Changing Climate and bird concentration areas

Jarek Krogulec, ***BirdLife Poland***

Outline

1. About BirdLife International
2. We know where birds are - Important Bird Areas
3. Climat change and birds
4. Bird concentration areas – case of Common Crane
5. Goose crowded skies
6. Tagus estuary airport?

BirdLife International

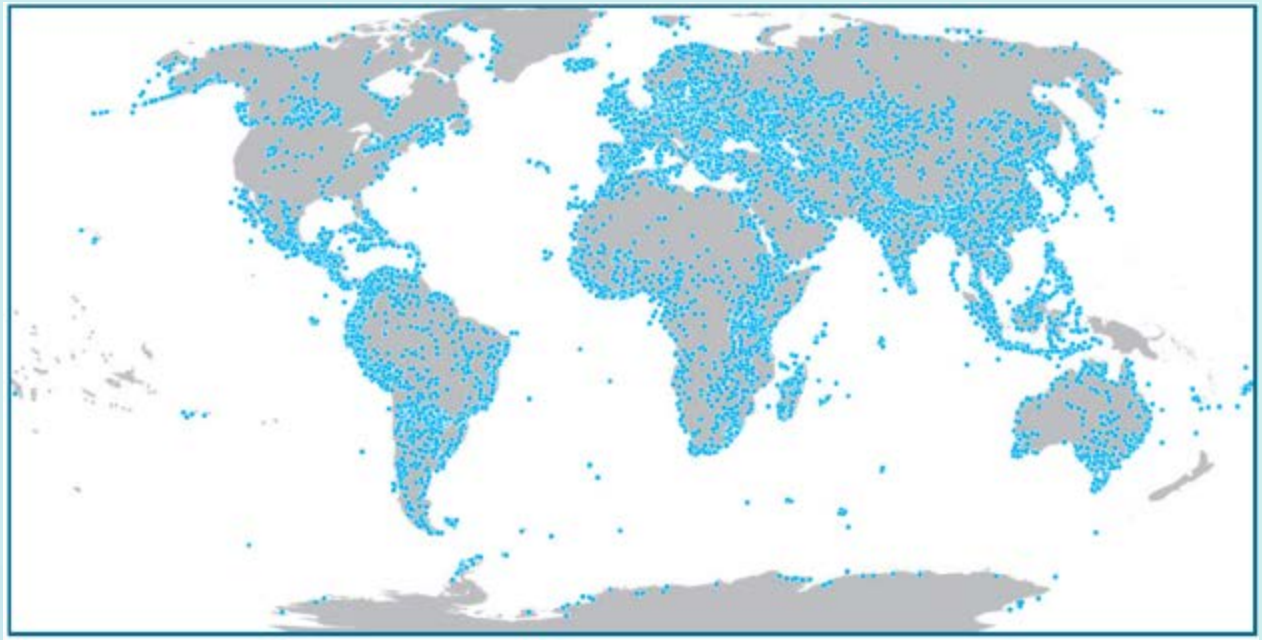
BirdLife International is a **global partnership** of conservation organisations (NGOs) that strives **to conserve birds**, their habitats and global biodiversity, working with people towards sustainability in the use of natural resources. Together we are over **100 BirdLife Partners worldwide** – one per country or territory – and growing.

BirdLife International in numbers

- As the world's largest Nature Conservation partnership BirdLife International has more than **10 million members and supporters**;
- BirdLife Partner Environmental NGOs worked with over 4,000 local groups, including action at more than **11,000** Important Bird and Biodiversity Areas;
- The BirdLife Partnership employs nearly **8,000 staff** supported by 5,000 volunteers.

https://www.birdlife.org/

Important Bird and Biodiversity Areas



BirdLife International's Important Bird and Biodiversity Area (IBA) programme originated in Europe in the late 1970s, where the first regional directory was published in 1989. This documented almost 2 500 sites in 32 countries.

The programme has greatly developed since then, such that now over 11 000 IBAs have been identified across almost all countries of the world.

IBAs are identified with a standardized set of criteria developed by the BirdLife International

The IBA programme is a global initiative, with a range covering now more than 200 countries, and which defined over 11,000 IBAs throughout the world.

Category A4 – globally important congregations

The site May qualify on any one of the four criteria listed below:

