant from the 50×50 km pilot data provision for EBBA2 (breeding occurrence, breeding category and abundance). The breeding occurrence map (top) also provides information on the squares in which the species was found during the first European breeding bird Atlas (EBBA1). For squares located across borders of two or more countries, the highest breeding category and abundance code were selected. All these pilot maps can be visualised in http://mapviewer.ebba2.info/.

sent by the national coordinators. The total coverage reached 75% of European 50×50 km squares and the great majority of the data was reported for the EBBA2 fieldwork period 2013–2016. After careful data management and search for potential mistakes, maps showing info at country level were circulated and discussed with national coordinators when necessary. Three types of pilot maps were developed and shared among the network of national coordinators: breeding occurrence (including data on first European atlas), breeding category and abundance. All the information for these 15 species is available in the EBBA2 Map Viewer (http://mapviewer.ebba2.info/).

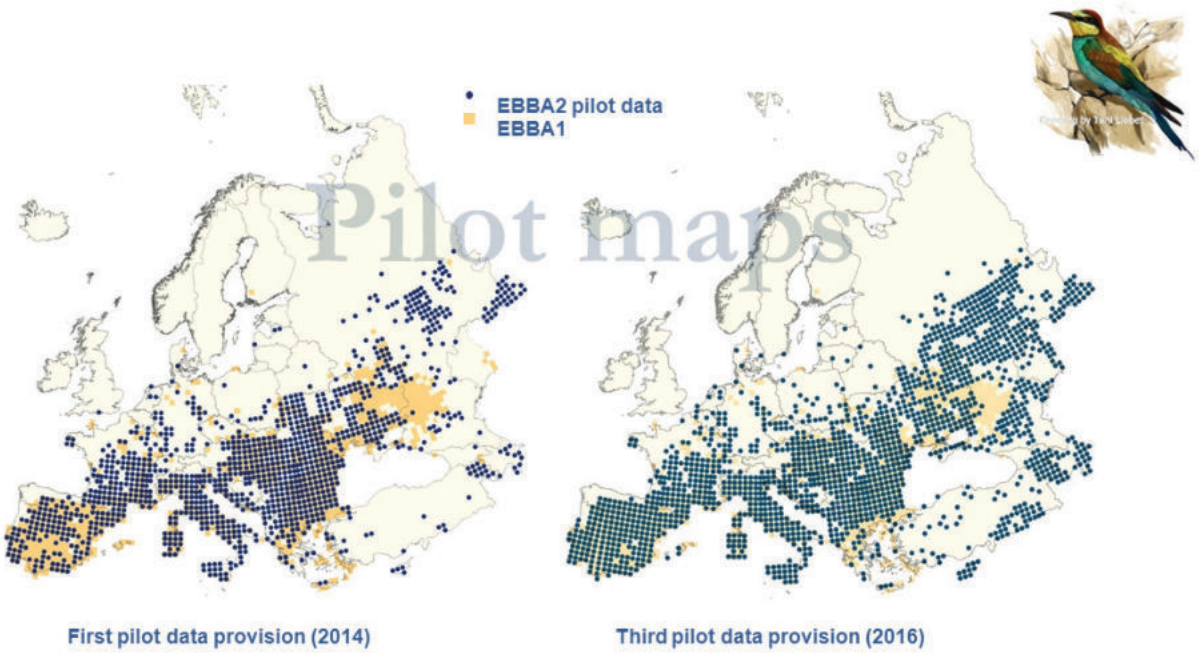

Figure 4. Comparison of the data collected for the European Bee-eater (*Merops apiaster*) in the first and third data provisions of EBBA2. Species occurrence in the first European Atlas (EBBA1) also shown.

As a first example of the great dataset compiled in the third data provision we wish to present here the pilot maps available for one of the species that have certainly increased considerably its distribution during the last 30 years: the Great Cormorant (Figure 3). In the first European atlas breeding evidence (confirmed, probable or possible) was reported for a total of 389 squares. In this pilot dataset 1,014 squares were reported (674 confirmed, 78 probable and 362 possible). Regarding population estimates, 1–9 pairs were reported in 105 squares, 10–99 pairs in 196 squares, 100–999 pairs in 199, 1000–9999 in 56 and 2 squares had, according to their national coordinators, from 10,000 to 99,999 pairs each. These latter two squares with the highest reported abundance for this species were located in the Volga delta (Russia) and in the Azov Sea (Ukraine). This is an interesting species which has attracted the attention of a specific working group. We aim to cooperate with it to improve the final dataset for the species. In a second example we focus on the project progress by showing maps compiled for the Bee-eater in both the first pilot provision of 50×50 km data (2014) and the third one (2016) (Figure 4). The species was recorded in 973 squares in the first European atlas, when a considerable part of its breeding range in Eastern Europe was not covered. In the context of EBBA2, the Bee-eater has been reported in 1,197 and 1,693 squares in the first and third data provisions, respectively. The progress done during the last two years is greatly concentrated in Eastern Europe, but also in other parts of its range such as the Iberian Peninsula. The map also shows a good example of the efforts done to cover areas where fieldwork is extremely difficult under current political situation, such as the Southeast of Turkey. In that area, the data shown correspond to data compiled by a regional atlas project carried out some years ago (Welch et al. 2004) and very kindly provided by their authors.

Planning ahead

2017 is the last EBBA2 fieldwork season and efforts to cover the remaining gaps, as identified within pilot data collations, are done across Europe. The great majority of this work will be organised at the national, regional and local levels, and the international cooperation is promoted by the EBCC. Thus, a proactive approach was taken with regards to the targeted fieldwork effort in critical gap areas. A specific challenge "Filling EBBA2 gaps" was developed in order to motivate birdwatchers across Europe to find and map the gap squares during their travelling abroad. The

challenge has very simple requirements which should lead to increased knowledge on breeding birds in gap squares with the potential for participants to win one of three Meopta binoculars which serves as the basis of motivating them. The challenge is open to anyone and we would like to motivate further people to join in.
http://www.ebba2.info/contribute-with-your-data/filling-ebba2-gaps-join-our-new-challenge/
By summer 2017 the final data request will be launched. National coordinators will be kindly asked to provide their data (both 50×50 km data and timed visits) in basically the same formats used for the previous pilot data provisions. This process will take some time at national levels and should be finished during the beginning of 2018 in order to keep all the phases of the project well scheduled, including the publication of preliminary maps and their revision. EBBA2 modellers will work hard in 2018 to have 10×10 km maps for as many species as possible by early 2019. This will be a year for writing and finalising all the details of the contents of the final product, leaving layout and printing tasks for 2020, when we will all do our best to have a published book as a Christmas present.
Future work on the Atlas will require substantial human and financial sources. In order to secure funding, we have started a species sponsorship campaign, similar to the model which was applied in EBBA1. People, NGOs, various institutions and companies now have the opportunity to sponsor their favourite species which can help ensure a successful functioning of the project until its publication. At the beginning of April 2017, around 70 species out of 550 were sponsored this way, and we would like to encourage people to continue with their contributions through our campaign. http://www.ebba2.info/support-ebba2/ebba2-species-sponsorship/

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Turkish Breeding Bird Atlas: A Big Challenge in a Big Country

Dilek Eylül Dizdaroğlu & Kerem Ali Boyla

WWF-Turkey, İlkadım mah.Dikmen cad. No: 325 Kat: 3, Çankaya, Ankara
eyluldizdar@gmail.com

Abstract. The second European Breeding Bird Atlas project (EBBA2), organised by the European Bird Census Council (EBCC) became a stimulus for a Turkish Breeding Bird Atlas and for the first country-wide breeding bird survey. The project started in 2014 and is planned to finish by 2018, and will allow us to compare the national data with data from regional atlas projects. The project depends on a citizen science approach for collecting the data: in our case we use Turkish eBird Portal: eKuşbank. Turkish Breeding Bird Atlas follows a protocol consistent with that used by EBBA2. The article presents the methods used, the organisation, data collection and the first results. With the help of 90 volunteers a total of 76 of the 166 50 × 50 km squares have been surveyed, which was the goal planned to achieve between 2014 and 2016. There is now documented breeding evidence for 296 bird species. By developing the network of birdwatchers, there is an opportunity to imbed the habit of sharing bird sightings with other birdwatchers and ornithologists, and through this, to sustain the continuous collection of bird data. This will be useful for defining the current status of birds in Turkey and will also be helpful for future academic studies.

Introduction

A total of 316 species is known to have bred in Turkey; 300 are considered to be regular breeders (though breeding has not been proven for nine of these) (Kirwan et al. 2010). Despite the species richness, country-wide systematic bird studies are very limited.

Only few regional atlas studies have been conducted in Turkey: between 1998 and 2007 in the Konya Basin (Eken & Magnin 1999), SE Turkey (Welch et al. 2004), Mediterranean region (Zeydanlı et al. 2005) and the 'so called' Anatolian Diagonal (Zeydanlı et al. 2007). There are some completed as well as ongoing surveys on particular species, mostly of conservation concern or in important bird areas.

The second European Breeding Bird Atlas project (EBBA2), organised by the European Bird Census Council (EBCC) became a stimulus for a Turkish Breeding Bird Atlas and for the first country-wide breeding bird survey. The project started in 2014 and is planned to finish by 2018, and will allow us to compare the national data with data from these regional atlas projects. Moreover, comparisons with previous surveys carried out using a similar methodology should become possible (Dizdaroğlu, Sinav, Şahin, & Boyla, 2017).

The project depends on a citizen science approach for collecting the data: in our case we use Turkish eBird Portal, eKuşbank, for data collection.

Methodology

Turkish Breeding Bird Atlas follows a protocol consistent with that used by EBBA2. Currently we do not have enough capacity, given the low number of experienced birdwatchers in Turkey, to cover all 50 × 50 km squares of the country's large surface area. This obliged us to develop a draughtboard model and intend to cover half of the squares, approximately 160 squares.

There are two elements of Turkish Breeding Bird Atlas surveys: 1) Timed survey and 2) Random survey.

