

The European Bird Census Council: an effective, productive biodiversity monitoring network across Europe

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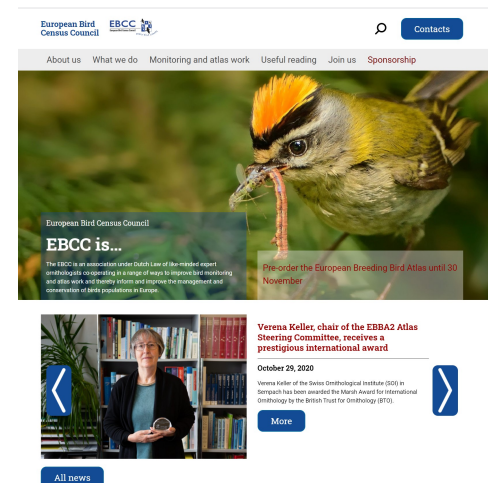


European Bird Census Council (EBCC)

The EBCC is an association under Dutch Law of like-minded expert ornithologists co-operating in a range of ways to improve bird monitoring and atlas work and thereby inform and improve the management and conservation of birds populations in Europe.

- Network of national delegates
- Journal – Bird Census News
- Website, social media, e-newsletter
- Triannual conference
- Three major pan-European projects

www.ebcc.info



European Bird Census Council (EBCC)





Pan-European Common Bird Monitoring Scheme (PECBMS)

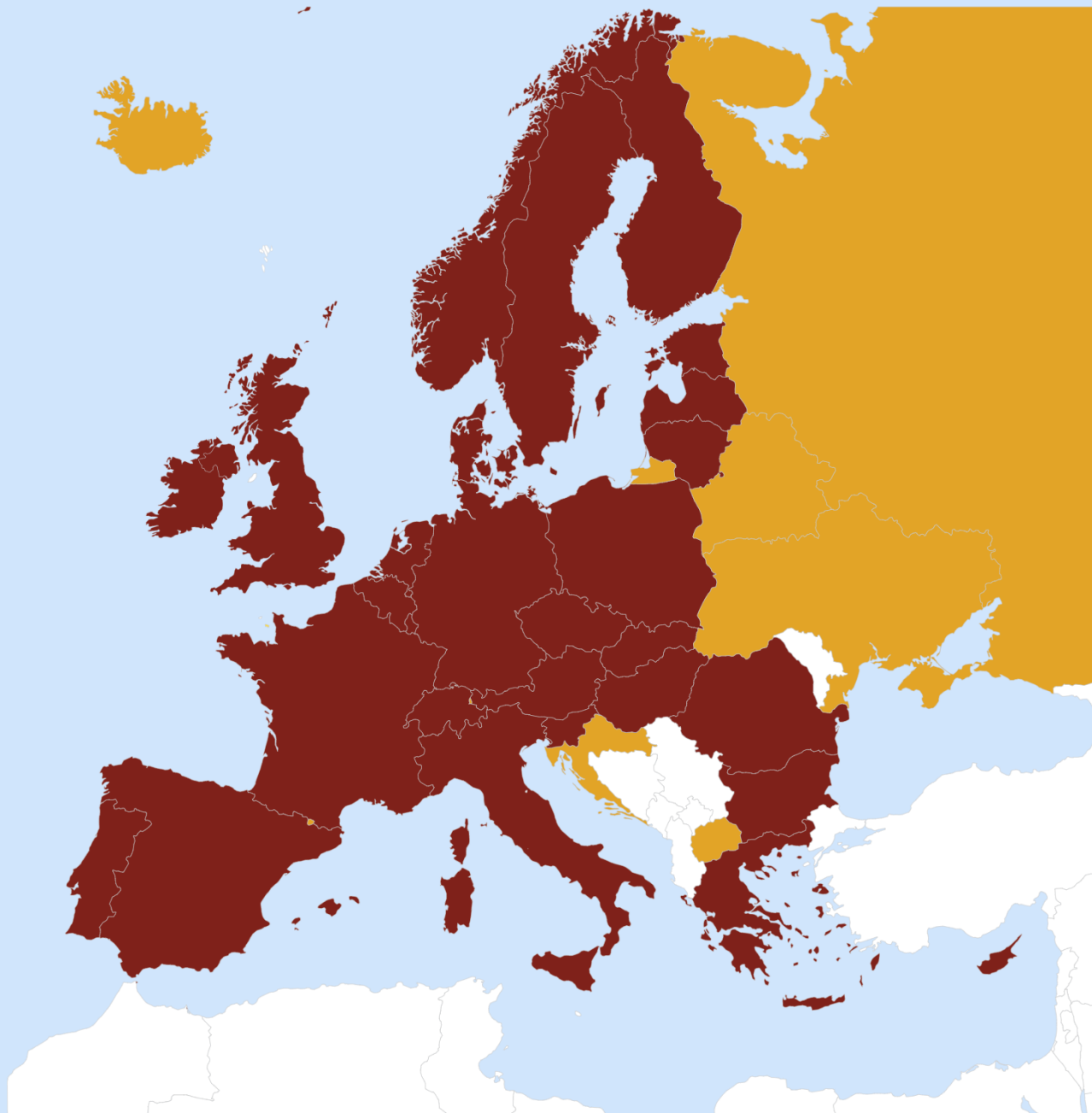




PECBMS

- *Main goal is to use birds as indicators of the state of nature using scientific data on bird populations in Europe, bringing data together from an expanding network of countries*
- Initiative of EBCC & BirdLife International since 2002
- Coordination team based at CSO (BirdLife partner in Czech Republic)
- Funded by European Commission & RSPB



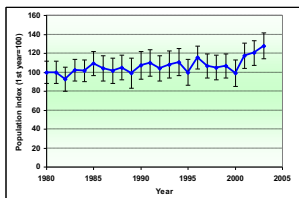


- bird monitoring scheme providing data to PECBMS in 2020 update
- existing bird monitoring scheme
- no bird monitoring scheme

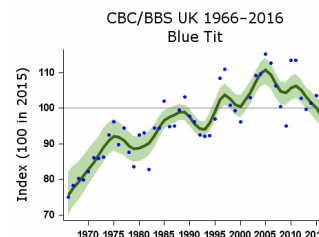
Creating Pan-European wild bird indices & indicators



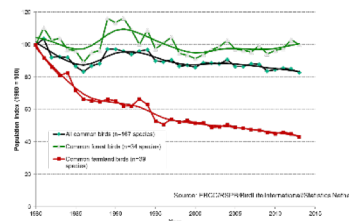
Birdwatcher does survey



PECBMS calculates European species trend



National scheme calculates species trend



PECBMS calculates European indicators

State of common European breeding birds 2019

*Contrasting regional trends in Common Starling:
are land-use and agricultural change responsible?*



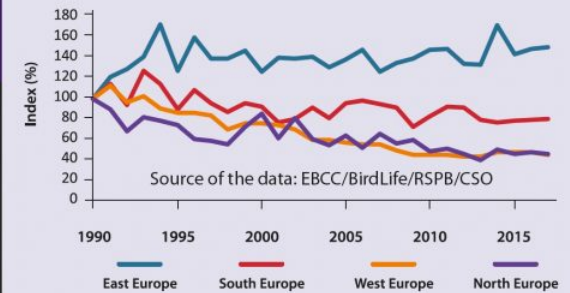
170
species

28
countries

38
years
(1980–2017)

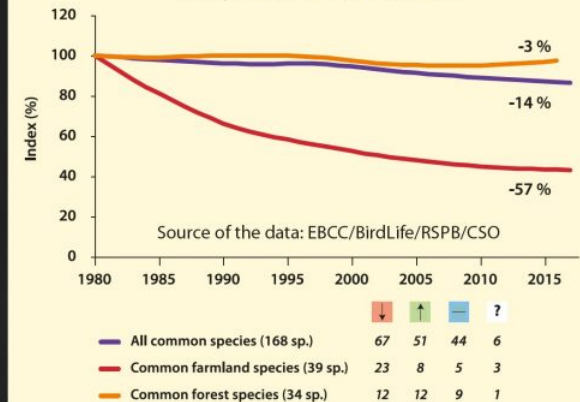
Pan-European Common Bird Monitoring Scheme (PECBMS)
www.pecbms.info