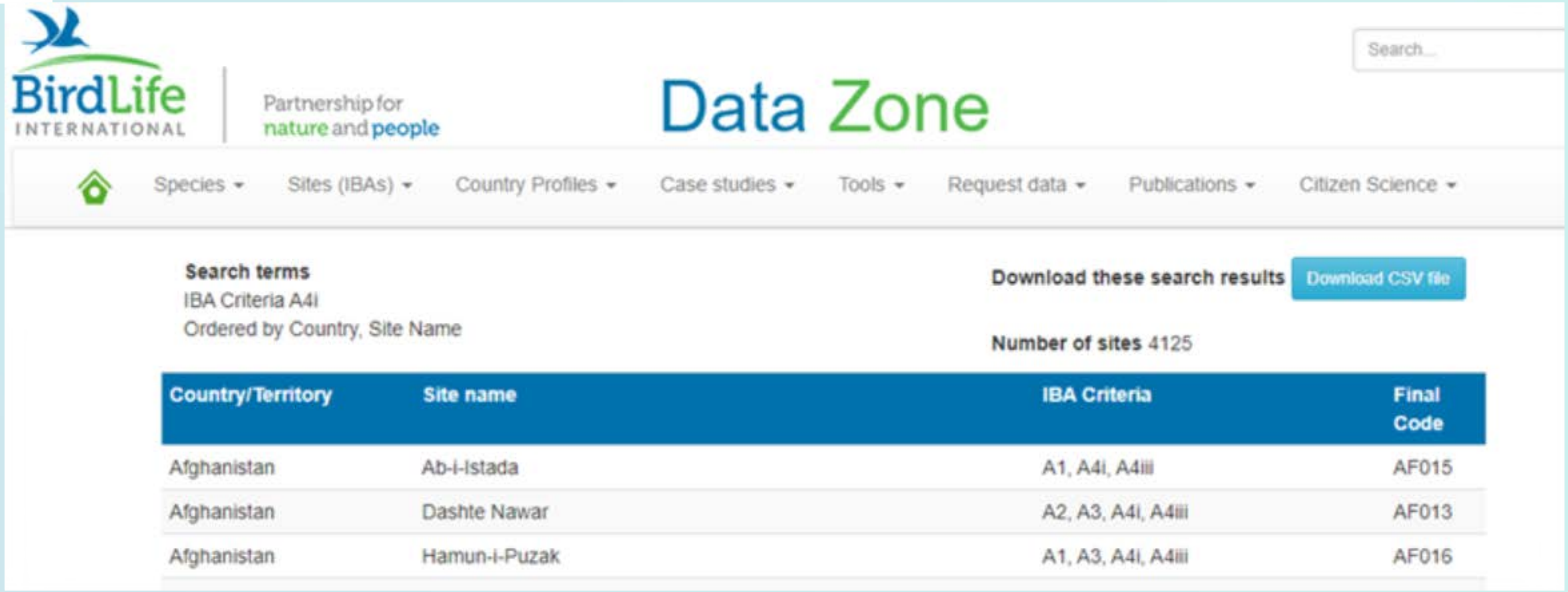
- **A4i)** the site is known or thought to hold, on regular basis, 1% or more of a biogeographic population of a congregatory waterbird species,
- **A4ii)** the site is known or thought to hold, on regular basis, 1% or more of a biogeographic population of a congregatory seabird or terrestrial species,
- **A4iii)** the site is known or thought to hold, on regular basis, at least 20,000 waterbirds, or At least 10,000 pairs of seabirds, of one or more species,
- **A4iv)** the site is known or thought to be a "bottle-neck site" where at least 20,000 storks (Ciconiidae), raptors (Accipitriformes and Falconiiformes) or cranes (Gruidae) pass regularly during spring or autumn migration.

BirdLife IBA IMPORTANT BIRD AREA

http://datazone.birdlife.org/site/ibacriteria

Important Bird and Biodiversity Areas

The IBA programme is a global initiative, with a range covering now more than 200 countries. It is anticipated that up to 15,000 areas, covering some 7% of Earth's land area.



http://datazone.birdlife.org/site/search Search for: A4 category

Changing Climate

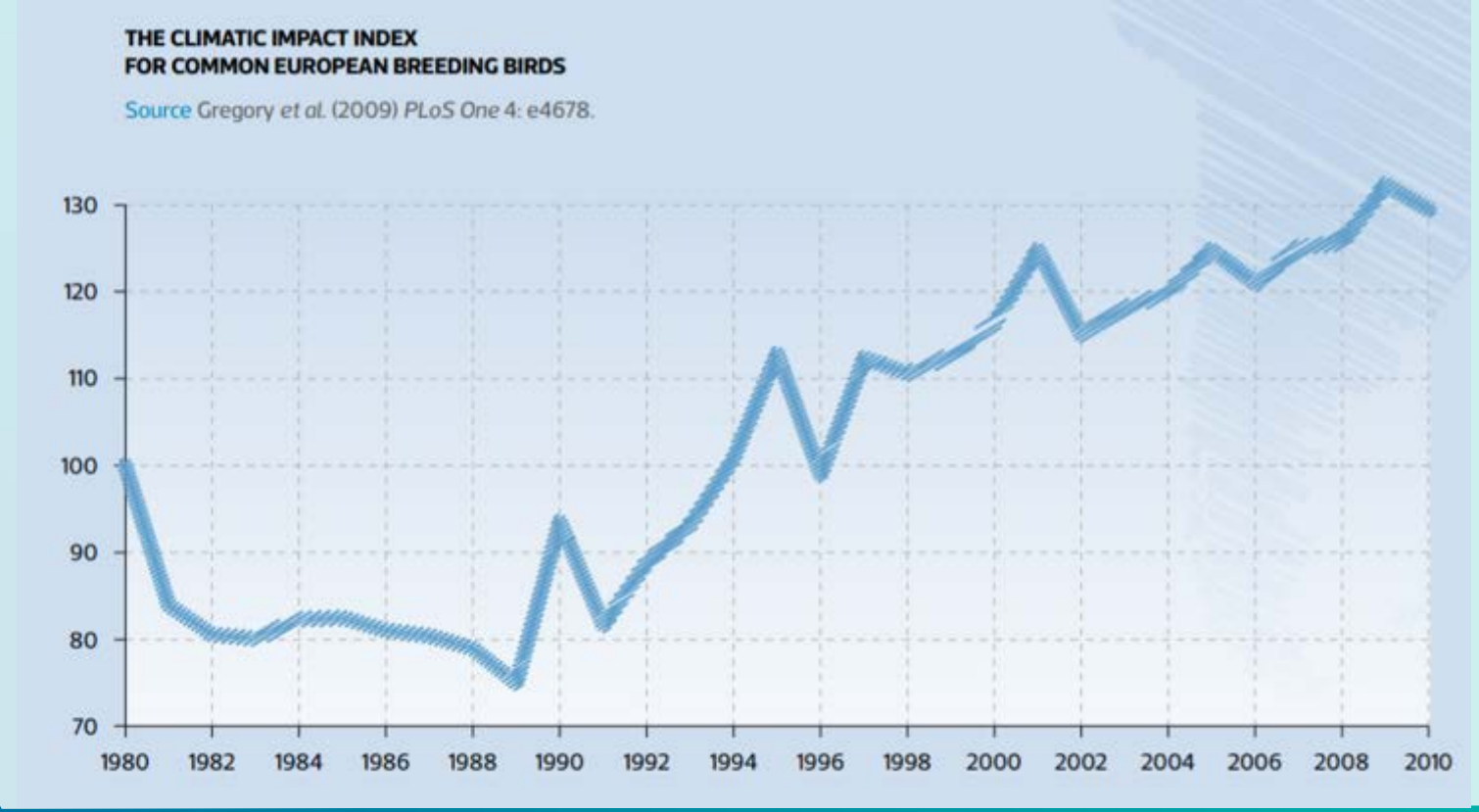
Recent research has documented impacts of climat change on birds that include:

- Distribution shifts towards poles (north and south) and to higher ground to escape warming temperatures;
- Mismatches in the timing of migration, breeding and food supply;
- Population declines resulting from these and other effects.

https://www.birdlife.org/sites/default/files/the_messengers_final_web.pdf

Changing Climate

- Warm-adapted species have increased in abundance in Europe over recent decades, while cool-adapted species have decreased in number.
- The ratio of trends for the two sets of species – the Climatic Impact Index – shows a strong signal of climate change on bird populations since about 1990.
- Recent results for North America are similar.

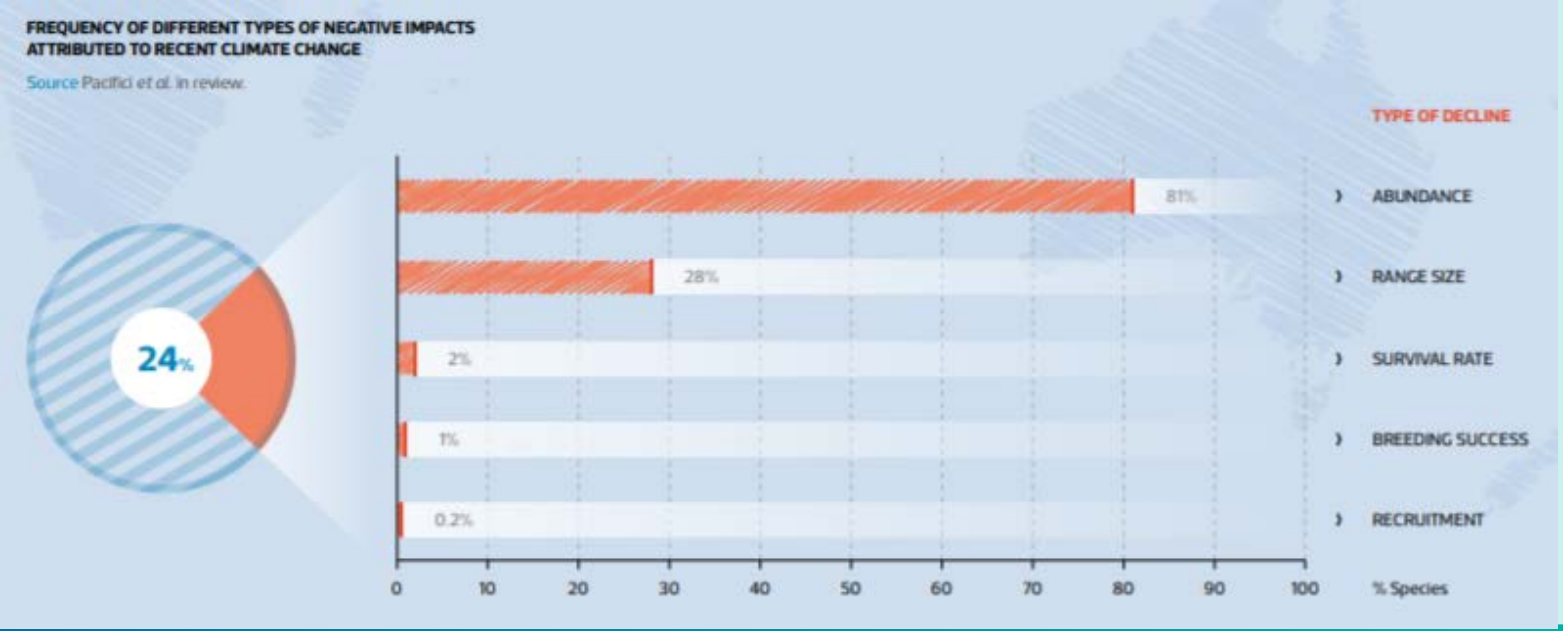


Changing Climate

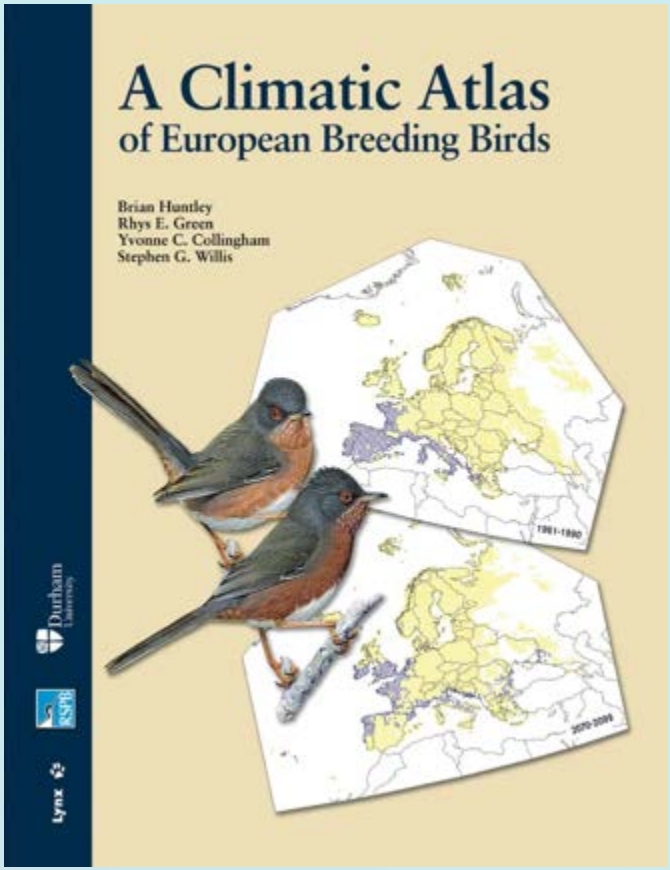
MORE SPECIES HAVE RESPONDED NEGATIVELY THAN POSITIVELY TO RECENT CLIMATE CHANGE