Before the field work in a grid square starts, two squares of 10 × 10 km within a 50 × 50 km square are chosen for timed surveys. Volunteers conduct two hour surveys in each of these 10 × 10 km squares, one in early and the other late in the breeding season, although there is no common definition for the starting and finishing date of

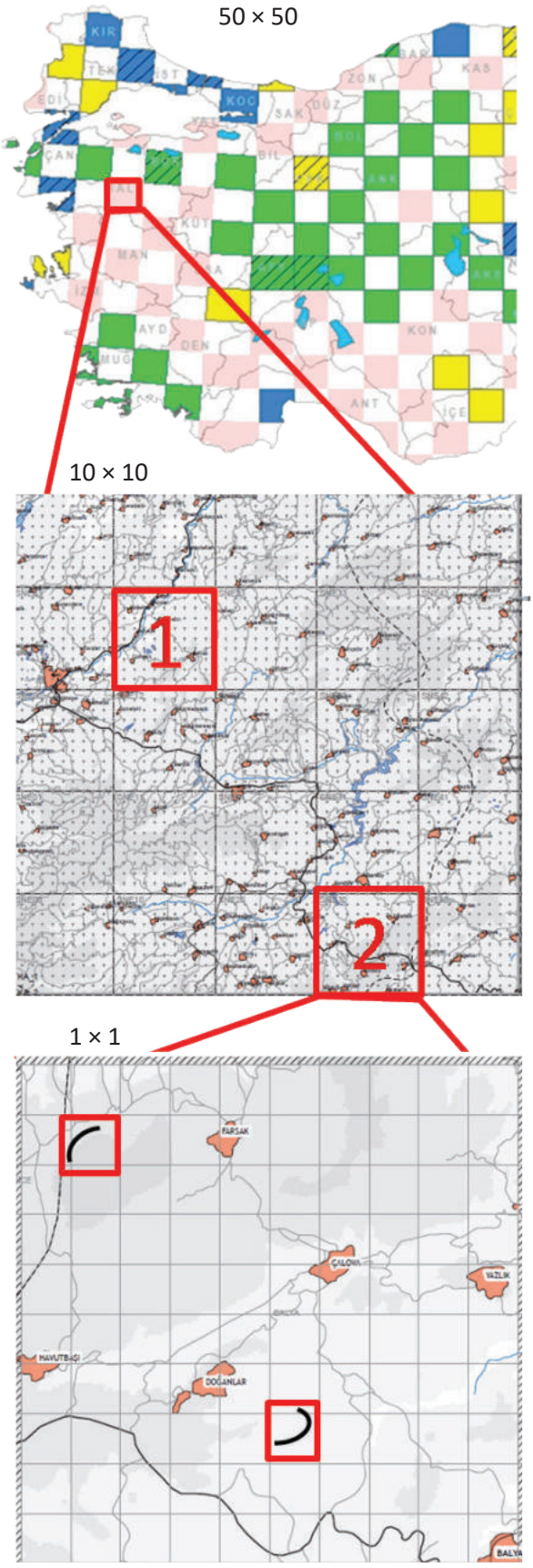

Figure 1. We carry out two transect surveys in two different 10 × 10 km squares for each 50 × 50 km grid. These 10 × 10 km squares and the transect routes are chosen on the basis of habitat and altidudinal differences.

the early and late breeding season because the breeding activity of species differ greatly across the country, also on the basis of latitude and altitude. May and June represent the peak breeding season in Turkey, when bird activity is most evident (Kirwan et al. 2010).

Observers mostly use their smartphones with GPS receivers to work on our grids and maps. To support the fieldwork we created geo-referenced PDFs, printable on A4, of each 50 × 50 km and 10 × 10 km grid, as no surveillance maps are available for public use. The same maps can also be opened on the mobile phones, using a free application, "Avenza maps", allowing navigating in the field using the digital PDF-map.

Volunteers and the atlas project team enters all the sightings into the online data portal, eKuşbank. On the field, birdwatchers collect the data in two different ways. During timed surveys, birdwatchers record every bird species they observe and their breeding codes, defined by EBBA2, trying to get the highest possible breeding code for each species. They record their sightings on forms or directly enter them in eKuşbank by using the mobile application. They note the start and end time of their transect and the coordinates of the track they walk. For the random survey, they record all the species they observe with the breeding code on a 10 × 10 km resolution inside of the square. For each 10 × 10 km of square they visit, they start a new checklist.

Organisation and Coordination

Through financial support from the EBCC, which was provided by MAVA foundation for EBBA2, The Turkish Breeding Bird Atlas has been conducted by the management by WWF-Turkey. Two project officers have worked full-time for the project since 2015.

We have organised two large scale workshops to which we invited birdwatchers and ornithologists from all around the country. We also organised seven local seminars in different cities to involve the birders in the project. Due to this project, there is a growing network among Turkish birdwatchers, especially among young and enthusiastic birders. We believe we can support this through the efforts of coordination team, and thereby overcome the problems caused by the lack of experienced birdwatchers.

When we started the Turkish Breeding Bird Atlas project, in 2014, we expected foreign birdwatch-

Figure 2. Turkish Breeding Bird Atlas Annual Workshop, October, 2016.

ers would participate in surveys, given the attraction of Turkish avifauna to European birdwatchers. However, due to the complicated political situation that Turkey has been through, we have not received the support from foreign birdwatchers we had hoped for, although the country is safe except for some parts close to the borders.
In accordance with the intention to benefit from past experiences, we started to collaborate with other NGOs who carry out ornithological surveys with the aim of including their breeding bird data into Turkish Breeding Bird Atlas. We are collaborating with Nature Research Society and Nature Conservation Centre for this purpose. We also constituted a scientific committee consisting of seven academics, in which we discuss the methodological issues. By this, we hope Turkish Breeding Bird Atlas data will be used in academic studies.

Data Collection

Data collection depends largely upon Atlas surveys planned for between 2014 and 2017. In addition, all sightings submitted to the eKuşbank data portal, which provides full access to the open data source, are being utilized. We have collected old breeding data from the collaborative NGOs, institutes and individual academicians and birdwatchers. This is especially substantial for the eastern and the south-east part of Turkey, where the lack of atlas data is bigger. We have also digitised the Konya Basin Atlas (Eken & Magnin, 1999) to create a reliable baseline for comparative bird census and distribution studies.

What do we have?

With the help of 90 volunteers we have surveyed a total of 76 of the 166 50 × 50 km squares we were aiming to achieve between 2014 and 2016. We have documented breeding evidence for 296 bird species, amongst them discovering new breeding sites during atlas surveys for Corncrake *Crex crex*, Red-footed Falcon *Falco vespertinus*, Red-breasted Flycatcher *Ficedula parva*, Red-necked Grebe *Podiceps grisegena* and Green Warbler *Phylloscopus nitidus* (Dizdaroğlu, Sinav, Şahin, & Boyla, 2017).

Figure 3. We include Anatolian Diagonal (Zeydanlı et al. 2007) and SE Turkey (Welch et al. 2004) atlas data into the Turkish Breeding Bird Atlas. As it is not possible to cover all regions in Turkey, given the current political situation, this approach is indispensable and supported by the experts of EBCC.

2017 field surveys started already. We have completed early season field surveys for 11 50 × 50 km squares by mid-April and have organised to survey 50 squares at least, for the 2017 breeding season.

What do we expect?

With the Turkish Breeding Bird Atlas, we have four major aims: 1) understanding the current status of breeding birds in Turkey 2) providing a baseline for future conservation actions 3) contributing the Turkish element to EBBA2 4) providing a brief and precise source for future academic studies.

Turkey's natural areas are threatened by many development-oriented plans. Important breeding bird habitats such as wetlands and forests are being destroyed by construction activities. Agricultural practises may also be affecting breeding bird populations. We believe this national atlas will constitute a basis for a fair assessment of land-use, water-use and forestry plans as an extensive data source for decision-makers. We already made a progress with the Turkish wildlife authorities; they appreciate the importance of the atlas work so we recently started collaborations with them.

Turkey does not have a reliable national red-list of birds yet, so data from the Turkish Breeding Bird Atlas may help to define the conservation status of species at national level.

By developing the network of birdwatchers, we also hope to imbed the habit of sharing bird sightings with other birdwatchers and ornithologists. Through this, we hope to sustain the continuous collection of bird data, collected digitally through the use of the online data portal, eKuşbank. This will be useful for defining the current status of birds in Turkey and will also be helpful for future academic studies.

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The Portuguese Atlas of Winter and Migratory Birds 2011–2013: a synopsis

João E. Rabaça[1,2,3], Carlos Godinho[1,2], Domingos Leitão[4], Hélder Costa[4], Pedro Geraldes[4], Júlia Almeida[5], Pedro Sepúlveda[6], Rita Melo[7], Frederico Lobo[8], Afonso Rocha[8, 9]

[1]LabOr — Laboratório de Ornitologia, Universidade de Évora, 7002-554 Évora, Portugal
[2]ICAAM — Instituto de Ciências Agrárias e Ambientais Mediterrânicas, Universidade de Évora, 7002-554 Évora, Portugal
[3]Departamento de Biologia, Universidade de Évora. 7002-554 — Évora, Portugal
[4]Sociedade Portuguesa para o Estudo das Aves, Av. Columbano Bordalo Pinheiro, 87, 3, 1070-062 Lisboa, Portugal
[5]Instituto da Conservação da Natureza e das Florestas, Av. da República, 16, 1050-191 Lisboa, Portugal
[6]Instituto das Florestas e Conservação da Natureza, Qta. Vila Passos, Rua Alferes Veiga Pestana 15, 9054-505 Funchal, Madeira, Portugal
[7]Direcção-regional de Ambiente, Rua Cônsul Dabney, Colónia Alemã, Apartado 140, 9901-014 Horta, Açores, Portugal
[8]Associação Portuguesa de Anilhadores de Aves
[9]MARE — Centro de Ciências do Mar e Ambiente, Departamento de Ciências da Vida, Universidade de Coimbra, 3000-456 Coimbra, Portugal
jrabaca@uevora.pt; capg@uevora.pt; domingos.leitao@spea.pt; hcosta@sapo.pt; pedro.geraldes@spea.pt; Julia.Almeida@icnf.pt; pedrosepulveda@gov-madeira.pt; Rita.FM.Melo@azores.gov.pt; frederico.lobo@icnf.pt; afonso.rocha@gmail.com

Abstract. The first Portuguese Atlas of Winter and Migratory Birds will be published in 2017 and was innovative in including the post-nuptial migratory period and data from ringing stations. The standard methodology was identical in both seasons and based on counting birds during a 30 min walk in each of six non-adjacent tetrads (2×2 km) within a 10×10 km UTM square. Additional records were also included as well as data from 26 ringing stations working only during the migratory season. It was possible to cover around 60% of the territory during the migration period and ca. 80% in winter. Despite some limitations of the project like short time for field work (only 2 consecutive winters and migratory seasons), results are very positive and set up a milestone for future initiatives.