Regional trends of the Common Starling in Europe



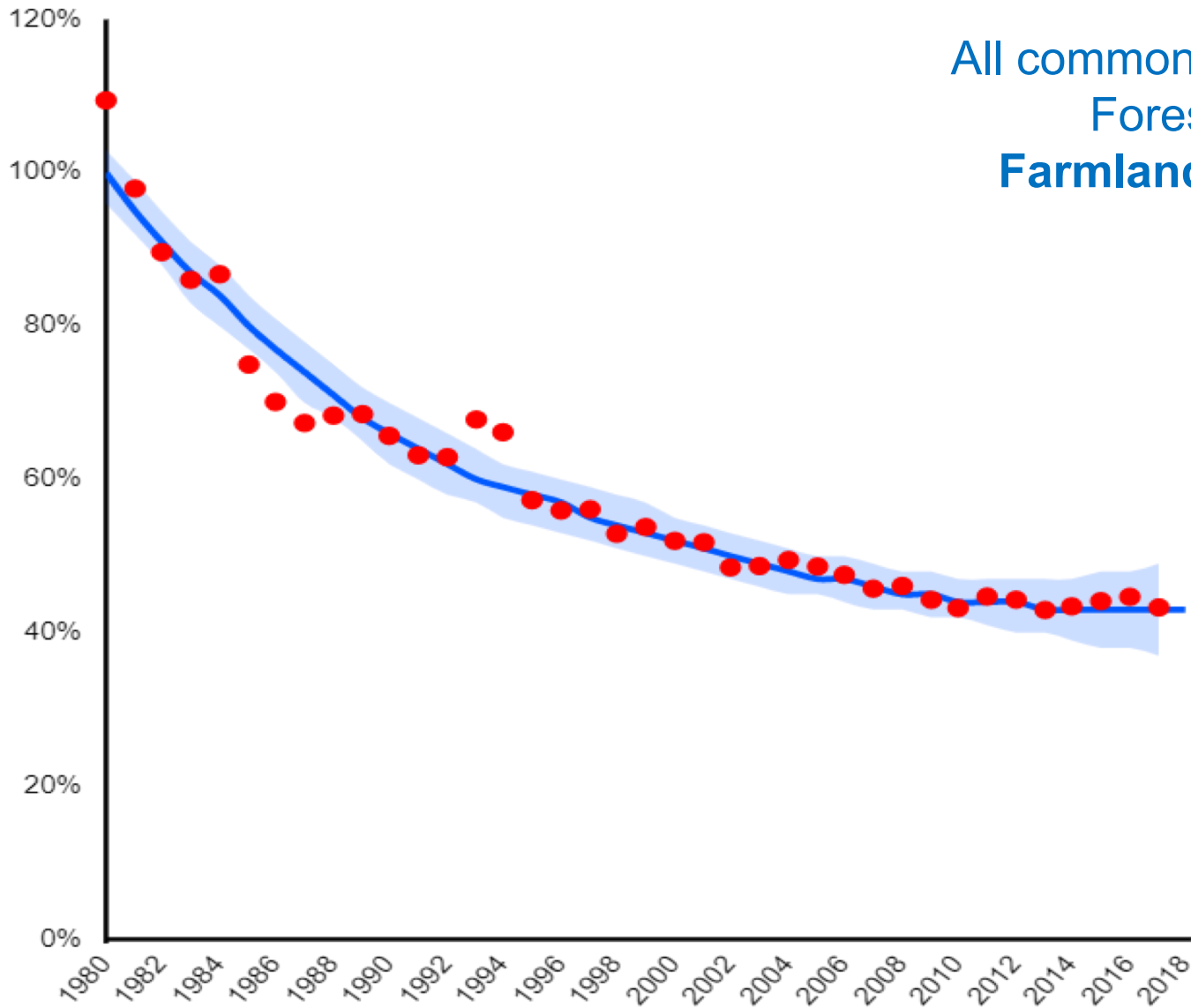
A recently published paper (Heldbjerg *et al.* 2019) suggests that agricultural practices, particularly change in livestock management, may be behind the contrasting regional trends of the Common Starling. However, further analyses using demographic data, improved land-use data and agricultural statistics will help identify the causes more clearly.

European wild bird indicators



The numbers in *italics* show the numbers of species in each indicator which are moderately or steeply declining ↓, moderately or strongly increasing ↑, stable — and uncertain ? .

European Wild Bird Index



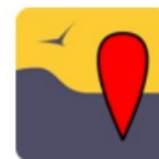
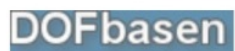
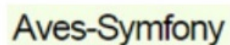
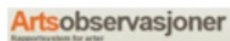
All common birds (168)

Forest birds (34)

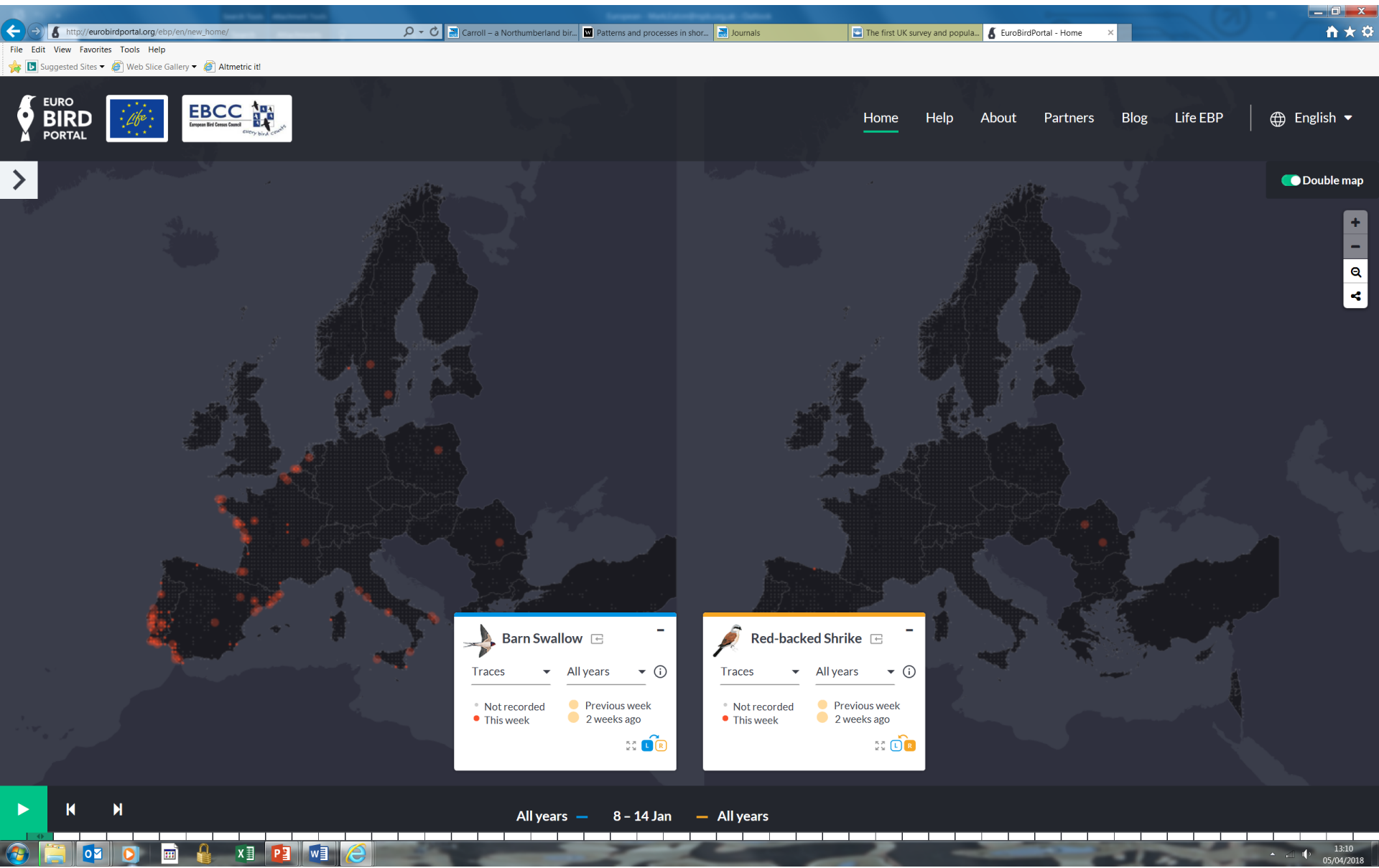
Farmland birds (39)