A recent review of the scientific literature shows that **24% of the 570 bird species** studied in detail around the world **have been negatively affected** by climate change to date, while only 13% have responded positively. For half of all species, the impact remains uncertain.

Most negative impacts demonstrated to date have related to reductions in abundance and range size

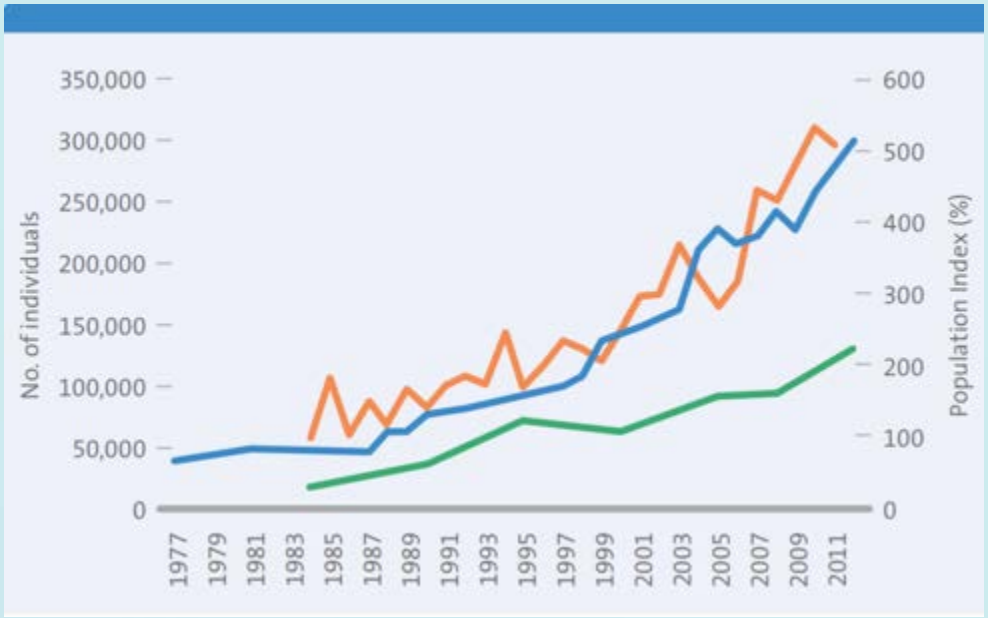


Changing Climate and bird concentration areas



https://www.eea.europa.eu/data-and-maps/indicators/impact-of-climate-change-on/a-climatic-atlas-of-european (2007)
https://www.zsl.org/sites/default/files/media/2014-02/wildlife-comeback-in-europe.pdf (2013)

Increase of population of Common Crane



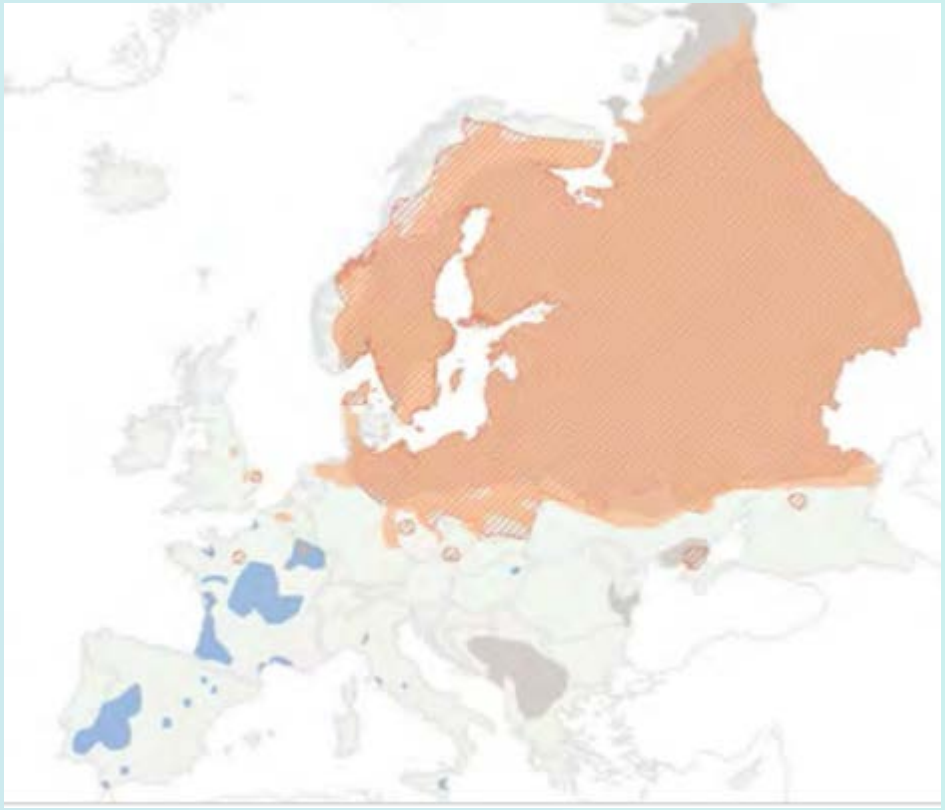
Estimated population size of Common cranes in the West-European (blue) and Baltic-Hungarian (green) flyway populations and the population trend, shown by the PECBMS population index (brown)