Introduction

Bird Atlases are important tools to assess bird distributions and can provide a singular resource for studying wildlife (Gibbons et al. 2007). Moreover, they can perform as instruments to foster environmental public policies at regional and national levels and have become a popular form of citizen science (Greenwood 2006). Traditionally, most Atlases are focused on the distribution of breeding birds due to the importance of this phenological period in population recruitment. Moreover, the spatial stability of most species during the breeding season minimizes constrains derived from the high mobility of birds.

Not surprisingly, the number of atlases in Europe dealing with the distribution of bird species in winter is less common (for a review see Heldbjerg et al. 2016). The first winter atlas was carried out in the UK in the 1980'ies (Lack 1986), as a result from a partnership between the British Trust for Ornithology (BTO) and Irish Wildbird Conservancy (IWC). The first "overall-year" atlas, with distribution maps covering all seasons and for every month (also the post-nuptial migratory period) was published in The Netherlands (SOVON, 1987).

In the Iberian Peninsula, despite its utmost importance as winter area for many bird species breeding in Central and North Europe, only regional projects were undertaken until recently (Portugal — Bolton 1987, Elias et al. 1998; Spain — Del Moral 2002, Gaizarain 2006, Herrando et al. 2011). The first atlas with a national coverage

was published for Spain in 2012 (SEO/BirdLife 2012).

In Portugal, the idea of developing a national atlas for winter birds came into form in 2010 when a partnership headed by SPEA (Portuguese Society for the Study of Birds) and including the University of Évora (LabOr-Laboratory of Ornithology), applied for the EDP (Electricidade de Portugal) Biodiversity Fund with an Atlas project on winter and migratory birds to be conducted in 2011–2013. The proposal was pioneering for Portugal in including the post-nuptial migratory period, based on the importance of the country as a stopover site for long-distance migrants on their way towards Africa.

Before the kick-off of the Atlas, the partnership was reinforced with ICNF (the governmental body for nature conservation), regional government agencies in Azores and Madeira and APAA (the national association for bird ringers). The role of APAA was important for a novelty of the project which was the inclusion of data from ringing stations operating in the autumn migration period. With this task we aimed to get information about less detectable migrant species, and to understand if birds that migrate through our mainland territory do it preferentially near the coast or if they also use the interior of the country.

The Portuguese Atlas of Winter and Migratory Birds 2011–2013 (hereafter PAWMB) aimed at producing distribution and relative abundance maps for all species of winter and post-nuptial migratory birds in mainland Portugal and archipelagos of Azores and Madeira. The project was very challenging because it was scheduled for only two years of field work (imposed by the application rules of the EDP Biodiversity Fund call) to be conducted outside the usual breeding period. As an extra challenge the initiative was conceived to be greatly based in volunteer work managed by regional coordinators and the project coordination.

In this paper we will present the methodology used in PAWMB and a brief outlook of results, somehow anticipating the publication of the book which is expected to occur in 2017.

Methodology

Sampling periods, field methods and data management

The project last for 30 months, allowing the establishment of two sampling periods for each season (migratory: 2011 and 2012; winter: 2011/2012 and 2012/2013). In mainland Portugal and Madeira, surveys in the migratory period occurred between 1st of August and 15th of October and winter surveys between 15th of November and 15th of February of the following year. In the Azores both sampling periods were adjusted through a 15 days delay (Equipa Atlas in litt.).

The standard methodology was identical in both sampling periods and based on species' relative abundance obtained by counting birds in a set of six non-adjacent tetrads (2×2 km) within a 10×10 km UTM square. Each tetrad was censused during a 30 min walk. Observers were asked to select transects that cover as many habitats as possible, considering their representativeness in each square. Censuses were carried out during the 4 hours after sunrise or before sunset avoiding adverse weather conditions (extreme temperatures, strong winds, heavy rain and fog). All observations collected during standard visits outside the 30 min transects could be submitted as 'Additional Records', provided they occurred within the sampling periods established.

In order to include also data from mainland ringing stations the country was divided in 14 areas seeking the most possible regular coverage of the territory. Twenty-six ringing stations located within 24 UTM 10×10 km squares were used in this project, 16 along the coastal part of the country (hereafter referred as coast) and 8 in the interior of mainland Portugal (Figure 1). Ringing sessions were carried out only during the migratory season of 2011 with at least one sampling station in each of the 14 areas. In each sampling station two ringing sessions were conducted in the following periods: 28th August – 4th September and 25th September – 2nd October. In order to optimize captures the number of mist-nets per station was not standardized but a minimum of 100 m mist-netting per sampling period was established and results were expressed as number of birds caught per square meter. Mist-nets were open 30–45 min before sunrise and each session last for five consecutive hours.

All observations (systematic and additional) were uploaded by observers in the former national web portal for bird data (worldbirds/PortugalAves) where a special module was created for PAWMB.

Data from other sources were included also as additional records, namely those derived from monitoring schemes coordinated by SPEA (NOC-

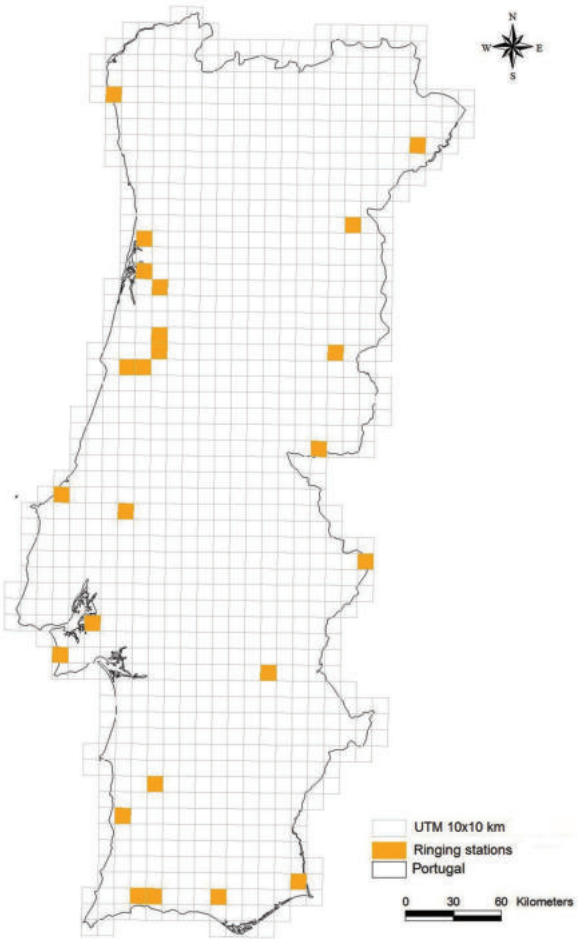

Figure 1. Location of the 24 UTM 10×10 km squares with ringing stations (16 along the coastal part and 8 in the interior of mainland Portugal). Source: Equipa Atlas in litt.

TUA-PT, ARENARIA, CANAN, RAM) and ICNF (the national monitoring programme for winter aquatic birds). An important set of data for Common quail *Coturnix coturnix* and Eurasian woodcock *Scolopax rusticola* in Azores was provided by DRRF (the regional body for forest resources). Similarly, the ANCG (national association for woodcock hunters) supply most of the records for Eurasian woodcock in mainland Portugal. Records available at online platforms like eBird (www.ebird.org) and Biodiversity4all (ww.biodiversity4all.org) were also used.

Analytical methods

Distribution maps were produced using all the records (systematic and additional). Data from systematic surveys allowed relative abundance maps (number of birds per hour) with four categories of abundance by species. These categories were based on the natural grouping of data, which means that classes were set in order to minimize the variance of data in each class.

When the number of 10×10 km squares was sufficient, we did a simple geographical interpolation to estimate the presence in unknown areas. This procedure was possible for several species. Major constrains were related with the lack of full coverage at country level, and with the unbalanced distribution of the surveyed squares.

We decided to use the number of birds per hour instead of the frequency of occurrence (expressed in the number of tetrads in which a species was recorded against the sampled tetrads) since the use of the latter would likely tend to normalize records, not reflecting the importance of certain sites for some species.

Results: a brief outlook

Sampling effort and species richness

Less than 300 volunteers conducted systematic visits along with 17 regional coordinators and 25 accredited bird ringers. In all, it was possible to cover around 60% of the national territory during the migration period and ca. 80% in winter. Although these results are below the initial expectation of more than 400 volunteers and a territorial coverage around 90%, they should be considered positive taking into account the constrains imposed by the short project period, which proved to be too small to sample all the territory.

In all, 415 species were recorded and in Figures 2 and 3 we show the species richness for mainland Portugal respectively in winter and migratory seasons. These maps include overall data (systematic visits and additional records), so a direct comparison between squares should be taken with caution due to the unevenness of effort involved (Equipa Atlas in litt.). Nevertheless, the highest number of species within a 10×10 km square was 158 in winter and 187 during autumn migration.