EuroBirdPortal.org

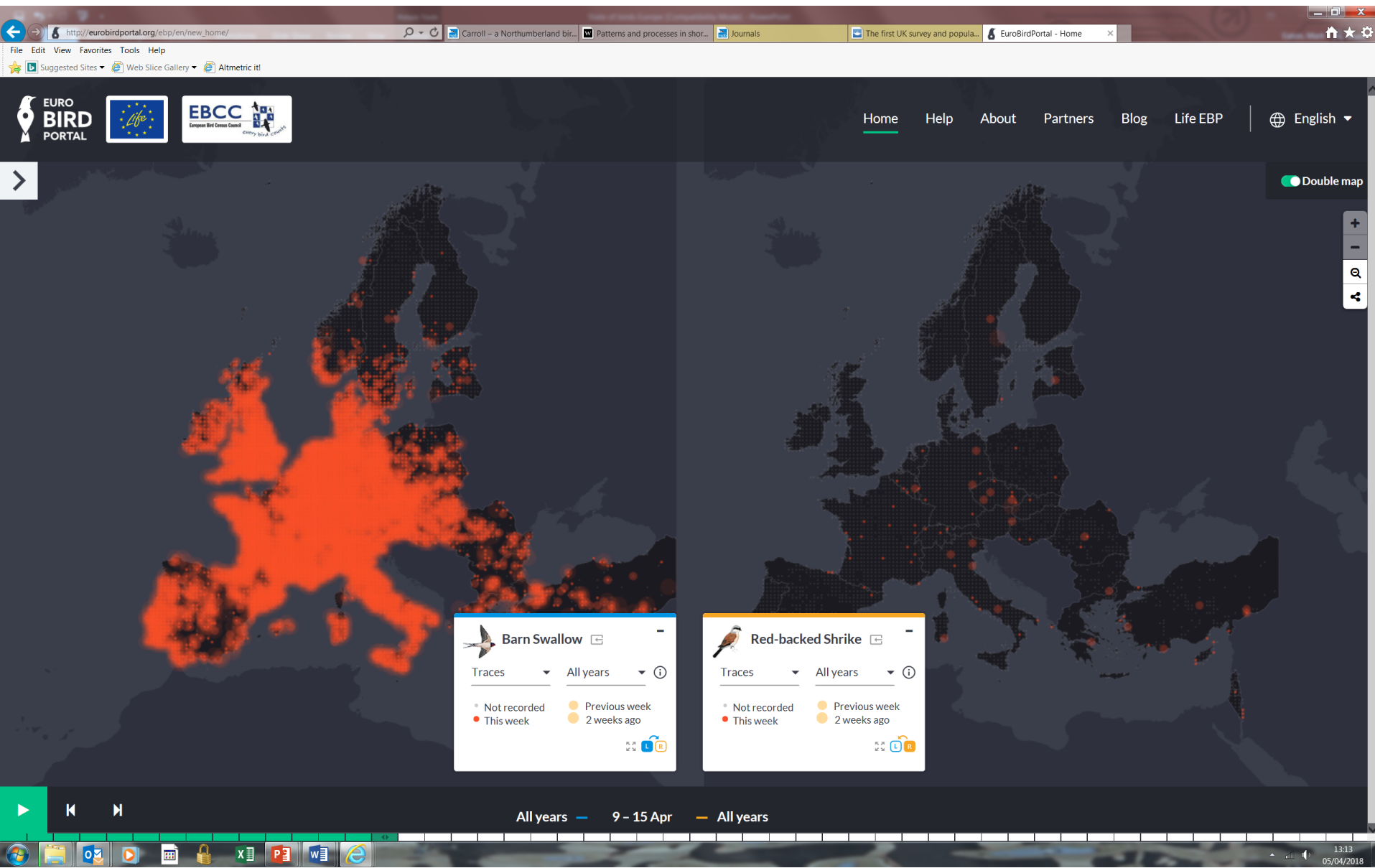
Online portals



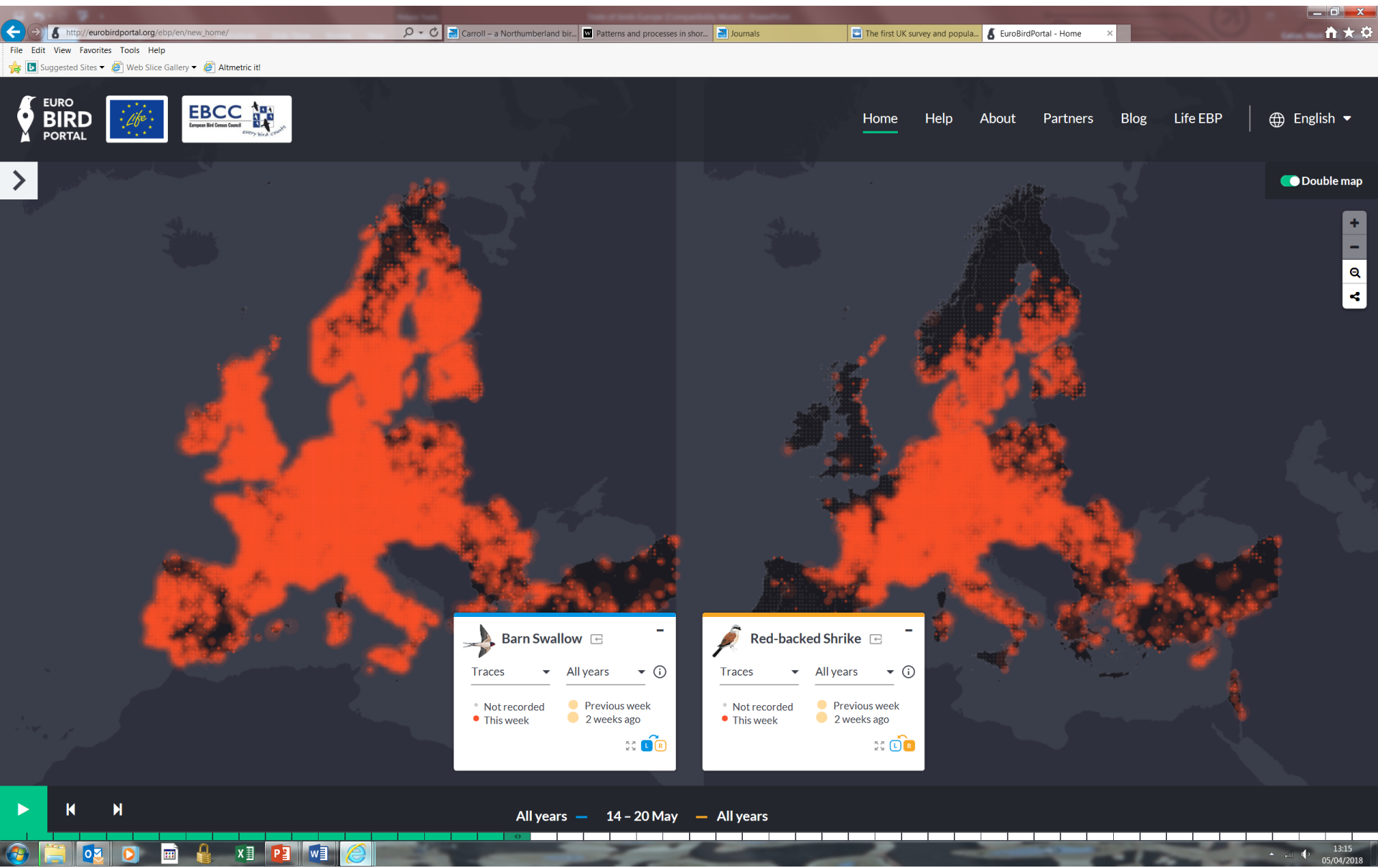
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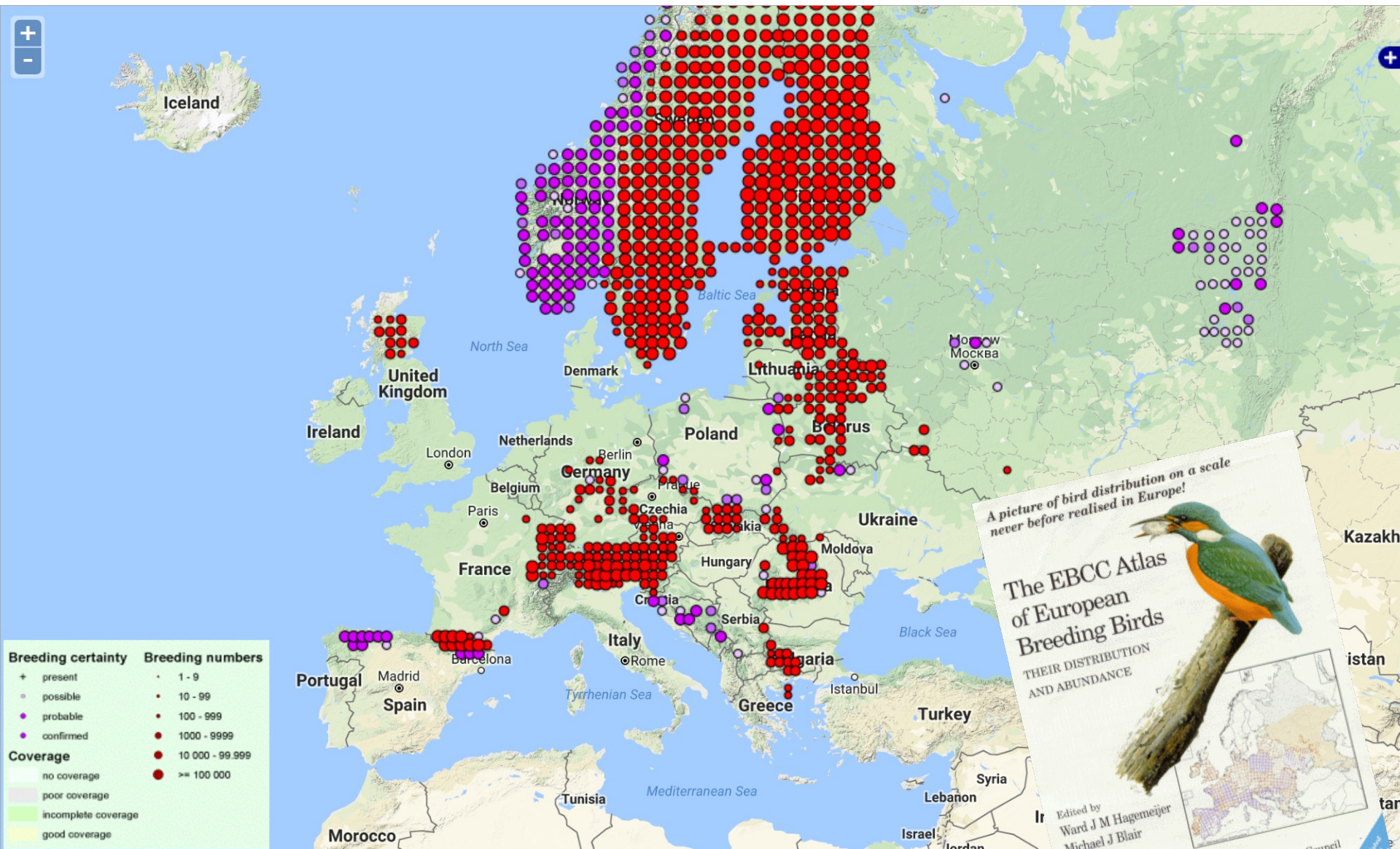