Improved foraging conditions in western Europe, more **effective protection** of Common cranes and also **milder winters** drove the changes observed in migration and stopover patterns in the **West European and Baltic-Hungarian flyways**

Increase of population of Common crane

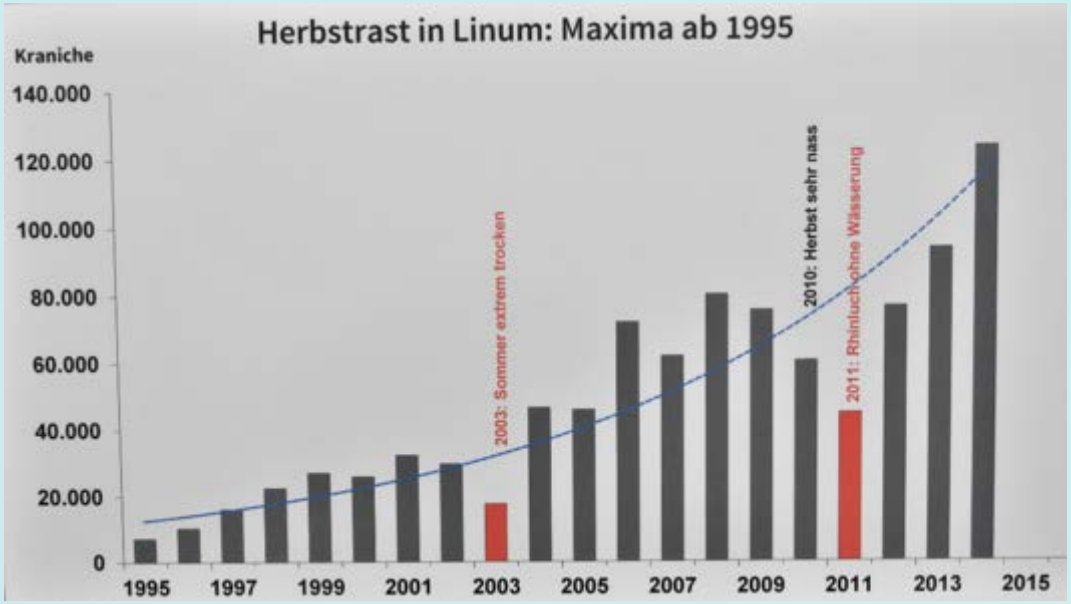
In the main wintering area in Spain, the number of cranes increased from fewer than **15,000** individuals in 1980 to more than **150,000** individuals.

In France, the number of wintering cranes increased from <1,000 individuals in the mid-1970s to 80,000–**100,000** individuals currently



