

European Breeding Bird Atlas 2

In 1997, the European Bird Census Council (EBCC) published the first atlas of breeding birds in Europe (Hagemeijer & Blair 1997), a groundbreaking book that mapped all of Europe's breeding birds. For nearly 20 years this work has been a powerful tool for conservation, standing as the authority on bird distributions, underpinning conservation efforts and enabling research ranging from identifying biodiversity hotspots to predicting the impacts of climate change. But most of the data is now 30 years old, and it is time for a new atlas. In those 30 years, many environmental changes, notably land use and climate, have impacted on populations of birds across Europe. For effective conservation and informed decision-making, we need the most up-to-date information on these impacts.

A new European Breeding Bird Atlas: EBBA2

The EBCC, together with many partner organisations across Europe, has launched the second European Breeding Bird Atlas (EBBA2). Although the first atlas was impressive, EBBA2 will be bigger and better. New opportunities have arisen, improving the ability to incorporate even the most remote parts of Europe and provide a robust baseline for future monitoring across the whole continent. With this new project – one of the largest biodiversity monitoring projects ever attempted – we aim to:

- provide up-to-date distribution maps for breeding birds across the whole of Europe;
- map relative abundance across Europe for many species, for the first time;
- show changes in species distribution since the 1980s;
- use new analytical approaches to produce better, more accurate maps;
- compile one of the most

comprehensive biodiversity datasets in the world;

- build capacity for conservation and monitoring in areas where it is most needed;
- leave a legacy of improved monitoring and research across many countries.

The new atlas will be published as a book, the intention being to deliver it by 2020 at the latest, but with interactive maps and additional material available online. We shall engage with some of Europe's leading scientists and conservationists to identify and communicate its key findings and, importantly, the atlas dataset will be available to the research community for further analysis.

The project is led by the EBCC, the coordinator, Petr Voříšek (Euromonitoring@birdlife.cz), working with a central coordination team and a wider Steering Committee, of which both the BTO and the RSPB are part. We are encouraging a 'bottom up' approach: this is not a single, continent-wide project, but rather a multitude of country projects, all



Fig. 1. EBBA2 will cover the whole of Europe, stretching from the Azores in the west to Turkey and European Russia in the east.

of which will contribute data, of a common standard, that can be compiled into a single atlas. Atlas coordinators have been appointed for all European countries, including Turkey for the first time, which brings a range of exciting new species such as Brown Fish Owl *Ketupa zeylonensis* and Grey-necked Bunting *Emberiza buchanani* to a list that currently extends to 582 native and 63 non-native species. Fig. 1 shows the planned extent of EBBA2. EBBA2 will map distribution and relative abundance using 50-km grid squares, but will also seek to collect data from a sample of 10-km squares, in order to model distribution at this finer resolution. Many countries will produce new national atlases, using a finer resolution than for EBBA2, in much the same way that many counties in Britain pursued local atlas projects alongside *Bird Atlas 2007–11* (Balmer *et al.* 2013).

Challenges ahead

We are confident of success – great strides have been made already, and thousands of volunteers are engaged across Europe – but there is still much to do. Funding for this huge project is not yet secured; some contributions have enabled progress on a shoe-string to date, and some national atlases have secured funding, but the future is uncertain. By using the efforts of volunteers across Europe, and existing networks, EBBA2 will strive to be efficient and low cost, but the scale of the undertaking is huge and so far we have failed to land major financial support. In a now familiar fashion we will be offering species sponsorship opportunities, and other fundraising activities are planned. If readers are interested in the opportunities to support the project financially, please get in touch.

Beyond funding issues, there are logistical challenges and the basic problem of achieving coverage in countries where there are few birdwatchers. The earlier atlas was one of the first fruits of increased cooperation across the European ornithological community, and in the years since we have seen that community grow and strengthen. Conservation and birdwatching organisations have emerged in countries in the east and south of the continent and, while still small in number and resources, they represent considerable progress since the mid

1980s. The RSPB and other EBCC partners have fostered monitoring programmes for common birds, similar to the UK's BTO/JNCC/RSPB Breeding Bird Survey, in countries across Europe from Portugal to Bulgaria, and now the Pan-European Common Bird Monitoring Scheme (PECBMS) collates data from such schemes in 27 countries, enabling the production of Europe-wide trends for 163 breeding species from 1980 onwards.