In winter, bird richness was higher in coastal zones close to major wetlands areas (estuaries and coastal lagoons). Largest numbers of species were detected on coastal Algarve, on the West coast between Sines and Peniche and further north between the Aveiro lagoon and Minho estuary. During migration, the number of species recorded per square was generally higher than in winter although the pattern of variation of species rich-

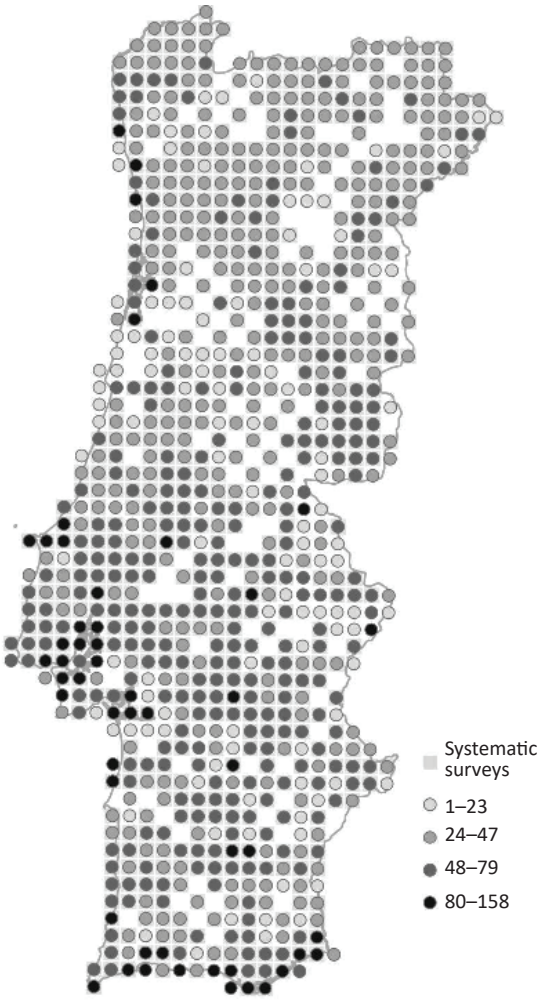

Figure 2. Map of bird richness in mainland Portugal for the winter based on data from two seasons of systematic visits plus additional records. Circles: number of species. Source: Equipa Atlas in litt.

Figure 3. Map of bird richness in mainland Portugal for the migration period based on data from two seasons of systematic visits plus additional records. Circles: number of species. Source: Equipa Atlas in litt.

Table 1. Numbers (N) and proportions (%) of birds caught in ringing sessions carried out during the autumn migration in coastal (Coast) and interior (Interior) sampling stations of mainland Portugal.

Species	Coast (N)	Interior (N)	Total (N)	% Coast	% Interior
Sylvia hortensis	–	6	6	–	100
Sylvia cantillans	14	270	284	5	95
Phylloscopus ibericus	2	20	22	9	91
Luscinia svecica	60	1	61	98	2
Acrocephalus schoenobaenus	48	2	50	96	4
Acrocephalus scirpaceus	346	33	379	91	9
Phoenicurus phoenicurus	4	13	17	27	76
Phylloscopus trochilus	232	128	360	64	36
Ficedula hypoleuca	64	41	105	61	39
Sylvia borin	83	126	209	40	60
Sylvia atricapilla	174	222	396	44	56
Sylvia communis	41	52	93	44	56

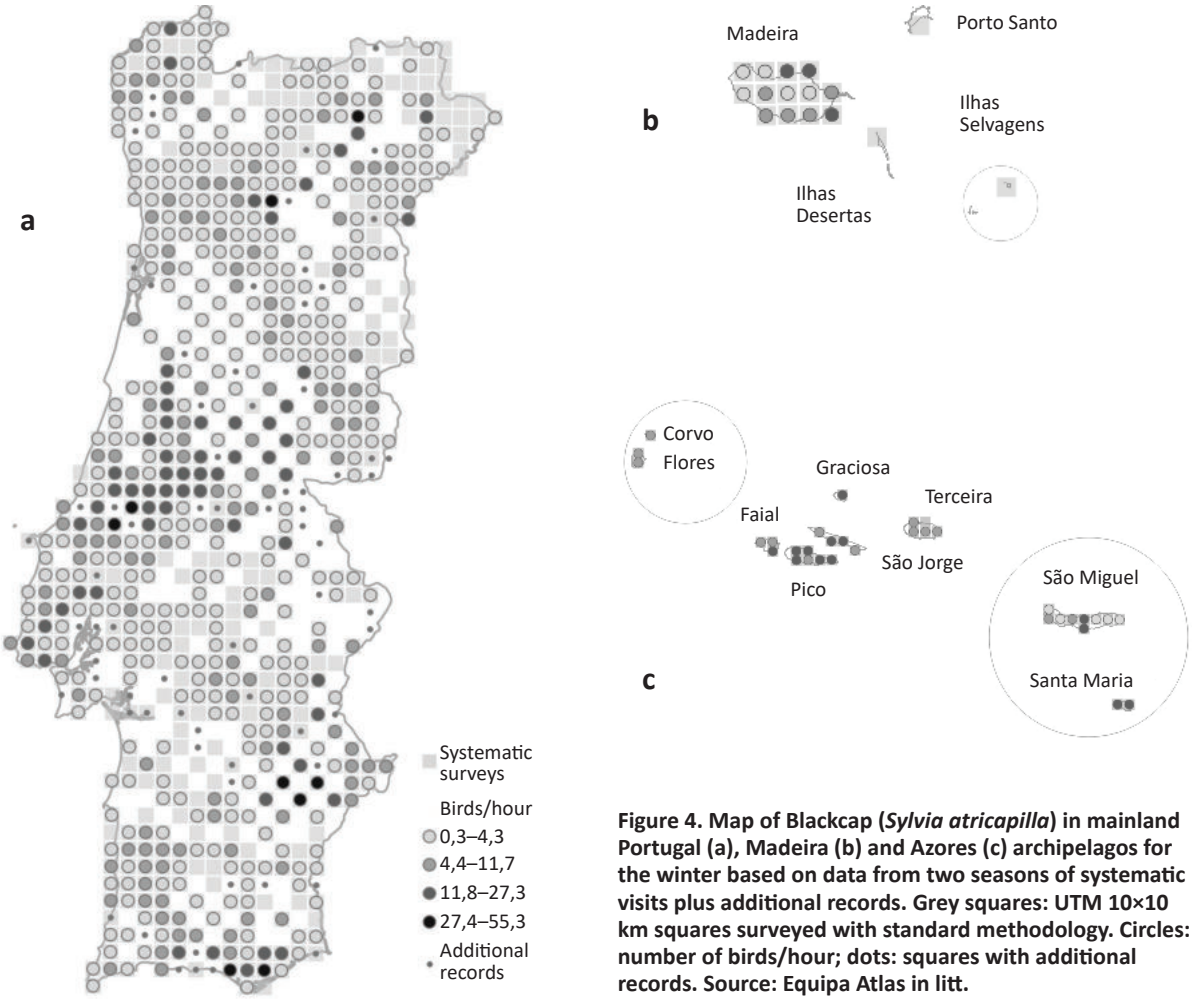

Figure 4. Map of Blackcap (*Sylvia atricapilla*) in mainland Portugal (a), Madeira (b) and Azores (c) archipelagos for the winter based on data from two seasons of systematic visits plus additional records. Grey squares: UTM 10×10 km squares surveyed with standard methodology. Circles: number of birds/hour; dots: squares with additional records. Source: Equipa Atlas in litt.

ness along the coast, Tagus and Sado valleys was similar. In the interior, however, the number of squares with high values of richness seems to be lower compared to winter, although this pattern may be real or otherwise masked by the reduced sampling effort in some of these areas.

As expected from their geographic location, the archipelagos of Azores and Madeira have richness values much lower than the mainland. In Azores there were no relevant differences in the number of species detected per square between the two periods (winter and autumn migration). On the other hand, in the archipelago of Madeira the number of species during the migration period is much higher than in winter because those islands (specially the Selvagens) are an alternative stopover site for some migratory birds between Europe and Africa (e.g. Hartog et al. 1984, Folmer & Ortvad 1992).

In what ringing sessions are concerned, the results highlight (1) the predominance of migrant species in captures and (2) the importance of the interior of mainland Portugal as a migratory passageway for long-distance migrants such as Orphean warbler *Sylvia hortensis*, Subalpine warbler *S. cantillans*, Garden warbler *S. borin* and Common redstart *Phoenicurus phoenicurus* (Table 1). Additionally, ringing sessions were useful in providing information for species with a lower detectability in systematic visits such as Garden warbler, Bluethroat *Luscinia svecica*, Sedge warbler *Acrocephalus shoenobaenus*, Eurasian reed warbler *A. scirpaceus* and Common grasshopper-warbler *Locustella naevia*.