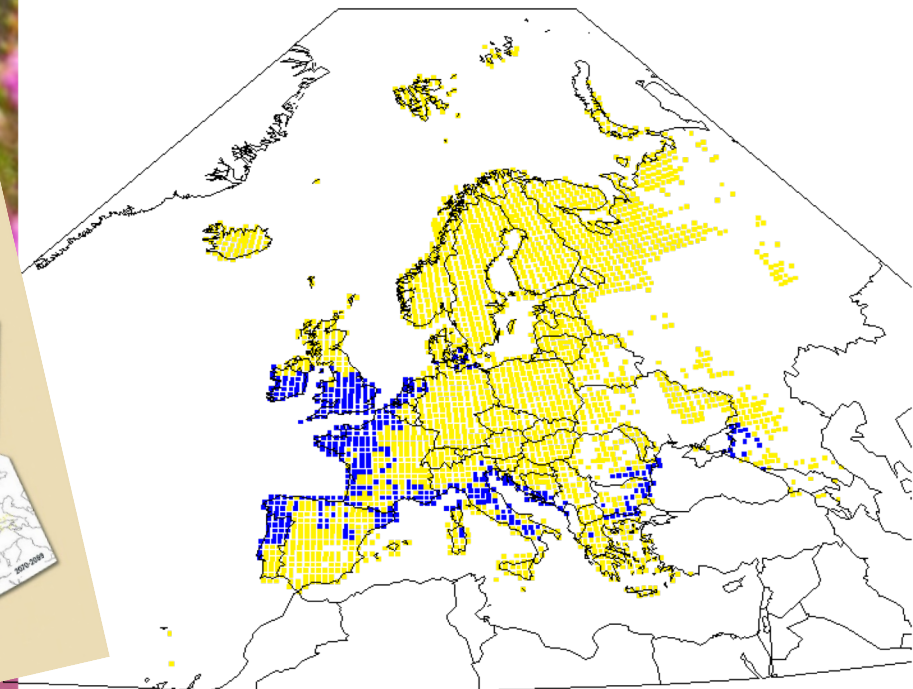
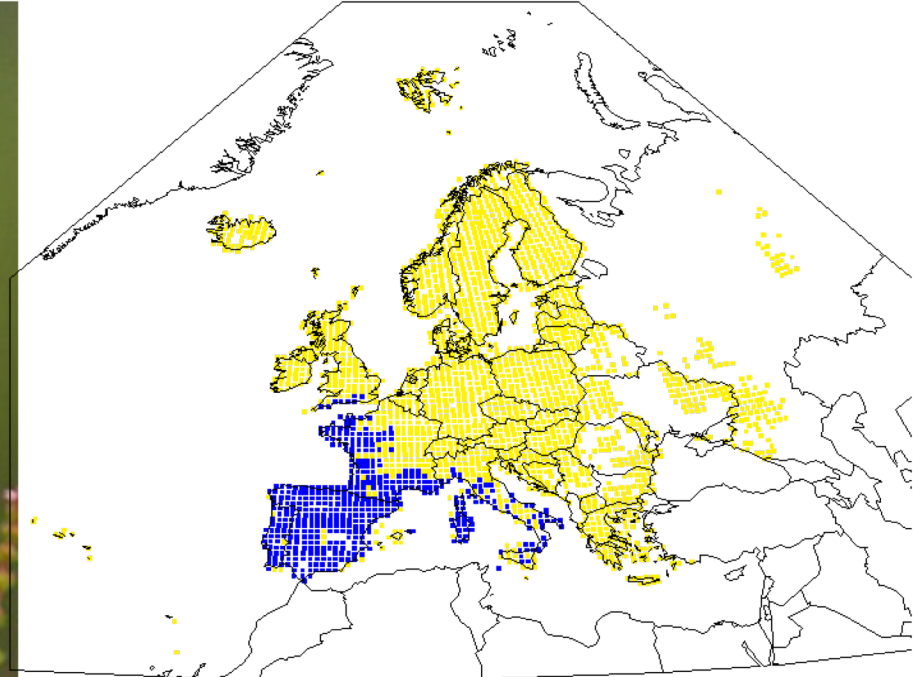
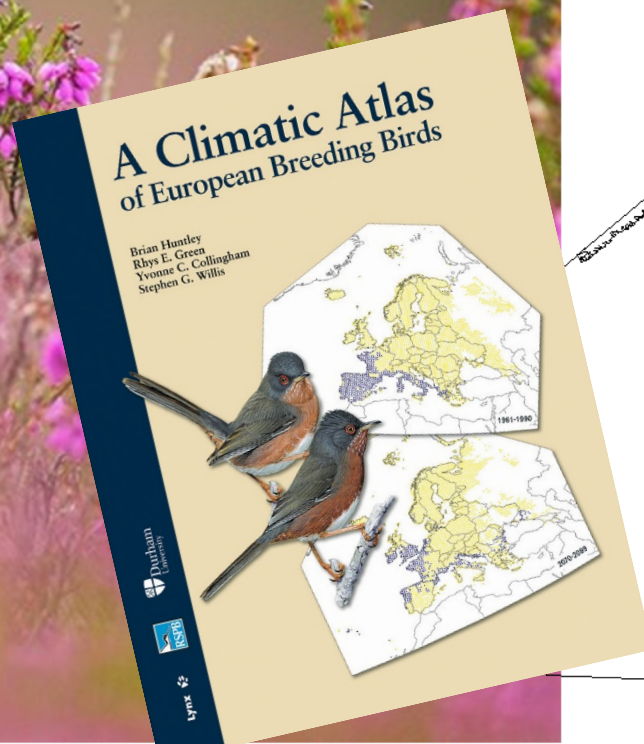
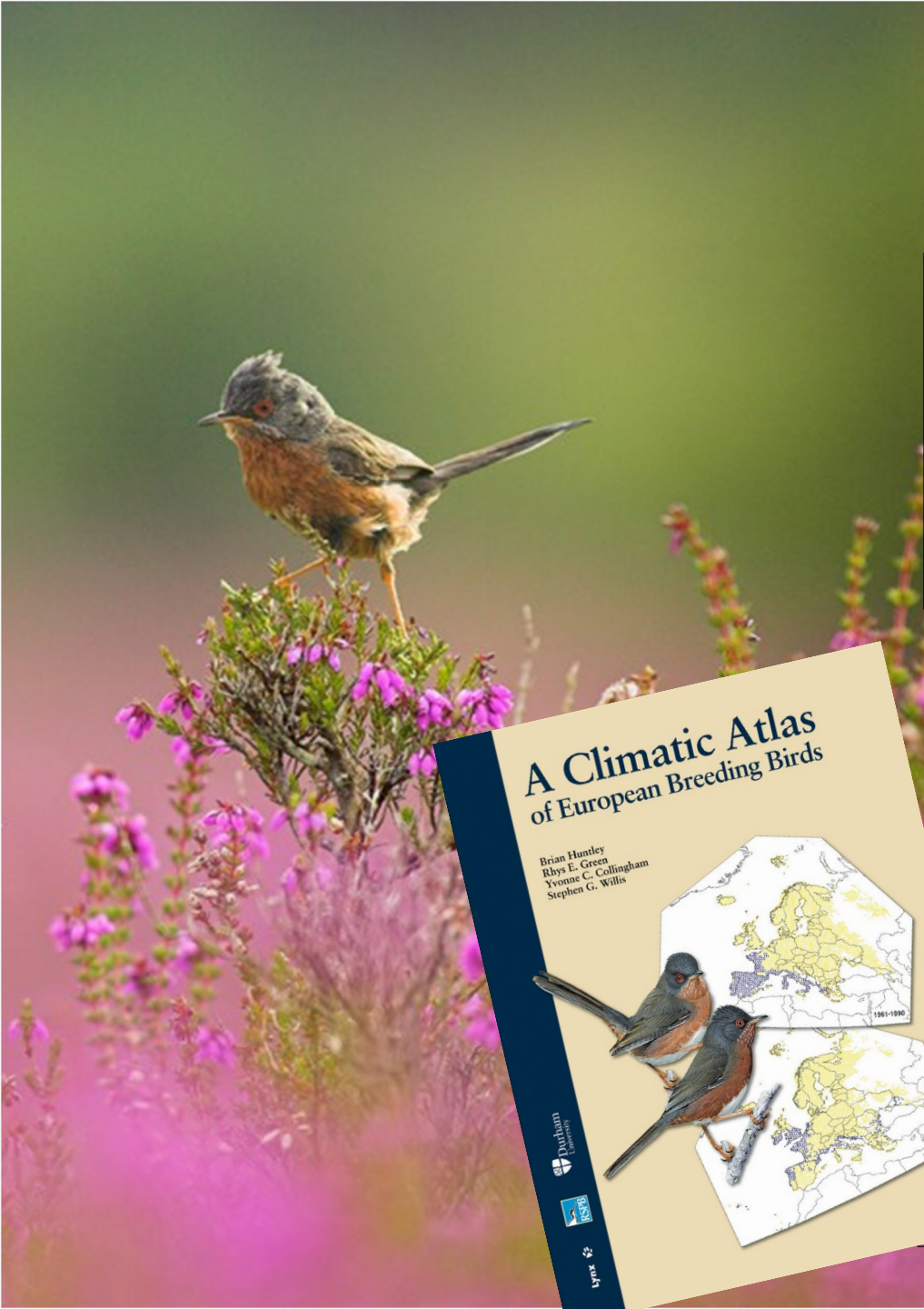
EuroBirdPortal.org



EuroBirdPortal.org









Using the first European Breeding Bird Atlas for science and perspectives for the new Atlas

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ABSTRACT

Capsule: The first European Bird Census Council (EBCC) Atlas of European Breeding Birds has been widely used in scientific publications.