Inevitably, despite this progress, the challenges ahead are many and varied. There are some very large countries with few observers (such as European Russia and Turkey), there are smaller countries with virtually no observers (such as Albania), while the political instability in Ukraine casts doubt on what might be achieved there, although we are not without hope in the face of adversity. Major progress has been made already in some of these countries, most notably in Russia. The team responsible for the recently published *Atlas of the Birds of Moscow City* (Kalyakin *et al.* 2014) have set their targets on the 1,800 50-km squares that lie to the west of the Urals. Nearly 200 Russian birdwatchers have finished surveying 313 squares since 2012, with more underway. Of course, the Russians still have a long way to go to achieve full coverage of those 1,800 squares, many of which are far-flung and without road access. This is where new statistical techniques come to the rescue: we now have the ability to use data from squares that *have* been surveyed, in combination with data on habitat from satellite-based remote sensing, to predict species occurrence and abundance across unsurveyed squares (e.g. fig. 2). As a consequence, atlas fieldwork in Russia and other countries where 100% coverage is unlikely to be achieved is being carefully directed to ensure that a sample of squares are surveyed that are representative of all areas and habitats, to best support the subsequent modelling.

Notwithstanding the potential of such statistical cleverness, nothing beats actual data, and one of the main reasons for this editorial is to promote the important role that *BB* readers can play in atlasing elsewhere in Europe. Every year, mainly in spring and summer, thousands of UK birdwatchers spread out across Europe on holidays that

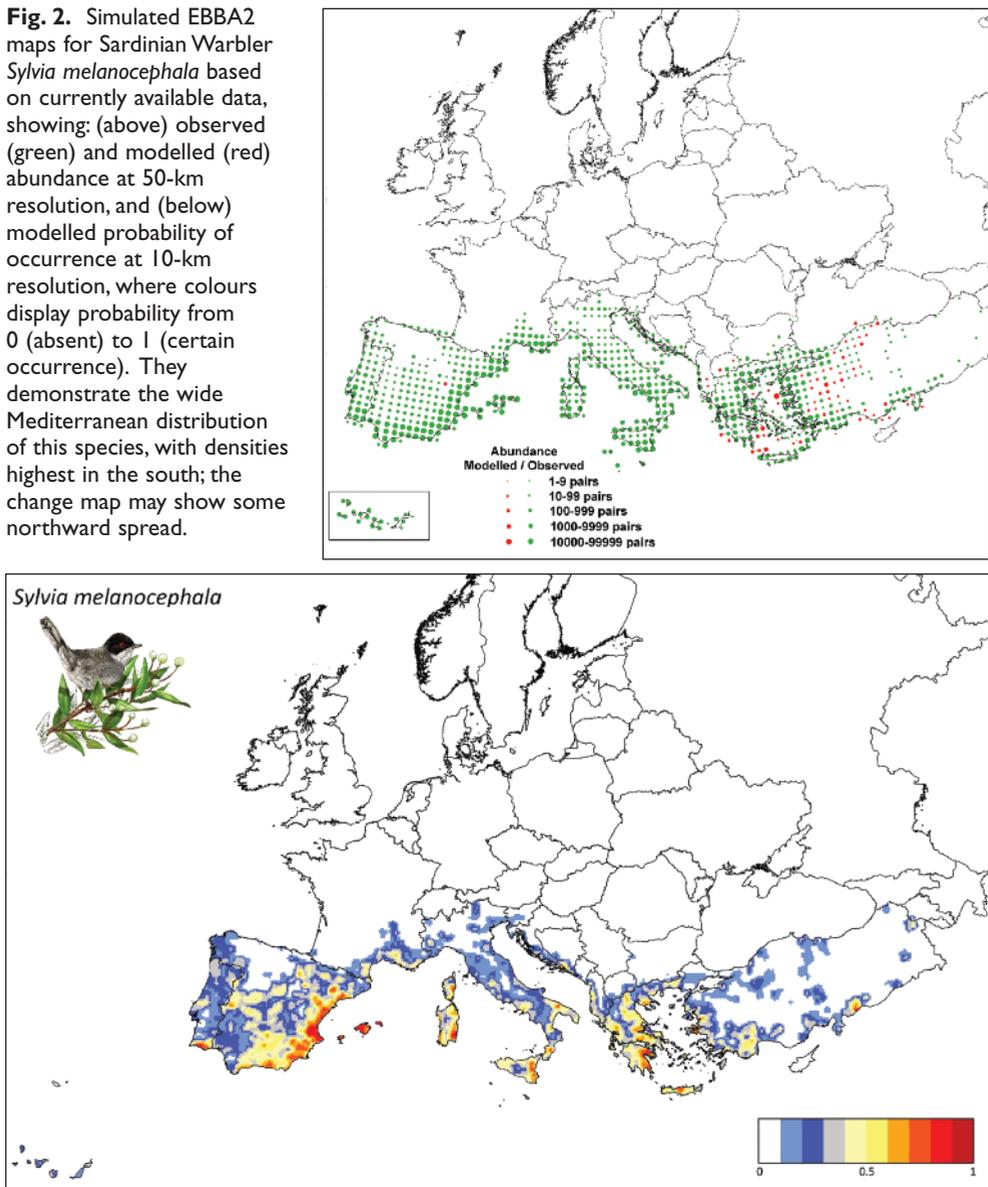
include at least some birding time. And whether that means grabbing an hour or two around a Mediterranean saltpan before the family drags them back to the beach, or exploring high Caucasian peaks in search of Great Rosefinches *Carpodacus rubicilla* and Gldenstdt's Redstarts *Phoenicurus erythrogastrus*, all birders abroad can help.