Weather conditions during the Atlas period

The analysis of meteorological data (Instituto de Meteorologia 2012, Instituto Português do Mar e da Atmosfera 2013, Meteo France 2012, 2013, Met-Office 2012, 2013, KNMI 2012), showed that the winters of 2011/2012 and 2012/2013 were mild and to some extent favourable to a permanence of birds in Northwest Europe until

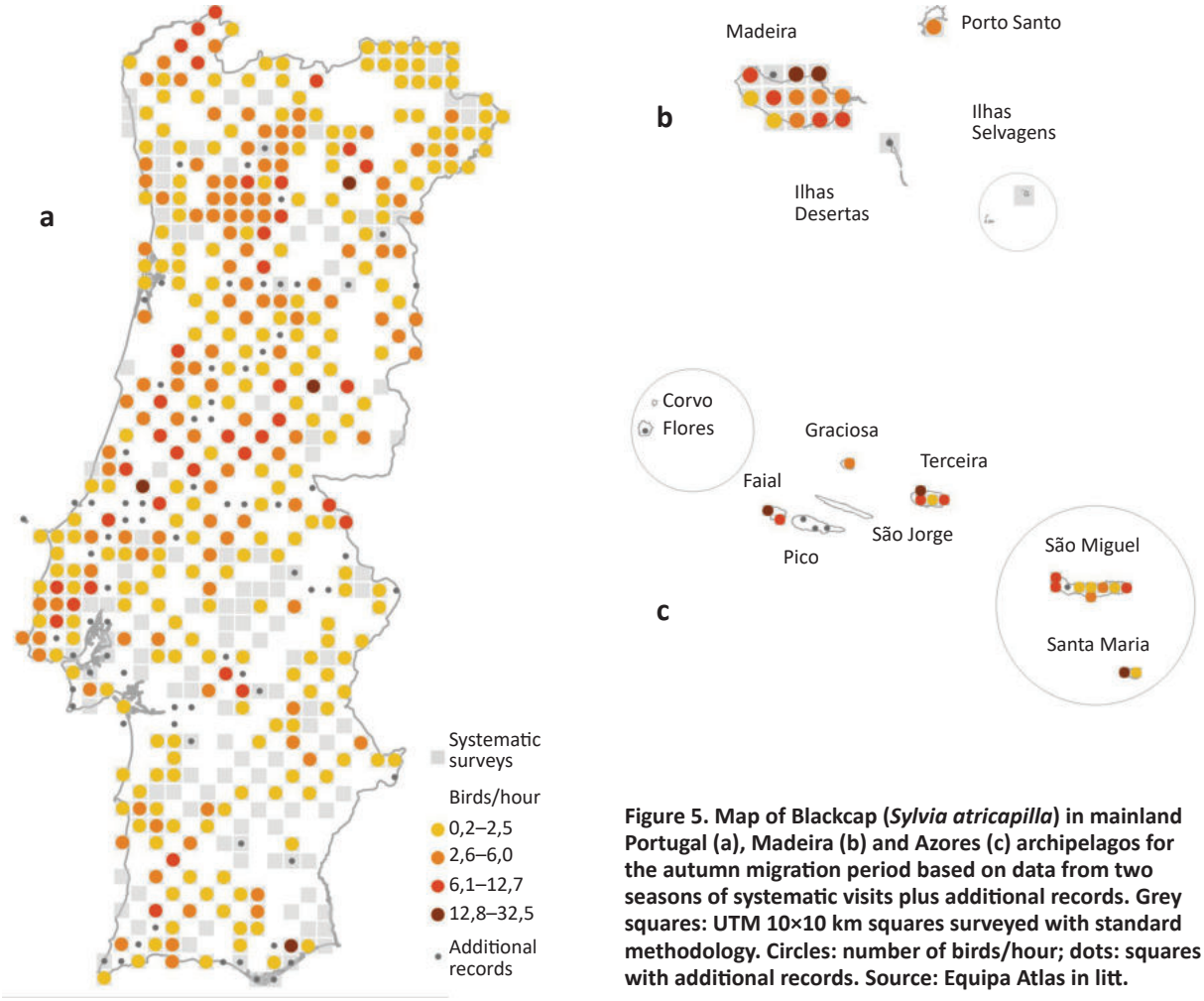

Figure 5. Map of Blackcap (*Sylvia atricapilla*) in mainland Portugal (a), Madeira (b) and Azores (c) archipelagos for the autumn migration period based on data from two seasons of systematic visits plus additional records. Grey squares: UTM 10×10 km squares surveyed with standard methodology. Circles: number of birds/hour; dots: squares with additional records. Source: Equipa Atlas in litt.

the end of January. In 2011/2012, the drought circumstances that occurred from January onwards in mainland Portugal, may have limited the occurrence of wintering birds in our territory (see Leitão & Peris 2003) eventually fostering their concentration in more favourable areas. In 2012/2013, better conditions of soil moisture and temperature throughout the territory might have lead to a greater dispersion of wintering birds. In this context, numbers of wintering birds during the two winters covered by PAWMB could be lower than in previous winters at least in agricultural zones (e.g. Leitão 2012, 2013), but possibly in other habitats as well.

A species example: the Blackcap

The Blackcap *Sylvia atricapilla* is a resident species in mainland Portugal, Azores and Madeira but in winter numbers increased in our continental area with the arrival of birds from North and Central Europe (Catry et al. 2010). Results presented in Figure 4 show that Blackcaps are widespread along mainland Portugal especially in winter where they can be locally abundant. During the migratory period (Figure 5) the distribution pattern in mainland is similar but with lower abundances, suggesting that the major influx of wintering birds to our territory will most likely occur later. In Azores the species was detected on all islands during winter but not during migration probably due to an insufficient coverage of the territory. In the Madeira archipelago the distribution of Blackcaps was similar in both seasons (Equipa Atlas in litt.).

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EUROPEAN MONITORING NEWS

Ten years of the BirdLife Cyprus Common Bird Monitoring Scheme, 2006–2015

Martin Hellicar & Christina Ieronymidou

BirdLife Cyprus, P.O. Box 12026 2340 Nicosia, Cyprus
martin.hellicar@birdlifecyprus.org.cy; christina.ieronymidou@birdlifecyprus.org.cy

Abstract. We present here the first findings of the BirdLife Cyprus Common Birds Monitoring Scheme (CBMS), set up in 2006 and expanded in 2013 thanks to state funding. The aim of the CBMS is to capture a representative sample of common breeding birds in all major habitats in Cyprus, in order to reliably track the trends in numbers of these birds and also in order to gather data on population densities. We report here on trends in the populations of common birds, and on indexes derived as indicators for common, farmland and forest bird groupings, but not on density estimates. Tracking wild bird populations in this way allows conservationists to monitor the state of our countryside. Understanding whether these populations are stable, increasing or decreasing is fundamental to bird conservation efforts. Indexes derived from the CBMS provide the best currently available indicators of the state of the environment in Cyprus. The first results for the Common Bird Indicator suggest that numbers of common birds in Cyprus were relatively stable and recovering after a decline during the period 2006–2009. The pattern is similar for the Farmland Bird Indicator, though the decline during 2006–2009 is more marked and subsequent recovery weak, compared to common birds as a whole. The Forest Bird Indicator shows a pattern similar to that for common birds, but without the clear 2006–2009 decline in numbers.

Introduction

Prior to 2006, there existed no reliable picture of the national population sizes, densities or trends for the common and widespread birds of Cyprus. Monitoring programmes run by the Cyprus Game and Fauna Service and by BirdLife Cyprus existed for many rarer or habitat or site restricted species, such as birds of prey like the Griffon Vulture *Gyps fulvus*, Bonelli's Eagle *Aquila fasciata*, Eleonora's Falcon *Falco eleonorae* and wetland birds, such as Kentish Plover *Charadrius alexandrinus* and Spur-winged Lapwing *Vanellus spinosus*. However, reliable population estimates for more widespread and common species such as European Goldfinch *Carduelis carduelis*, House Sparrow *Passer domesticus* and Crested Lark *Galerida cristata*, were not available. Without such information, gathered in a scientifically rigorous manner and updated on an annual or near-annual basis, it was not possible to know what the conservation status of the common species of Cyprus was.

An important suite of species among these common birds, from both a conservation and policy point-of-view, is that of farmland birds. Systematic monitoring of farmland birds is an obligation of European Union Member States for the delivery of wild bird indicators, used as a proxy for the conservation status of farmland and as indicators of sustainable development (Gregory et al. 2008). Information on population trends of farmland birds provides much of the necessary evidence base for appropriate planning of farmland management actions and the conservation of farmland biodiversity.

In 2010, a workshop was organised by BirdLife Cyprus and the Cyprus National Rural Network (EAD) entitled 'Development of a single methodology for a Cyprus Farmland Bird Indicator', involving all stakeholders as well as invited experts from the European Bird Census Council (EBCC). The workshop concluded in a proposal for establishment of a volunteer-based common bird monitoring scheme for Cyprus. Following on from this workshop, the Cyprus Department of Agriculture awarded a two-year (September 2012 — September 2014) service contract to BirdLife Cyprus for the establishment of volunteer-based common bird monitoring scheme and delivery of a Farmland Birds Index for Cyprus.

Methods

In the early years of the scheme (2006–2012), two separate, smaller monitoring programmes were in operation, one west Cyprus scheme ran by Professor Derek Pomeroy of Makerere University, Uganda (Pomeroy & Walsh, 2015), and the other a pilot volunteer-based, BirdLife Cyprus scheme. These two schemes were merged and expanded in 2012 to form a comprehensive all-island CBMS, with 156 sampling locations (Figure 1). This represented a near-doubling of the 84 sites covered during the period 2006–2012, under the older schemes. At the time of writing, and due to the division of the island, the coverage of the scheme effectively only extends to Cyprus south of the dividing line, with only four CBMS sites north of the dividing line. In the long term, the scheme aims to achieve representative coverage over the entire island.

The sampling unit for the CBMS is a 1×1 km square. The 156 sampling locations are selected randomly with stratification by habitat. When expanding the CBMS scheme in 2012, eight broad habitat categories were mapped for Cyprus on the basis of the 2006 CORINE land cover classification system (MANRE 2009). Within each broad habitat category, and after incorporating the 84 sites from the two pre-existing schemes, new 1×1 km squares were randomly added, until a target number of sites had been reached for each habitat category, proportional to the actual relative extent of each habitat type and evenly spread across all administrative districts, to achieve a balanced geographical coverage of Cyprus.

The eight habitat categories used include all natural and man-made habitats, including built-up areas, but not wetlands as these are covered under a separate monitoring scheme. The habitat categories are: Forest (mostly pines), Scrub (maquis and garrigue), Phrygana (low, open scrub with grasses), Groves (Olives, Citrus, Carob, etc), Mosaic (small farm plots with permanent and annual crops, mixed with patches of natural vegetation), Vines, Cereals (mostly barley and wheat fields) and Towns (and villages).