Aims: To quantify how scientific publications have used data from the first European Bird Census Council (EBCC) Atlas of European Breeding Birds, what the topics of these studies have been, and to identify key aspects in which a second European Breeding Bird Atlas will provide new opportunities for basic and applied science.

Methods: We searched Google Scholar to find papers published in scientific journals that cited the first atlas. We analysed the contents of a random selection of 100 papers citing this atlas and described the way these papers used information from it.

Results: The first atlas has been cited in 3150 scientific publications, and can be regarded as a fundamental reference for studies about birds in Europe. It was extensively used as a key reference for the studied bird species. A substantial number of papers analysed atlas data to derive new information on species distribution, ecological traits and population sizes. Distribution and ecology were the most frequent topics of studies referring to the atlas, but this source of information was used in a diverse range of studies. In this context, climate change, impact of agriculture and habitat loss were, by order, the most frequently studied environmental pressures. Constraints in the atlas, such as the poor coverage in the east of Europe, the lack of information on distribution change and the coarse resolution were identified as issues limiting the use of the atlas for some purposes.

Conclusions: This study demonstrates the scientific value of European-wide breeding bird atlases. A second atlas, with its almost complete coverage across Europe, the incorporation of changes in distribution between the two atlases and the inclusion of modelled maps at a resolution of 10 × 10 km will certainly become a key data source and reference for researchers in the near future.

ARTICLE HISTORY

Received 3 December 2018

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“The first atlas has been cited in 3150 scientific publications”

The collection of biodiversity data over large geographical areas is essential in order to adequately inform conservation policy (Chiarucci *et al.* 2011, Schmeller *et al.* 2015). Great efforts have been made in

However, an aspect that is sometimes neglected is that differences with respect to data sampling, storage and mobilization often lead to bias in large-scale biodiversity patterns (Beck *et al.* 2014).

European Breeding Bird Atlas 2 (www.ebba2.info)

The screenshot shows the homepage of the European Breeding Bird Atlas 2 website. The header features the title "European Breeding Bird Atlas" in a large blue font, with the subtitle "Finding out where breeding birds occur in Europe and how this has changed." in a smaller, italicized red font. To the left of the title is the EBCC logo (European Bird Census Council) and to the right is the EBBA2 logo. A navigation bar below the header contains links: Home, About, News, Downloads, Support EBBA2, Contribute with your data, Results, FAQ, and Contact us. The main content area is split into two columns. The left column features a large image of a field with red poppies and white daisies, with the text "Read more about countries that need a helping hand in EBBA2" overlaid. The right column has a dark blue sidebar with the heading "I want to know" and a list of links: "I am a birdwatcher", "I am a scientist", "I am a national coordinator", "I am a policymaker", and "I am a sponsor/donor". At the bottom of the sidebar is a small image of a bird's head. The Windows taskbar is visible at the very bottom, showing various application icons and the system clock.

European Breeding Bird Atlas

Finding out where breeding birds occur in Europe and how this has changed.

EBCC
European Bird Census Council
every bird counts

EBBA2
European Breeding Bird Atlas

Home About News Downloads Support EBBA2 Contribute with your data Results FAQ Contact us

Read more about countries that need a helping hand in EBBA2

I want to know

- I am a birdwatcher
- I am a scientist
- I am a national coordinator
- I am a policymaker
- I am a sponsor/donor

www.ebba2.info/#

CS 22:31 13.4.2014

AD. Andorra
AL. Albania
AM. Armenia
AT. Austria
AZ. Azerbaijan
BA. Bosnia and Herzegovina
BE. Belgium
BG. Bulgaria
BY. Belarus
CH. Switzerland
CY. Cyprus
CZ. Czechia
DE. Germany
DK. Denmark
EE. Estonia
EL. Greece
ES. Spain
FI. Finland
FO. Faroes
FR. France
GE. Georgia
HR. Croatia
HU. Hungary
IE. Ireland

IS. Iceland
IT. Italy
KZ. Kazakhstan
LI. Liechtenstein
LT. Lithuania
LU. Luxembourg
LV. Latvia
MD. Moldova
ME. Montenegro
MK. North Macedonia
MT. Malta
NL. Netherlands
NO. Norway
PL. Poland
PT. Portugal
RO. Romania
RS. Serbia
RU. Russia
SE. Sweden
SI. Slovenia
SK. Slovakia
TR. Turkey
UA. Ukraine
UK. United Kingdom
XK. Kosovo

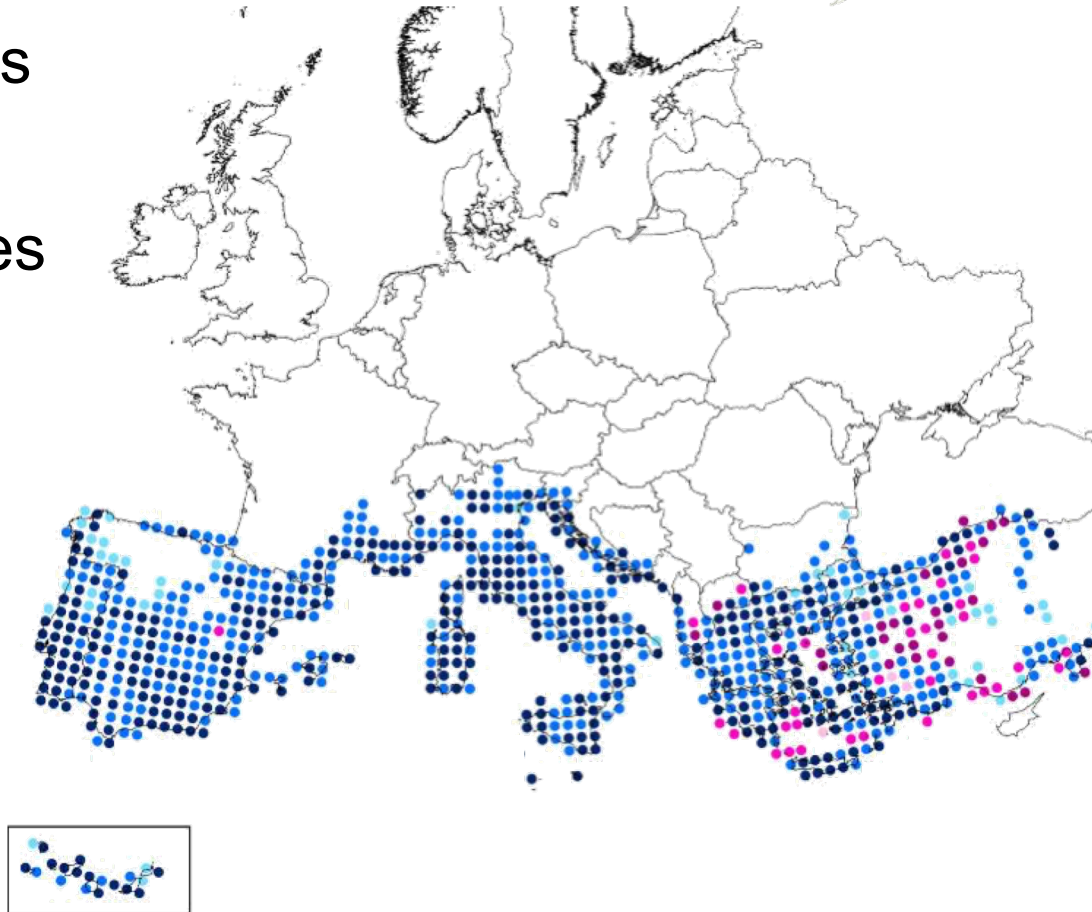


EBBA2: Some big numbers

- 5 years of fieldwork
- 50+ European countries
- 596 breeding species
- 5,110 50x50 km squares
- 11,075,000 km²
- 120,000+ volunteer fieldworkers