At the very least, we would like everyone birdwatching in Europe to make relevant records available to the project. This is easily done, since there are a number of existing online data portals that will be passing data to EBBA2, most obviously the BTO/RSPB/

BirdWatch Ireland/SOC/WOS BirdTrack system. This rapidly developing, free-to-use system now allows users to submit data from sites *anywhere in the world*, providing a system to record all of a birdwatcher's activity for perpetuity as well as making the data accessible for suitable research and conservation uses. All breeding bird data submitted to BirdTrack will be made available to EBBA2 and national atlases.

Beyond this, we encourage birdwatchers to be more proactive and to consider EBBA2 before they make their holiday plans! For those of you suffering atlas withdrawal

Fig. 2. Simulated EBBA2 maps for Sardinian Warbler *Sylvia melanocephala* based on currently available data, showing: (above) observed (green) and modelled (red) abundance at 50-km resolution, and (below) modelled probability of occurrence at 10-km resolution, where colours display probability from 0 (absent) to 1 (certain occurrence). They demonstrate the wide Mediterranean distribution of this species, with densities highest in the south; the change map may show some northward spread.





Zdenek Tunka

1. Sardinian Warbler *Sylvia melanocephala*, Macedonia, April 2012.

symptoms since the end of *Bird Atlas 2007–11*, here's your chance to get an atlasing fix, to explore exciting parts of the Continent, see great birds and help a vital project at the same time. The EBBA2 team has issued advice to travelling birders at www.ebcc.info/index.php?ID=545, and 19 countries in eastern and southeastern Europe have appealed for particular help. The national coordinators for these countries would be delighted to hear from observers, from groups and from tour operators, who are interested in contributing, whether that be a day's birdwatching in an unsurveyed square, searching for an under-reported species, or full-blown excursions looking to plug major gaps in coverage. Already we have seen expeditions by German birders to Albania, Czechs to Macedonia and Moldova, and Catalonians to Montenegro and Turkey. What can the Brits contribute? There are undoubtedly exciting discoveries to be made: atlas fieldwork has already recorded new breeding species for some countries, while fieldwork in Russia has added Shikra *Accipiter badius* to the list of European breeding birds. What will be next?

