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Dear editor,

Enclosed we are submitting a letter to the editor as a reaction on a paper by Wetzel et al. (2018) published recently in Biological Conservation. We document that Wetzel et al fail to identify the gaps in bird monitoring in Europe by not considering other sources of information publicly available. Furthermore, we propose other approach to fill the gaps in, which is parallel to the approach suggested by Wetzel et al. We kindly ask you to consider our letter for a publication in Biological Conservation.

Yours sincerely,
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Wetzel et al. fail to identify the real gaps in European bird monitoring

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Wetzel et al. fail to identify the real gaps in European bird monitoring

In their Perspective paper, Wetzel et al. (2018) claim to identify gaps in biodiversity monitoring in Europe and propose an approach to fill them. However, for birds at least, their paper is based on incomplete and biased information in DaEuMon (the EuMon database), and draws inappropriate and biased conclusions. We use examples to illustrate some of these shortcomings, and propose how to fill the real gaps.

Probably the longest-running, internationally-coordinated monitoring of European birds is the International Waterbird Census (IWC: iwc.wetlands.org), which tracks populations of wintering waterbirds. The IWC is poorly represented in DaEuMon (only 8 countries, accessed on 18.4.2018), whereas national waterbird counts are actually available from 39 European countries (http://iwc.wetlands.org/index.php/nattotals). Trend analyses based on IWC data are systematically used to assess the conservation status of ducks and waders for the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA). IWC counts also inform the thresholds and provide the data for identifying internationally important wetland sites under the Ramsar Convention and the EU Birds Directive, with over 2,000 sites protected under these instruments in Europe. The IWC has also contributed significantly to describing and understanding waterbird population changes (e.g. Amano et al. 2018).

Similarly to the IWC, the Pan-European Common Bird Monitoring Scheme brings together data from 28 European countries and produces annually updated trends and indices for some 170 species (www.ebcc.info/trends2017.html). The results have been used in prominent research (e.g. Stephens et al. 2016) and for high-profile policy purposes.

By using only data represented in DaEuMon, Wetzel et al. (2018) used just half of the 28 national schemes available to date and as a consequence mistakenly conclude that only 1.2% of bird species in Greece and 6.6% in Sweden are monitored, whereas bird monitoring is actually well established in both countries. In Sweden, 84% of breeding species have been well monitored for the last 20 years, mostly through generic nationwide schemes (Ottvall et al. 2009). Recently, new nationwide schemes have been started to fill the gaps (Green et al. 2018), and almost all Swedish species are now monitored by generic or species-specific schemes.

Wetzel et al. (2018) also do not properly acknowledge the important role of bird atlases, which provide information on the distribution and abundance of all species in a given territory and time period. Many atlases have been repeated over the years, becoming excellent tools for monitoring changes in bird distribution and abundance (Keller 2017). Gibbons et al. (2007) list 42 national and 266 regional atlases in Europe, and more have been initiated since, but hardly any are represented in DaEuMon. Ironically, the forthcoming second European Breeding Bird Atlas (EBBA2) is listed, but Wetzel et al. (2018) do not recognise that EBBA2 itself relies on collating national atlas data (www.ebba2.info).

As these examples show, there are in fact many bird monitoring schemes in Europe. Most of these are poorly represented in DaEuMon and therefore we do not think DaEuMon should be used as the sole source of data for this type of research. Data from such schemes were used to compile the European Red List of Birds (BirdLife International 2015), and to report on the population status and trends of birds under Article 12 of the EU Birds Directive

(http://ec.europa.eu/environment/nature/knowledge/rep_birds/index_en.htm). The fact that no European bird species was assessed as 'Data Deficient' in the Red List provides further suggests that many of the 'gaps' identified by Wetzel et al. (2018) are in fact well covered.

This does not mean that there are no gaps. There remains an urgent need to fund and strengthen bird monitoring across Europe, especially in eastern and southeastern parts of the continent, which hold important populations of many of Europe's most threatened species (BirdLife International 2015). Russia, Belarus, Ukraine, Moldova, Turkey, the western Balkans and the Caucasus are particular priorities for support to further developing bird monitoring, while many existing monitoring schemes across the continent struggle financially from year to year.

Wetzel et al. (2018) identify the development of common data infrastructure tools as a priority for improving monitoring and filling gaps. For birds at least, the priority should be given to ensuring long-term support for bird monitoring schemes in regions where data gaps exist. Such support should include providing financial assistance, training coordinators, building institutional capacity, recruiting and training fieldworkers, promoting the scheme and its results, and establishing cooperation between researchers, NGOs and governments.

As shown above, many different approaches can be used to monitor birds in Europe, a group widely studied, because they can act as indicators for other kinds of biodiversity. We must respect the diverse circumstances and information needs of individual countries, but also provide support to facilitate greater standardisation of data collection and raise data quality standards (noting that 'open access' does not necessarily equate to better quality data). The importance of financial support highlighted above, is underlined by Pearce-Higgins *et al* (in press) who argue that public data archiving to mobilise data, originally focused on shorter-term scientific studies, can negatively affect the financial security of large-scale citizen science schemes and consequently their existence. The success of such efforts can be measured when the aggregated data serve multiple research, conservation and policy purposes.

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