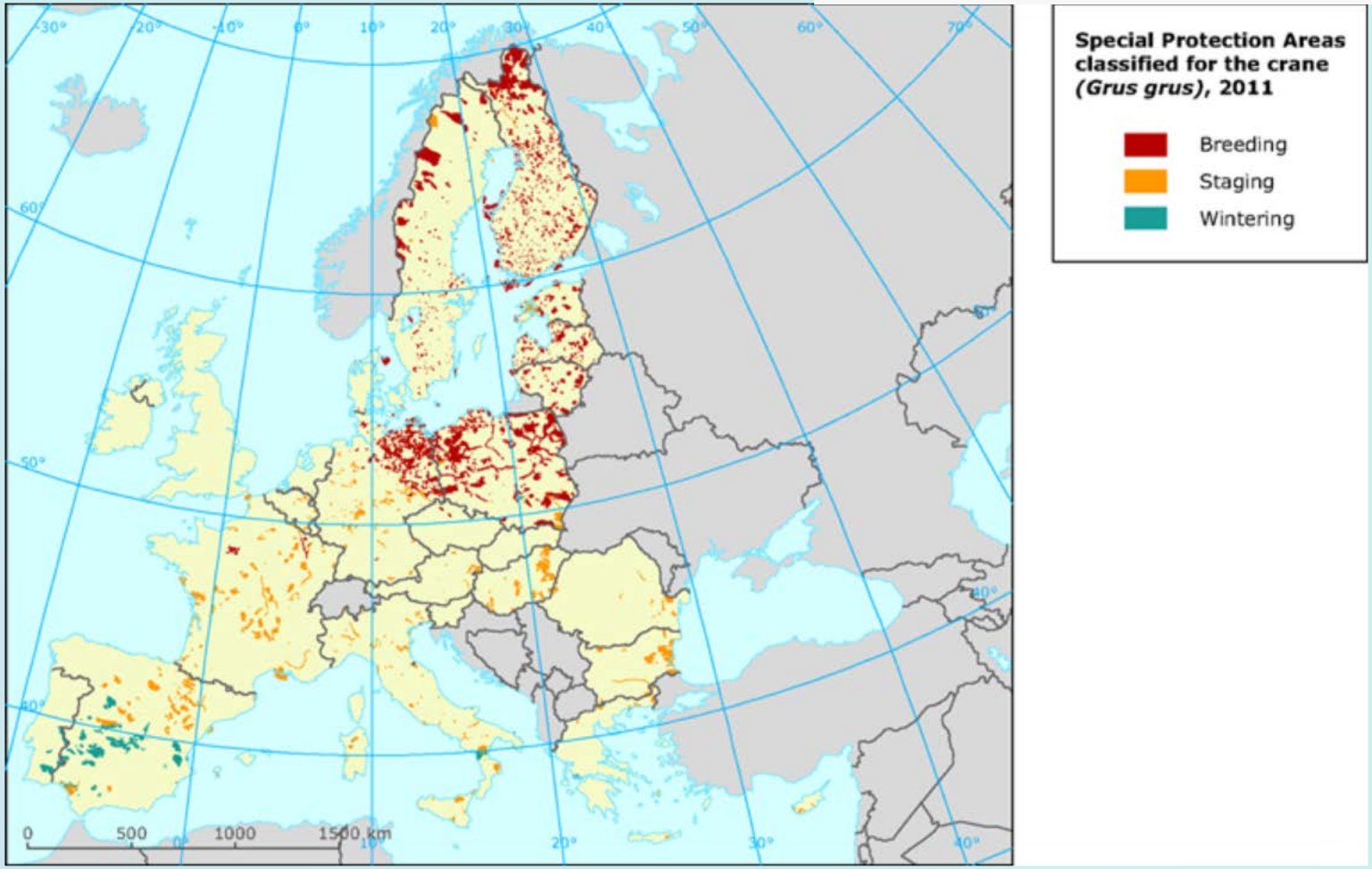
Current breeding (brown) and wintering (blue) distribution of the Common crane in Europe

Increase of population of Common crane



Common crane stopover population increase in Linum, Germany

Increase of population of Common crane



Goose crowded skies

Ambio 2017, 46(Suppl. 2):S179–S187
DOI 10.1007/s13280-016-0878-2

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CrossMark

Threatened species to super-abundance: The unexpected international implications of successful goose conservation

Anthony D. Fox, Jesper Madsen

Ambio 2017, 46(Suppl. 2):S290–S300
DOI 10.1007/s13280-017-0901-2

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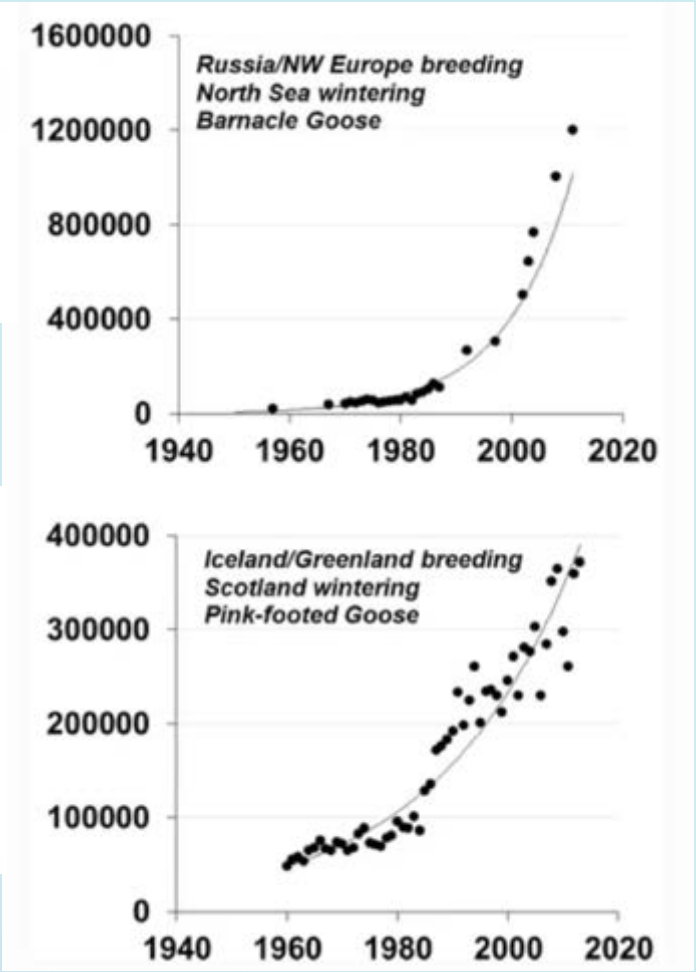
CrossMark

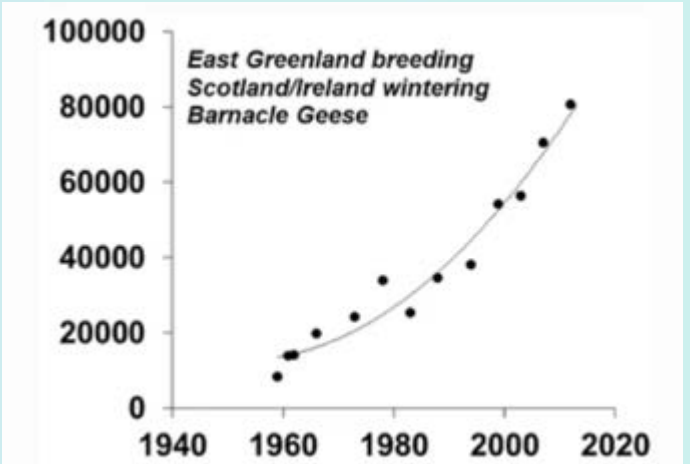
Crowded skies: Conflicts between expanding goose populations and aviation safety