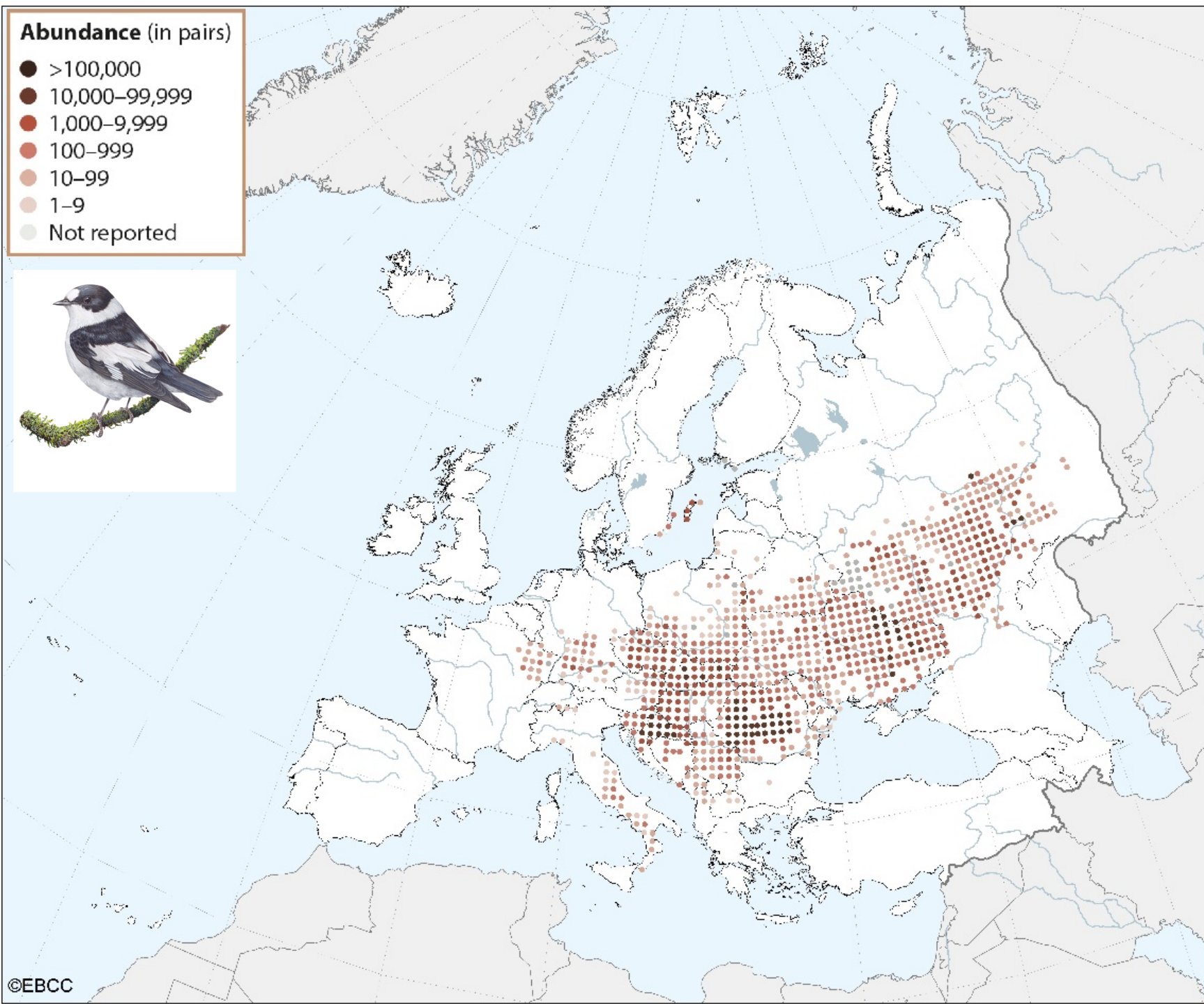
Fieldwork 2013-17(18)

Atlas published 2020



Abundance (in pairs)

- >100,000
- 10,000–99,999
- 1,000–9,999
- 100–999
- 10–99
- 1–9
- Not reported



Probability of
occurrence



0



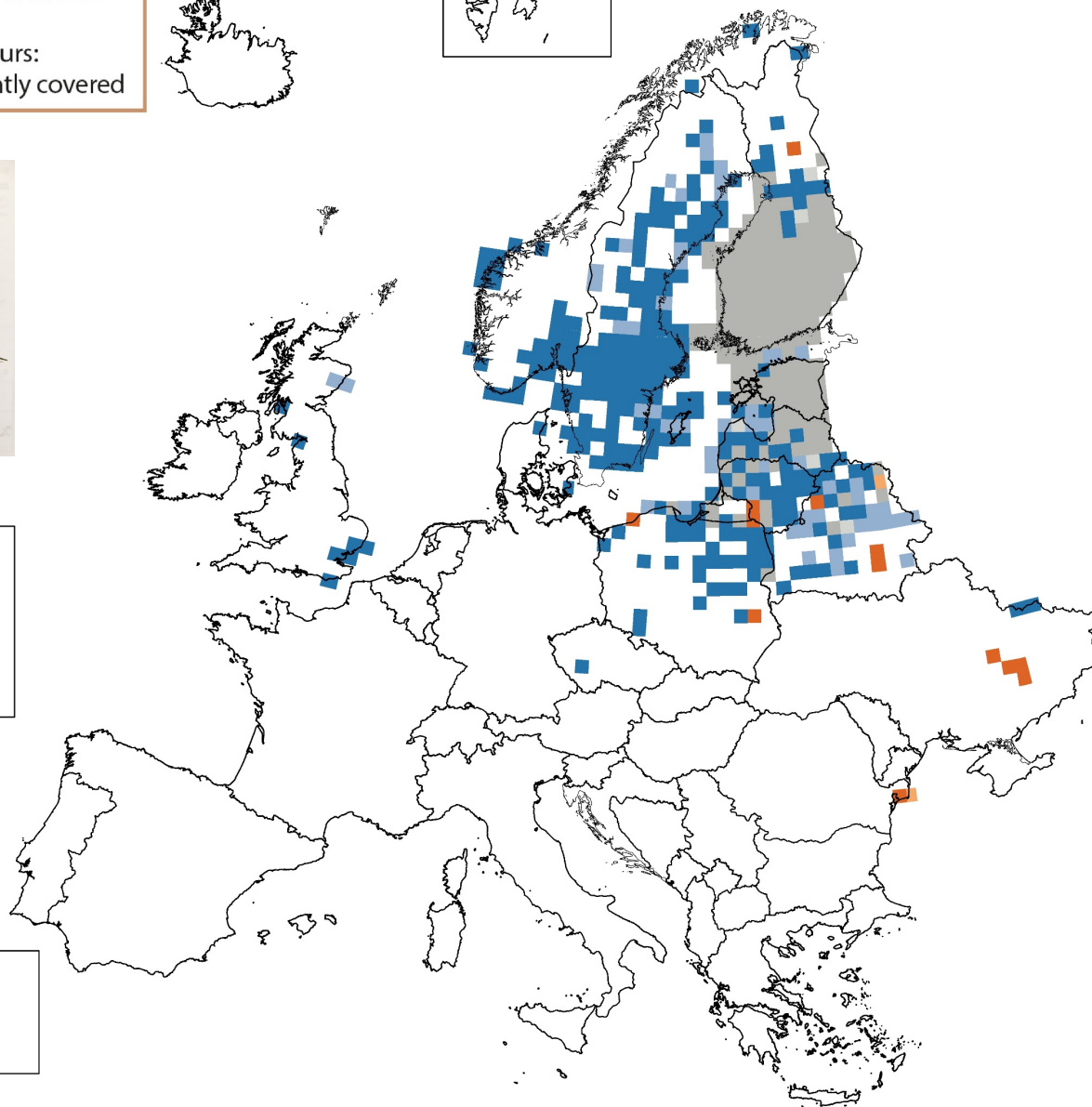
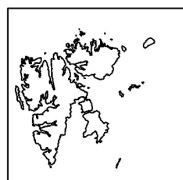
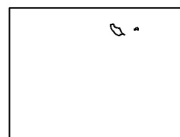
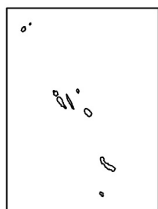
Change