Closer to home

It is, of course, a little frustrating that this atlas project should start after the completion of *Bird Atlas 2007–11*, and that the efforts of 40,000 fieldworkers, who amassed 19 million records, lie outside the time period for EBBA2. Although it might be possible to use these maps, and this approach may be used by some countries with recent atlases and without the resources to update them, we feel that we should strive to submit data for the relevant 2013–17 time period for EBBA2. The key detail is that EBBA2 will map breeding bird distribution using 50-km squares – so one square for every 25 10-km squares mapped by *Bird Atlas 2007–11*. You may be relieved to hear that we are not calling for a straight repeat of that exercise! The other advantage is that, as the European atlas project is taking place so soon after *Bird Atlas 2007–11*, we can draw on the expertise and experience of the BTO/BirdWatch Ireland/SOC team behind it.

Much of the existing monitoring effort in the UK can feed into EBBA2 – from BBS, ringing and nest record data to the records reported to the Rare Breeding Birds Panel.

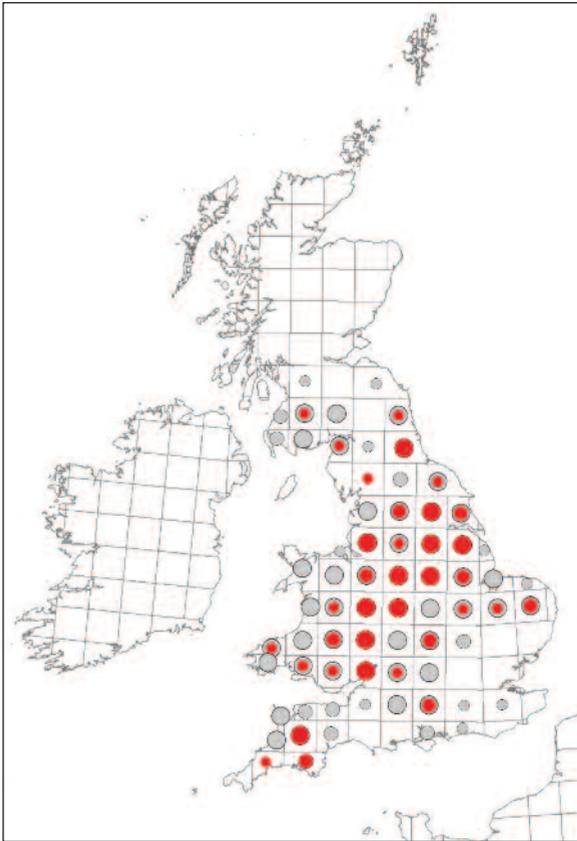


Fig. 3. Maps for Willow Tit *Poecile montana* in Britain at 50-km scale from *Bird Atlas 2007–11* data (grey dots) and BirdTrack data 2013–14 (red dots).

But it is clear that this alone will not be sufficient, and we urge all birdwatchers to submit records of breeding birds through BirdTrack, so that they are available to EBBA2. BirdTrack offers birdwatchers the ability to store all their bird records securely (directly from the field if they use the smartphone app), to produce maps and graphs and to analyse their records, to look at the records of others and, crucially, to share them with recording networks both local and national.

At present, we must admit to some uncertainty as how best to fulfil the UK's part in EBBA2. Will 'passive atlasing' from existing sources be enough to produce robust maps by 2017, or will we need to step up a gear in 2016, say, to ensure that we have no gaps in coverage at a 50-km scale? Fig. 3 shows how the *Bird Atlas 2007–11* map for Willow Tit *Poecile montana* looks if recast at the 50-km scale, and how much of this map can be updated using data from BirdTrack for the two years 2013–14:

clearly there are gaps to be filled. We shall continue to monitor prospects for UK coverage – watch this space... And, in the meantime, dust off those breeding evidence codes and enter breeding evidence into BirdTrack!

In conclusion, EBBA2 is a big, exciting and challenging project, running on a shoestring but driven by the energy and enthusiasm of thousands of birdwatchers across Europe. For further information, please see www.ebcc.info, and a special edition of the journal *Bird Census News* (available through the EBCC website); a new EBBA2 website will be launched in 2015.

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