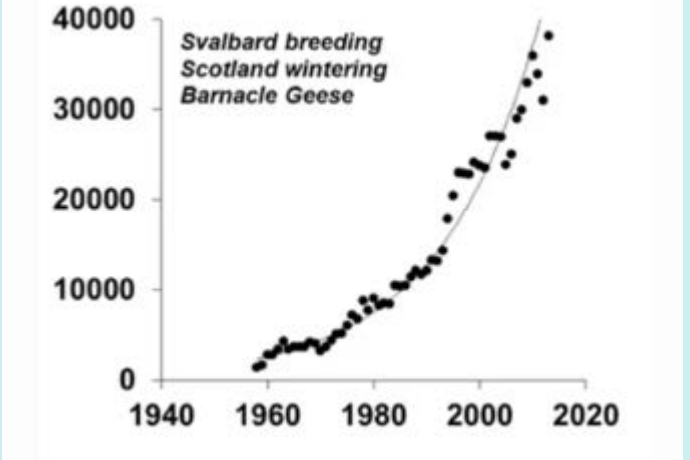
David R. Bradbeer, Camilla Rosenquist, Thomas Kjær Christensen, Anthony D. Fox

Vancouver Airport Authority, Københavns Lufthavne, Aarhus University

Goose crowded skies

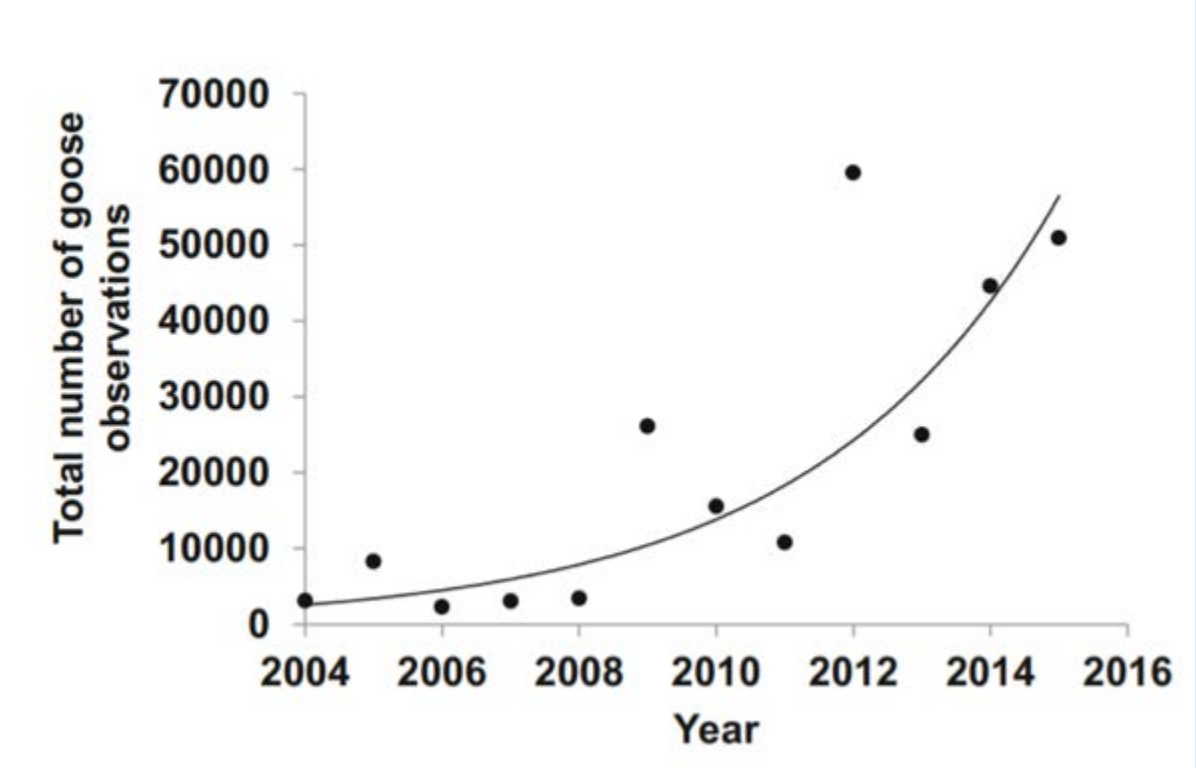






Fox, A.D., and J. Madsen. 2017.

Goose crowded skies



Increase in annual number of observations of geese of all species (mainly barnacle and greylag geese**) flying over or settling at Copenhagen Airport**, 2004–2015. **The rate of increase is equivalent to a 28% increase per annum.**

Bradbeer, D.R., C. Rosenquist, T.K. Christensen, and A.D. Fox. 2017

Why not to build airport in IBA

A planned new airport that will **serve Lisbon** threatens the future **of internationally important flocks** of waders and other waterbirds.