The CBMS concentrates on the 40 species identified as common breeding birds of Cyprus (Table 1). Of these species, a sub-set of 25 are largely dependent on farmland habitats, including cultivation, permanent crops and grazed scrub and prhygana, and 17 are largely dependent on forest habitats (16 common birds, plus the Cyprus Short-toed Treecreeper *Certhia brachydactyla dorothea*, which is not strictly speaking a common breeding bird in Cyprus, but is recorded during surveys).

Within each 1×1 km sampling plot, a track is chosen for a walked line transect bird survey. Surveys are carried out during the breeding season (March to June) each year, with one early survey in March or April and one late survey in May or June. Surveys are carried out by a team of volunteers, who receive specific training on the survey methodology. All species seen or heard are recorded in distance bands either side of the transect line (0–25 m, 25–100 m, >100 m), while walking at a very slow pace. Transects are around 1 km long, but can be longer or shorter, depending on the availability of suitable tracks. Recording in distance bands allows the data collected to be analysed to derive estimates of density for individual species. We report here on trends in the populations of common birds, but not on density estimates. Prior to this paper, trend data had been presented only in reports to the Cyprus government relating to the service contract to produce the Farmland Bird Index for the island.

To overcome between-year variations in sampling, analysis of the data is carried out using the purpose-designed software package TRIM (TRends and Indices for Monitoring data, Pannekoek & van Strien 2001), developed by Statistics Netherlands and used widely across Europe for analysis of trend data for bird populations. Following Pan-European Common Bird Monitoring Scheme (PECBMS) guidance, the trends for single species generated using TRIM (Table 2) are aggregated in a standardised manner to produce trend indexes for groups of bird species, such as the Common Birds Index, Farmland Bird Index and Forest Bird Index. CBMS data on all 40 common breeding bird species from all survey sites are used to derive the

Figure 1. The 156 BirdLife Cyprus Common Birds Monitoring Scheme survey sites (1×1 km squares in black) were selected randomly, with stratification by habitat and ensuring an even coverage of Cyprus. The island's dividing line is shown in red.

Table 1. The CBMS programme focuses on 40 common breeding species, of which 25 are classified as predominantly farmland birds in Cyprus and included in the Farmland Bird Index, and 17 are classified as predominantly forest birds. Note that some species are classified as both farmland and forest birds.

Species included in the Cyprus Farmland Birds Index — 25 species				
Falco tinnunculus *Alectoris chukar* *Francolinus francolinus* *Coturnix coturnix* *Columba palumbus*	*Streptopelia turtur* *Clamator glandarius* *Athene noctua* *Coracias garrulus* *Galerida cristata*	*Hirundo rustica* *Oenanthe cypriaca* *Cisticola juncidis* *Iduna pallida* *Sylvia conspicillata*	*Sylvia melanocephala* *Parus major* *Pica pica* *Corvus corone cornix* *Passer hispaniolensis*	*Chloris chloris* *Carduelis carduelis* *Linaria cannabina* *Emberiza melanocephala* *Emberiza calandra*
Species included in the Cyprus Forest Birds Index — 17 species				
Columba palumbus *Streptopelia turtur* *Troglodytes troglodytes* *Oenanthe cypriaca*	*Cettia cetti* *Hippolais pallida* *Sylvia melanothorax* *Periparus ater cypriotes*	*Parus major* *Certhia brachydactyla dorothea* *Lanius nubicus* *Garrulus glandarius glaszneri*		*Fringilla coelebs* *Serinus serinus* *Chloris chloris* *Carduelis carduelis* *Emberiza caesia*
Species included in the Cyprus Common Birds Index — 40 species				
Falco tinnunculus *Alectoris chukar* *Francolinus francolinus* *Coturnix coturnix* *Columba palumbus* *Streptopelia decaocto* *Streptopelia turtur* *Clamator glandarius*	*Athene noctua* *Apus apus* *Coracias garrulus* *Galerida cristata* *Hirundo rustica* *Cecropis daurica* *Delichon urbicum* *Troglodytes troglodytes*	*Oenanthe cypriaca* *Cettia cetti* *Cisticola juncidis* *Iduna pallida* *Sylvia conspicillata* *Sylvia melanocephala* *Sylvia melanothorax* *Periparus ater cypriotes*	*Parus major* *Lanius nubicus* *Garrulus glandarius glaszneri* *Pica pica* *Corvus monedula* *Corvus corone cornix* *Passer domesticus* *Passer hispaniolensis*	*Fringilla coelebs* *Serinus serinus* *Chloris chloris* *Carduelis carduelis* *Linaria cannabina* *Emberiza caesia* *Emberiza melanocephala* *Emberizacalandra*

Common Birds Index for Cyprus, while data on the 25 farmland dependent species from surveys sites located in farmland habitat are used to derive the Farmland Bird Index for Cyprus, and data on the 17 forest dependent species from forest habitat sites are used to derive the Forest Bird Index for Cyprus (Figure 3).

Results and discussion

In total, over 1,300 CBMS surveys were carried out across Cyprus over the period 2006–2015, by a team of trained volunteer field recorders. The number of sites each year varied considerably (Figure 2). This inter-annual variation in coverage was partly down to availability of volunteers and funding. The large increase in coverage from 2013 was achieved through direct funding for the BirdLife Cyprus CBMS provided by the Cyprus Agriculture Department during the period 2012–2014, under a service contract for the production of the Farmland Bird Index for Cyprus.

Both the Common Birds Index and the Farmland Bird Index appear to show a decline during the

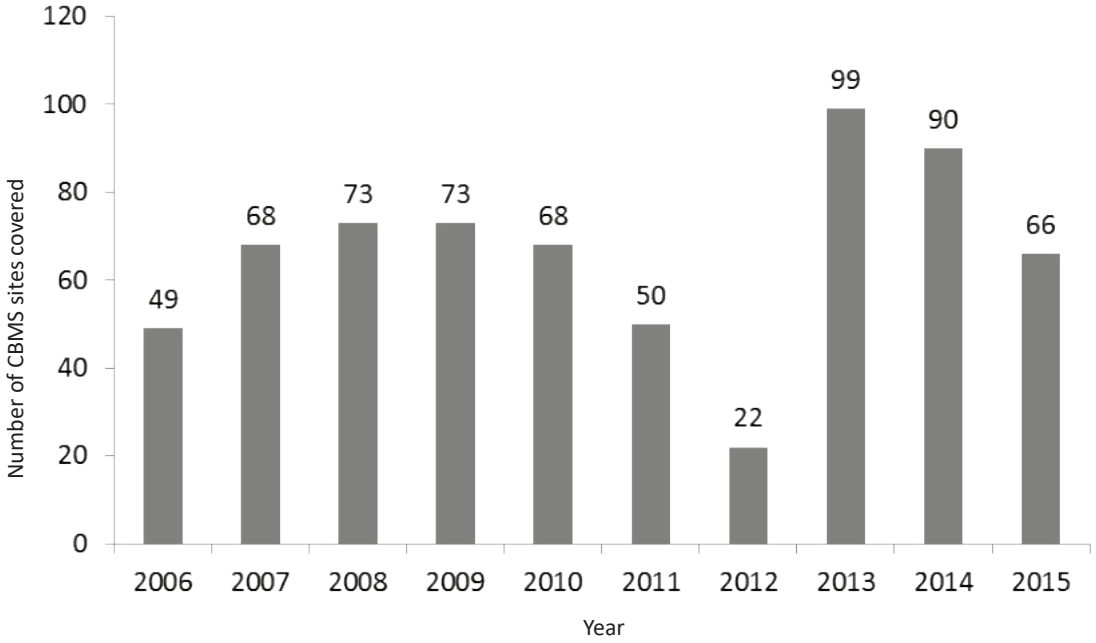

Figure 2. Inter-annual variation in BirdLife Cyprus Common Bird Monitoring Scheme survey site coverage over the period 2006–2015. The total number of sites was 84 up to 2012, and 156 from 2013 onwards.

period 2006–2009, with this decline being more pronounced for the sub-set of 25 bird species largely dependent on farmland. The year 2009 represents a 'low point' for common birds as a whole, for farmland birds in particular and also for forest birds, probably related to the below average (500mm) rainfall levels in Cyprus over the period 2005–2008 and the drought of 2007/08. The 'peak' seen for all three indicators in 2013 could be related to the preceding winter being the wettest over the survey period ((Meteorological Service undated)).

From 2010 onwards, there appears to be a recovery evident for both common birds and for farmland birds, though farmland birds only return to the baseline level in 2013 and decline again thereafter. Common bird numbers therefore appear to be more stable overall than those for farmland birds over the ten year period. This suggests birds that are more dependent on farmland habitats fared worse during this period than common birds as a whole in all habitats taken together. But note the patterns apparent in Figure 3 were not tested statistically.

At a European scale, the intensification of farming practices on the one hand and the abandonment of traditional farming on the other, have led to marked declines in farmland birds and other wildlife across the continent in recent decades (Farina 1997, Donald et al. 2001, Benton et al. 2002, Donald et al. 2006). While the reasons behind the negative trend for farmland bird numbers in Cyprus over the period 2006–2015 are not clear, both intensification and abandonment patterns have been evident in Cyprus farmland in recent decades (Ieronymidou 2012). These changes are likely to have had a degrading effect on the quality of farmland as a habitat for birds and wildlife in general, as has been shown to be the case for Europe as a whole.

The Forest Birds Index shows that the sub-set of forest birds fare better in general than common birds and better than farmland birds. Notably, the decline over the period 2006–2009 is not evident for forest birds, though 2009 is again a 'low point'. Overall, the Forest Bird Index can be said to be stable over the period 2006–2015.