EBBA1

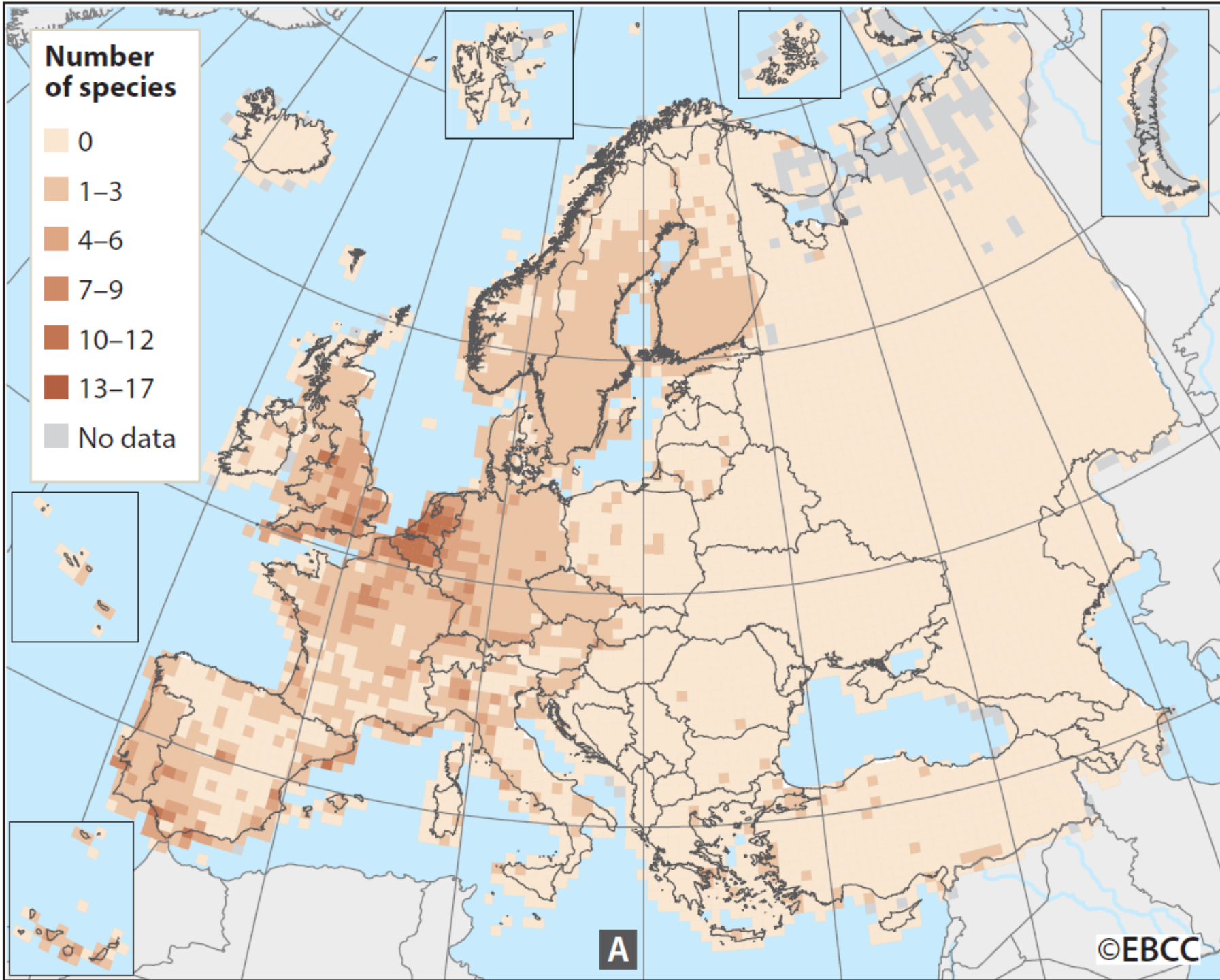
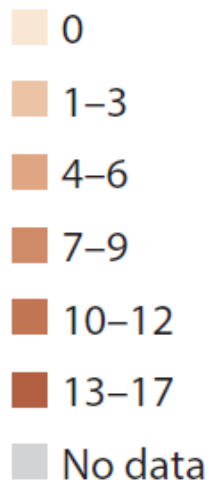
EBBA1 & EBBA2

EBBA2

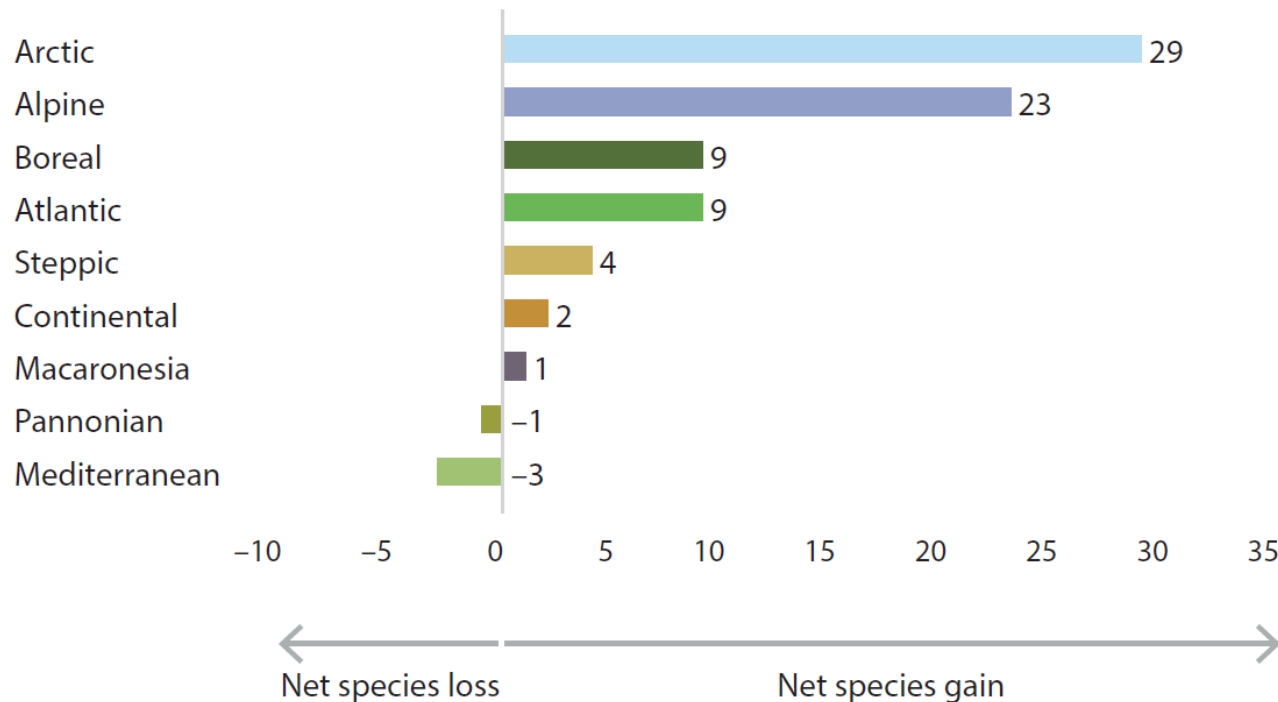
Light colours:
insufficiently covered



Number of species



Do the biogeographic regions differ in their overall change?