These same birds **pose safety concerns** for the passenger aircraft that will fly through the airspace that is currently reserved for them.

https://wadertales.wordpress.com/2019/12/23/tagus-estuary-for-birds-or-planes/

Why not to build airport in IBA

https://wadertales.wordpress.com/2019/12/23/tagus-estuary-for-birds-or-planes/

Why not to build airport in IBA

- The development site of the **proposed Montijo airport** in vicinity of the **Tagus/Tejo estuary** that is designated as a Special Protection Area (SPA) and an **Important Bird Area (IBA).**
- This designation is based upon counts of 49,000 Black-tailed Godwits, 12,000 Dunlin, 6000 Avocet, 4500 Wigeon, 3300 Greylag Geese, 2000 Grey Plover and 1600 Greater Flamingos.
- **That's 23 tonnes of birds!**

https://wadertales.wordpress.com/2019/12/23/tagus-estuary-for-birds-or-planes/

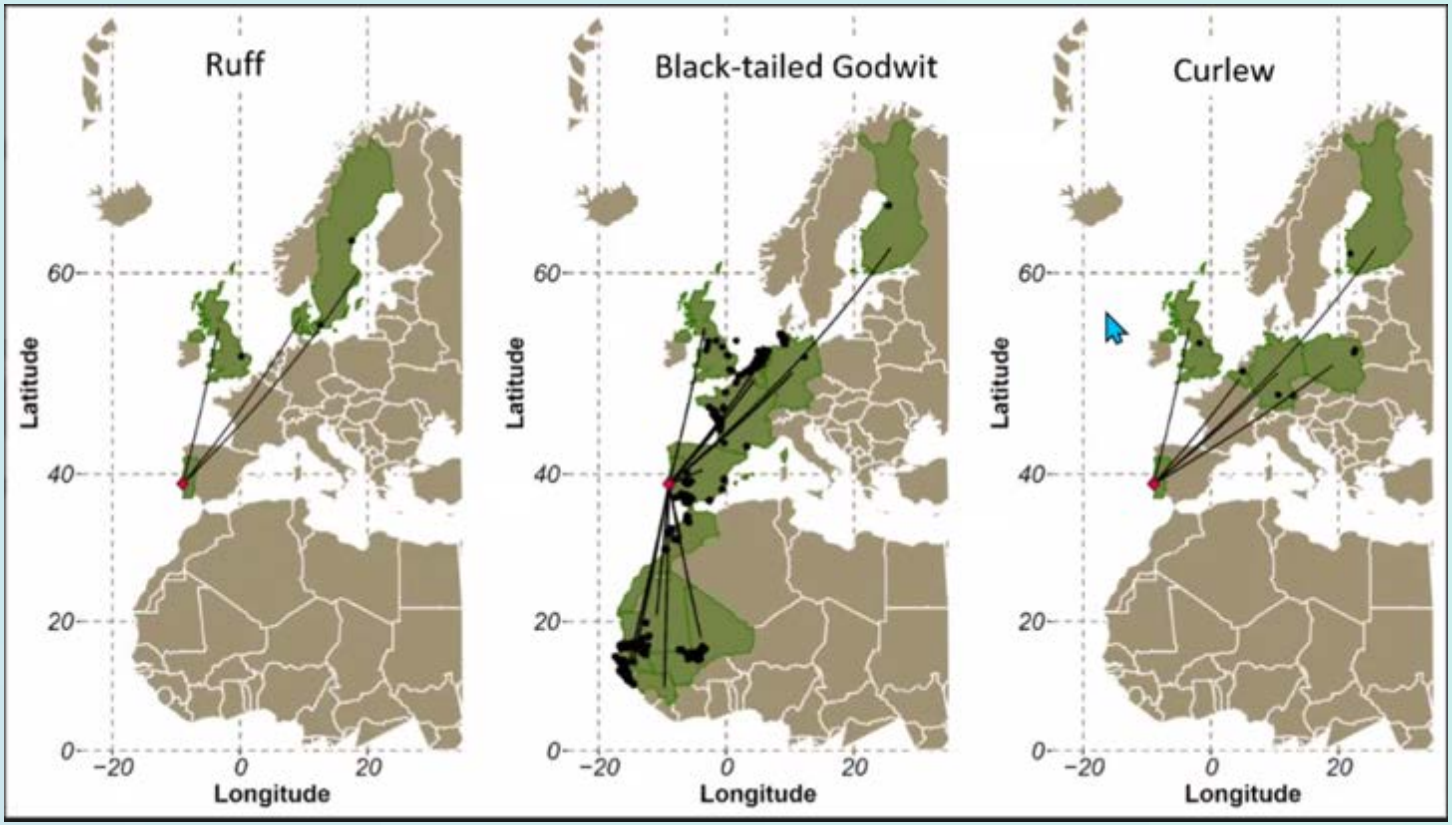
Why not to build airport in IBA

- **Planes and birds do not mix**, as we saw on 15 January 2009, when US Airways Airbus Flight 1549 landed on the Hudson River after an encounter with Canada Geese.

How many **Greater Flamingos** will it take to stop a jet engine? Each one weighs about **three kilogrammes** and there are **1600 on the IBA,** many within a few hundred meters of the airport site.

https://wadertales.wordpress.com/2019/12/23/tagus-estuary-for-birds-or-planes/

Why not to build airport in IBA



Importance of Tagus/Tejo Estuary in Portugal

Conclusions

- We know where birds are - Important Bird Areas
- Climat change has mostly disruptive effect on birds
- Bird numbers can rise in effect of conservation and land management
- Common Crane and Goose can make the Crowded skies
- Using precautionary principle detailed analysis of airport location are needed - Tagus estuary

Thank you!

Jarek Krogulec

OTOP/*BirdLife Poland*