BirdLife Cyprus contributes CBMS data from Cyprus to PECBMS, which produces indexes for common, farmland and forest birds at a European level, pulling together data from 28 different countries (Van Strien et al. 2001, Gregory et al. 2008). While these European indexes are much longer-term than the Cyprus indexes (since 1980 compared to since 2006 for Cyprus), it is evident that there is a broad similarity in the patterns shown for common breeding birds at the pan-European and Cyprus scales. At both scales, farmland birds have fared worse. The major difference is the catastrophic and continuing decline in farmland bird populations seen across Europe since 1980. This dramatic decline has not been

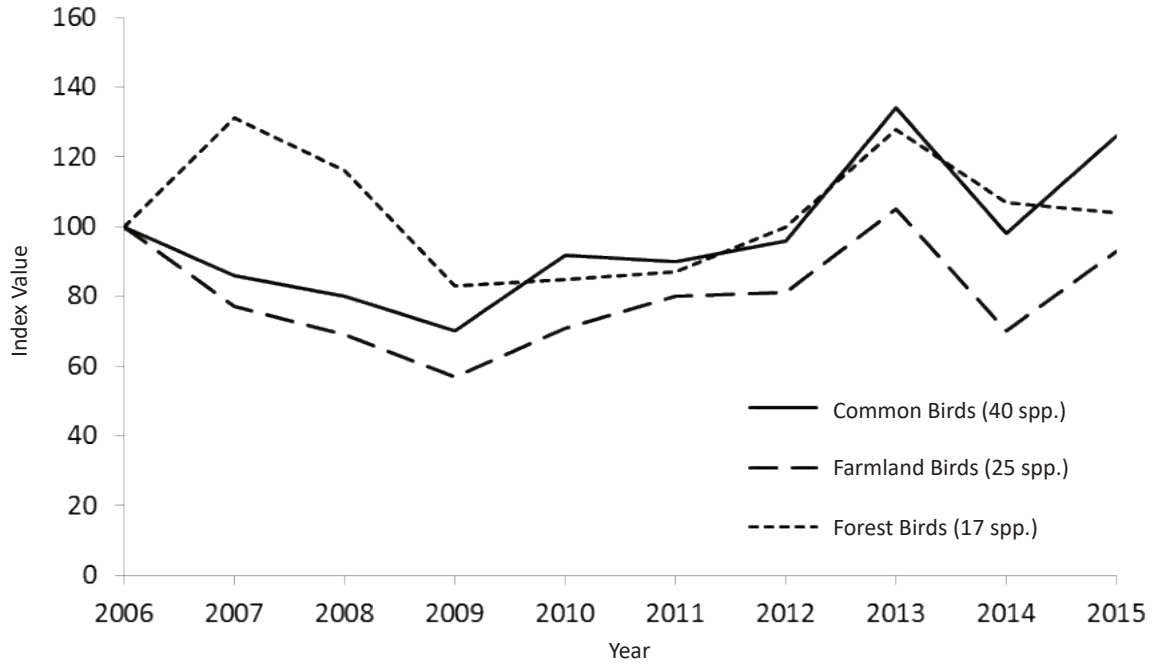

Figure 3. Wild bird indicators for Cyprus 2006–2015. The Common Bird Indicator (solid line) shows that numbers of common birds in Cyprus were relatively stable and recovering after a decline during the period 2006–2009. The pattern is similar for the Farmland Bird Indicator (long dash) though the decline during 2006–2009 is more marked and subsequent recovery weak, compared to common birds as a whole. The Forest Bird Indicator (short dash) shows a very similar trend to that for common birds, but without the clear 2006–2009 decrease in numbers. The 'peak' seen for all three indicators in 2013 could be due to the preceding winter being the wettest over the survey period.

recorded in Cyprus, at least not in the recent short term over the period 2006–2015. Sadly, there is no systematic data available on longer term population trends for common breeding birds in Cyprus.

Acknowledgements

The data presented and analysed in this report was collected by a team of volunteer bird recorders, both local and visiting, coordinated under the BirdLife Cyprus Common Birds Monitoring Scheme (CBMS). A special thank-you is due to these dedicated volunteers, who are: Aaron Howe, Adam Millington, Alan Crabtree, Alan & Sue Colquhoon, Alan Turtle, Alan Tye, Alison McArthur, Anders Gray, Anna Pitzi, Bill Barker, Bob Peel, Bob Johnston, Brian & Marny Willis, Chris Stavrou, Clairie Papazoglou, Colin Richardson, Dave & Jan Walker, David & Judy Dawes, Dindy Drury, Hugo Sampaio, Ioanna Ioannidou, Jane Stylianou, Jim Muncey, Johannes Honold, John & Ann Stapley, June Neal, Kostas Kailis, Larry Dyke, Martin Hellicar, Melis Charalambides, Nick Pollard, Nigel Cottle, Panicos Panayides, Paul Watson, Paul & Melanie Curry, Peter Evans, Peter Beckenham, Peter Moore, Ray Atkinson, Stavros Christodoulides, Sue Todd and Thjis Valkenburg. A particular mention and many thanks are also due to Prof. Derek Pomeroy, of Makerere University, Uganda, who set up the first common birds monitoring scheme in Cyprus, in the West of the island, and contributed all his field data (and expert advice besides) to the CBMS.

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Table 2. Overview of individual trends for common breeding birds in Cyprus 2006–2015. The population index trends for the 40 common breeding bird species across all (non-wetland) habitats ('Overall') and also, where the species occurs in these habitats to a significant extend in Cyprus, in farmland habitats ('Farmland') and in forests ('Forest'). 'Strong Increase' signifies an increase significantly more than 5% per year. 'Moderate Increase' signifies a significant increase, but not significantly more than 5% per year. 'Stable' signifies no significant increase or decline, and most probable trends less than 5% per year. 'Uncertain' signifies no significant increase or decline, and unlikely trends are less than 5% per year. 'Moderate Decline' signifies a significant decline, but not significantly more than 5% per year. 'Steep Decline' signifies decline significantly more than 5% per year (5% would mean a halving in abundance within 15 years).

Species	Overall (for 156 sites across all habitats)	Farmland (for 114 farmland sites)	Forests (for 26 forest sites)
Common Kestrel *Falco tinnunculus*	Uncertain	Uncertain	
Chukar *Alectoris chukar*	Uncertain	Uncertain	
Black Francolin *Francolinus francolinus*	Moderate Increase	Moderate Increase	
Common Quail *Coturnix coturnix*	Uncertain	Uncertain	
Common Woodpigeon *Columba palumbus*	Uncertain	Uncertain	Uncertain
Eurasian Collared-dove *Streptopelia decaocto*	Uncertain		
European Turtle-dove *Streptopelia turtur*	Uncertain	Uncertain	Uncertain
Great Spotted Cuckoo *Clamator glandarius*	Uncertain	Uncertain	
Little Owl *Athene noctua*	Uncertain	Uncertain	
Common Swift *Apus apus*	Uncertain		
European Roller *Coracias garrulus*	Moderate Decline	Moderate Decline	
Crested Lark *Galerida cristata*	Uncertain	Uncertain	
Barn Swallow *Hirundo rustica*	Moderate Decline	Moderate Decline	
Red-rumped Swallow *Cecropis daurica*	Uncertain		
Northern House Martin *Delichon urbicum*	Moderate Increase		
Northern Wren *Troglodytes troglodytes*	Strong Increase		Moderate Increase
Cyprus Wheatear *Oenanthe cypriaca*	Stable	Uncertain	Uncertain
Cetti's Warbler *Cettia cetti*	Moderate Increase		Uncertain
Zitting Cisticola *Cisticola juncidis*	Moderate Increase	Moderate Increase	
Olivaceous Warbler *Iduna pallida*	Stable	Uncertain	Uncertain
Spectacled Warbler *Sylvia conspicillata*	Uncertain	Uncertain	
Sardinian Warbler *Sylvia melanocephala*	Strong Increase	Strong Increase	
Cyprus Warbler *Sylvia melanothorax*	Stable		Uncertain
Cyprus Coal Tit *Periparus ater cypriotes*	Moderate Increase		Moderate Increase
Great Tit *Parus major*	Strong Increase	Strong Increase	Uncertain
Masked Shrike *Lanius nubicus*	Uncertain		Uncertain
Cyprus Jay *Garrulus glandarius glaszneri*	Moderate Increase		Moderate Increase
Eurasian Magpie *Pica pica*	Stable	Stable	
Eurasian Jackdaw *Corvus monedula*	Moderate Increase		
Hooded Crow *Corvus corone cornix*	Stable	Uncertain	
House Sparrow *Passer domesticus*	Strong Increase		
Spanish Sparrow *Passer hispaniolensis*	Uncertain	Uncertain	
Common Chaffinch *Fringilla coelebs*	Strong Increase		Strong Increase
European Serin *Serinus serinus*	Strong Increase		Uncertain
European Greenfinch *Chloris chloris*	Uncertain	Moderate Increase	Steep Decline
European Goldfinch *Carduelis carduelis*	Stable	Stable	Moderate Decline
Common Linnet *Linaria cannabina*	Uncertain	Uncertain	
Cretzschmar's Bunting *Emberiza caesia*	Moderate Increase		Uncertain
Black-headed Bunting *Emberiza melanocephala*	Moderate Decline	Moderate Decline	
Corn Bunting *Emberiza calandra*	Strong Increase	Strong Increase	
Short-toed Treecreeper *Certhia brachydactyla dorothea*			Moderate Increase

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BOOKS AND JOURNALS

Busch, M., Gedeon K., Flade M. & Dierschke V. (Ed) 2017. Proceedings of the 20th International Conference of the European Bird Census Council (EBCC), Bird Numbers 2016, Birds in a changing world, Halle, 5–9/09 2016. Die Vogelwelt 2017: 1 & 2, 124 pp.
Order online: http://www.vogelwelt.com/?page_id=2190. Prize hard copy: 16 Euro (per issue)

The proceedings of last EBCC conference in Halle, hosted by Dachverband Deutscher Avifaunisten (DDA) cover 30 papers that reflect a variety of topics and themes addressed in the plenaries, talks and posters. They are a nice illustration of how vivid the European Bird Census Council network is and what progress has been made.