**Change
Number
of species**

■ -45 -- -15

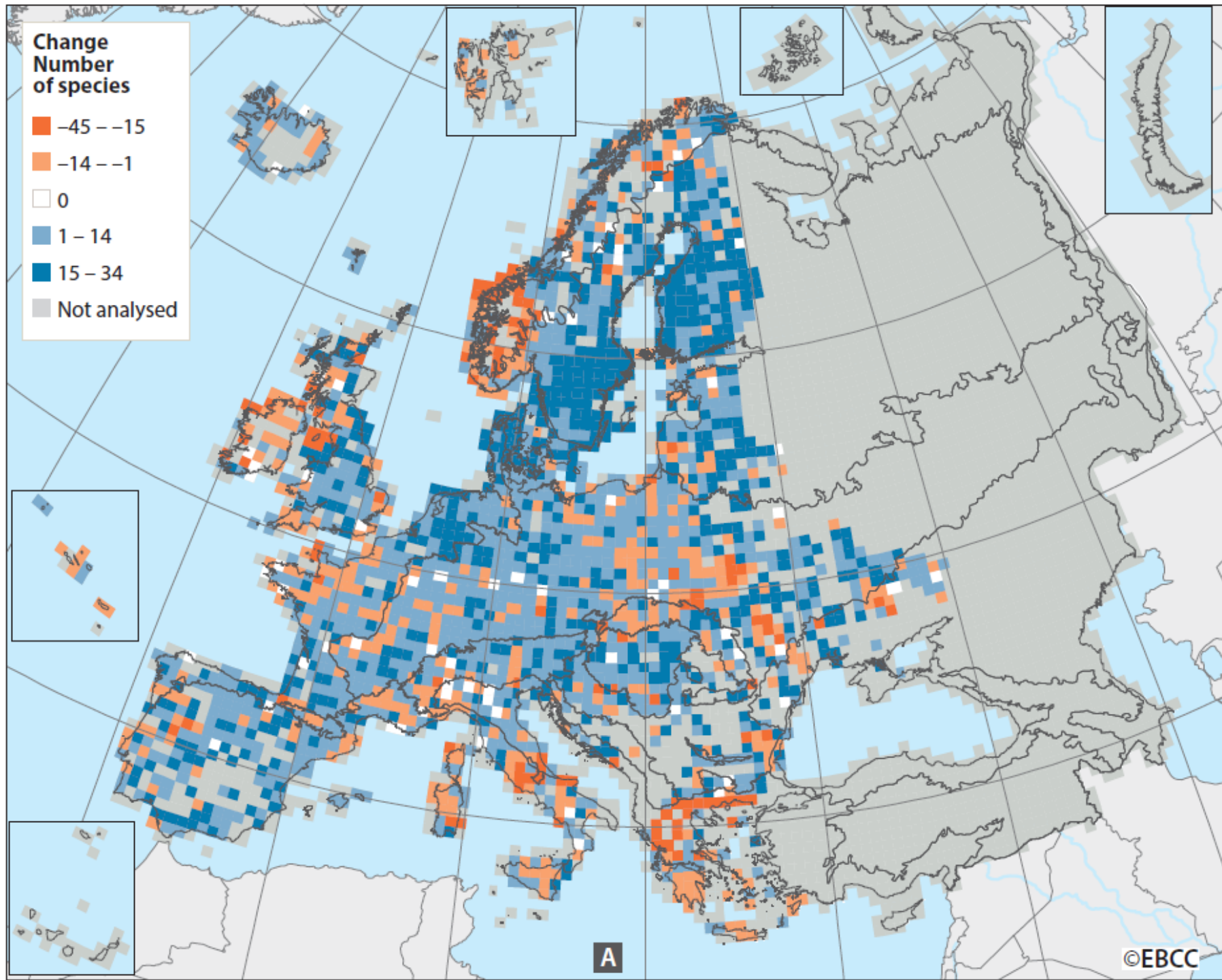
■ -14 -- -1

□ 0

■ 1 -- 14

■ 15 -- 34

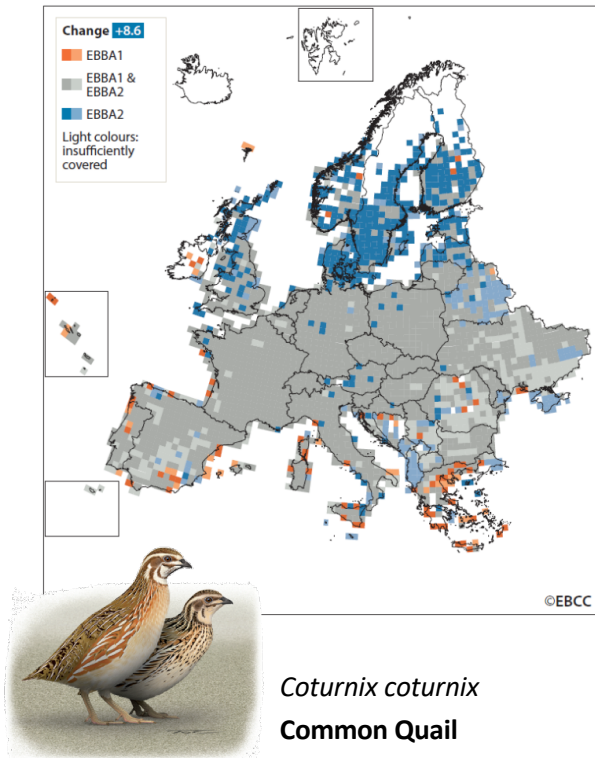
■ Not analysed



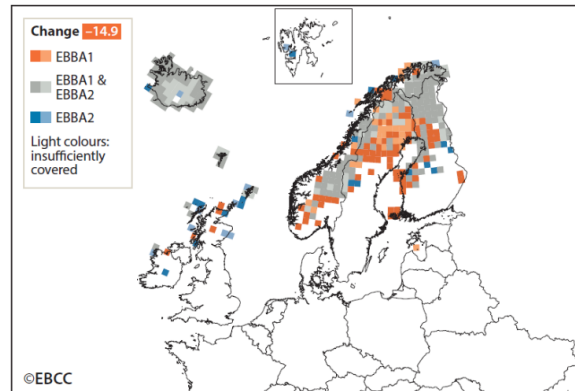
A

©EBCC

Is there any general geographic pattern of change?



© Tomasz Cofta



© Christopher Schmidt

Phalaropus lobatus
Red-necked Phalarope



Overall
northward
shift
mean: 28 km
(c. 1km/year)

Research uses of EBCC outputs

Vojtěch *et al.* (2021) Long-term and large-scale multispecies dataset tracking population changes of common European breeding birds. *Scientific Data* 8, 21, <https://doi.org/10.1038/s41597-021-00804-2>.

Morrison *et al.* (2021) Covariation in abundance and demography reveals targets for conservation action. *Proc Roy Soc B*. <https://doi.org/10.1098/rspb.2020.2955>.

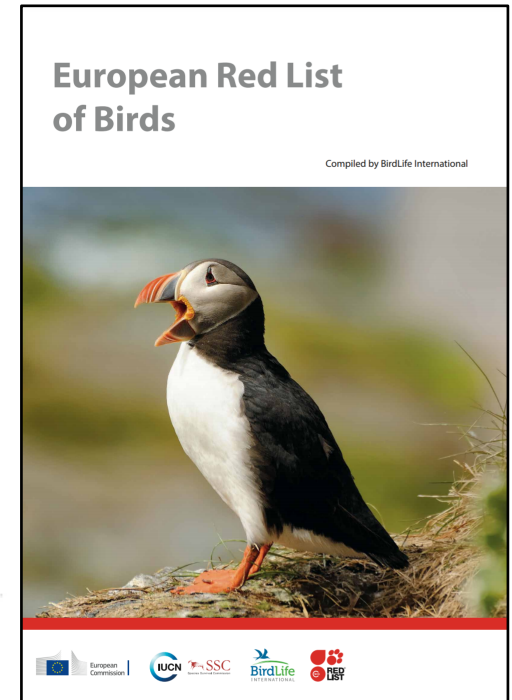
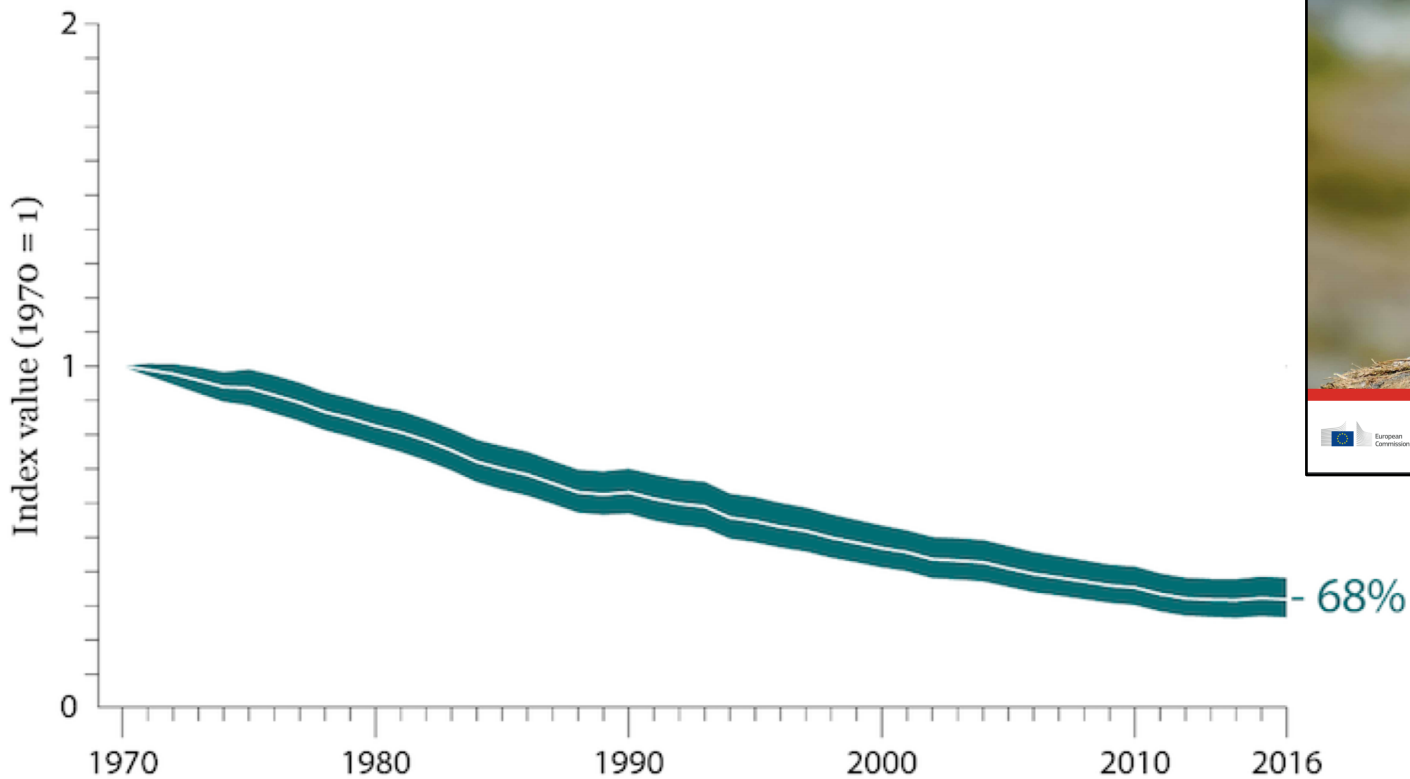
Fraixedas *et al.* (2020) A state-of-the-art review on birds as indicators of biodiversity: advances, gaps, challenges, and future directions. *Ecological Indicators* <https://doi.org/10.1016/j.ecolind.2020.106728>.

Howard *et al.* (2020) Disentangling the relative roles of climate and land cover change in driving the long-term population trends of European migratory birds. *Diversity & Distributions* <https://doi.org/10.1111/ddi.13144>.

Gregory *et al.* (2019) An analysis of trends, uncertainty and species selection shows contrasting trends of widespread forest and farmland birds in Europe. *Ecological Indicators* 103, 676-687, <http://doi.org/10.1016/j.ecolind.2019.04.064>

Mason LR *et al.* (2019) Population responses of bird populations to climate change on two continents vary with species' ecological traits but not with direction of change in climate suitability. *Climatic Change* 157, 337-354, <https://doi.org/10.1007/s10584-019-02549-9>.

Policy uses of EBCC outputs



Summary

- EBCC has fostered an effective, low-cost network
- Both “bottom-up” and “top-down” approaches
- Delivers robust measures of abundance and range change for hundreds of species
- Real-time reporting is opening up great range of potential for future
- Datasets support vital research into e.g. biodiversity and environmental change
- Results can (and are) be synthesised into policy relevant products

Development, and barriers

- Significant and substantial gaps in coverage and capacity remain esp. East & Southeast Europe
- Substantial gaps in what is monitored

Barriers...

- Need strong, capable & supported EBCC partners
- Wider societal awareness and interest in biodiversity leading to greater citizen science engagement
- Stronger and stable governmental support at national level
- Funding – both at country level, and for EBCC's central role. Contract-to-contract existence for programmes.