The proceedings are split over two issues. The first one covers contributions on atlas studies and the monitoring of breeding birds and starts with a description of the historical development of the EBCC and the first European Breeding Bird Atlas. Issue two covers the monitoring of staging and wintering birds, papers on land use impacts, the habitat and distribution of birds, as well as a few topics discussed only by single contributions.

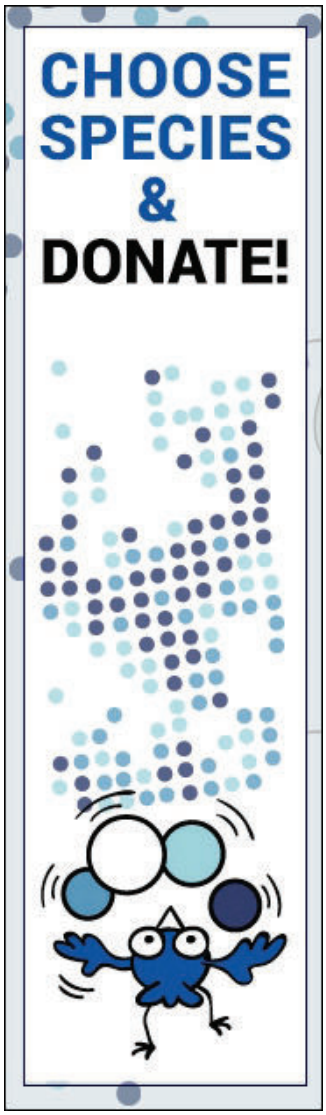
The Editors

BirdLife International 2017. European birds of conservation concern: populations, trends and national responsabilities. Cambridge, UK, BirdLife International, ISBN-912086-00-9, 170 pp.
Download digital version for free: http://www.birdlife.org/sites/default/files/attachments/European%20Birds%20of%20Conservation%20Concern_Low.pdf

This publication summarises the conservation status of 541 wild bird species in 50 European countries and territories (based on the 2016 IUCN Global Red List and taxonomic update), and aims to help national governments to easily identify the species that are in urgent need of attention and protection.

NEWS

EBBA2 Species Sponsorship



The EBBA2 species sponsorship campaign (see: http://www.ebba2.info/support-ebba2/ebba2-species-sponsorship/) is going well and the EBBA2 coordination team brings some news on their laterst activities.

In the first half of 2017, within the frame of European Breeding Bird Atlas 2, we have managed to support data collection and coordination work in as much as 21 countries in South-Eastern and Eastern Europe. This year we have already been notified about some interesting findings — e.g. in Bosnia and Herzegovina, two new species were confirmed breeding for the country during the fieldwork in spring (Common rosefinch and Greylag goose). Similarly, we are constantly developing new ways and providing the countries that need the support with necessary know-hows**, so** that the transfer of the vast amount od data from national level to the European one runs smoothly at the end of 2017. For this reason we developed an online tool that enables national coordinators to easily check and control their data which will help them in the final data submission. Our most important achievement in the first half of 2017 was the production of pilot maps for 15 chosen bird species — a total of 20,649 records from a total of 3,952 50×50 km squares were gathered from all European countries! You can have a look at the maps here: http://mapviewer.ebba2.info/.

However, we are still far from our ambitious goal — producing the breeding distribution maps of all bird species for the entire Europe. Although data collection in the field will finish in 2017, we will need resources for final data collation and subsequent complex analysis of all the received data as well as preparations for the publication. The main bulk of our work in the last 3 years was possible due to a large grant that ends in 2017. The overall estimated costs for the next three years reach as much as 400,000 euros and the EBBA2 team will definitely knock on every door — campaigning and constantly seeking new grant and funding opportunities.

We would be extremely grateful if you decide to further in EBBA2 species sponsorship — either as a donor, or by spreading the word on EBBA2 among your network of people. Engaging and recommending EBBA2 to more people is equally important to us!

If you wish to regularly follow the progress of EBBA2, feel free to visit and share our EBBA2 web (www.ebba2.info) or Twitter (www.twitter.com/newebba), and Facebook account (www.facebook.com/EBBA2.info).

EBBA2 coordination team

Job announcement: Coordinator of the Pan-European Common Bird Monitoring Scheme

The Czech Society for Ornithology (CSO) is offering a position of Coordinator of the Pan-European Common Bird Monitoring Scheme.

Job description & person specification

Position: Coordinator of the Pan-European Common Bird Monitoring Scheme

Full time: Fixed contract for 2 years

Salary: 29 000, CZK Brutto

Place: CSO office, Na Bělidle 34, Praha 5, Czechia

Reporting to: Project manager (head of International monitoring & research).

Main contacts/areas for liaison:

- CSO staff in International monitoring & research unit
- Other CSO staff, especially Financial manager and accountant
- Project Steering & Technical Group
- RSPB
- Statistics Netherlands
- EBCC national delegates, BirdLife partners in Europe, national/regional monitoring coordinators
- EBCC Board
- BirdLife International
- European Commission

Overall purpose of the job:

The Pan-European Common Bird Monitoring Scheme (PECBMS) is an international project which aims to use birds as indicators of wider environment through production of Pan-European bird indices and indicators (more info at http://www.ebcc.info/pecbm.html). A job holder will coordinate the core activities of the project and will be responsible for the grant supporting the core PECBMS activities.A successful candidate will have a chance to participate in important international projects linking science, nature conservation and policy at European level, to develop his/her career further in friendly environment of Czech Society for Ornithology and its partners in Europe.

Main duties:

- Bird monitoring data collation, management, preparation of data for analysis
- Production of European population trends and indices using established statistical procedures
- Management of network of cooperating individuals and organisations
- Expert advice on monitoring methods, data management and analyses to coordinators of national monitoring schemes in Europe
- Collation and updating information on monitoring schemes in Europe
- Interpretation and presentation of project results, incl. conferences and other meetings
- Office management, project technical administration
- Organisation of meetings, workshops and other events
- Reporting to the main stakeholders of the project incl. delivery of the project financial and technical reports
- Coordination of other tasks in liaison with other team members:
  - — Improvement & management of the project web site
  - — Development of on-line tools for data collation and quality control
  - — Promotion of the project and its outputs
  - — Production of publicity and promotional materials
  - — Preparation of scientific publications
  - — Raising funds for continuation of the project
- Production of project reports

Other relevant factors of the job:

Occasionally the job requires travelling abroad incl. weekends.

Requirements (essential):

- University education (MSc degree min)
- Large experience in management of biological data
- Experience in active participation in research/conservation grants
- Communication skills and English language
- Very good knowledge of MS Office incl. MS Access
- Good knowledge of principles of setting-up databases for large data sets
- Knowledge of European birds (biology, distribution, determination)
- Knowledge of statistical analysis of biological data
- Good knowledge of EU institutions and their structure
- Flexibility
- Ability to learn quickly
- Ability to cooperate with people from diverse cultural and economical environment

Requirements (preferable):

- Degree in natural sciences (zoology, ecology)
- Knowledge of R
- Knowledge of TRIM
- Other European languages
- Experience in grant management, management of web pages, oral presentations at international meetings/conferences, organising meetings, workshops, conferences
- Participation in bird monitoring scheme
- Work with volunteers in ornithology/nature conservation, active work as a volunteer in ornithology/nature conservation
- Experience in administration of projects in NGOs
- Experience in production of semi-popular promotional materials (leaflets, brochures)
- Deeper computer skills incl. databases, GIS and programming
- Knowledge of field monitoring methods in ornithology

Suitable candidates should apply enclosing a **full CV and motivation letter (both in English)** to Jana Škorpilová, PECBMS coordinator, Czech Society for Ornithology, e-mail skorpilova@birdlife.cz, in copy to EuroMonitoring@birdlife.cz. Applicants should receive a confirmation of a reception of their application. Selected candidates will be invited to interview which will take place in CSO office in Prague in September 2017. Incomplete applications will not be considered.

Closing date: September 3, 2017.

Download the job offer in PDF.

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 articles and short reviews on your own activities within this field such as (preliminary) results of a regional or national atlas or a monitoring scheme, species-specific inventories, reviews or activity news of your country (as a delegate: see also below).

Instructions to authors

– Text in MS-Word.
– Author name should be with full first name. Add address and email address.
– Add short abstract (max 100 words).
– Figures, pictures and tables should not be incorporated in the text but attached as separate files.
– Provide illustrations and figures both in colour.
– The length of the papers is not fixed but should preferably not exceed more than 15 pages A4 (including tables and figures), font size 12 pt, line spacing single (figures and tables included).
– Authors will receive proofs that must be corrected and returned as soon as possible.
– Authors will receive a pdf-file of their paper.
– References in the text: Aunins (2009), Barova (1990a, 2003), Gregory & Foppen (1999), Flade et al. (2006), (Chylarecki 2008), (Buckland, Anderson & Laake 2001).
– References in the list: Gregory, R.D. & Greenwood, J.J.D. (2008). Counting common birds. In: A Best Practice Guide for Wild Bird Monitoring Schemes (eds. P. Voříšek, A. Klvaňová, S. Wotton & R.D. Gregory), CSO/RSPB, Czech Republic; Herrando, S., Brotons, L., Estrada, J. & V, Pedrocchi, V. 2008. The Catalan Common bird survey (SOCC): a tool to estimate species population numbers. Revista Catalana d'Ornitología, 24: 138–146.

Send contributions in digital format by email to: anny.anselin@inbo.be

National delegates are also invited to send a summary of the status of monitoring and atlas work for publication on the website of EBCC, see www.ebcc.info/country.html.
Contact: **David Noble**, British Trust for Ornithology, The Nunnery, Thetford, Norfolk IP24 2PU, United Kingdom, tel: +44 1842 750050, email: david.noble@bto.org

Please send short national news for the Delegates Newsletter to EBCC's Delegates Officer:
Oskars Keišs, Laboratory of Ornithology, Institute of Biology University of Latvia, Miera iela 3, LV-2169 Salaspils, Latvia, tel: +371 6794 5393, email: oskars.keiss@lu.lv