

## C5c Birds of the Countryside: Wetland Birds

This Evidence Statement should be read in conjunction with the *Summary of Evidence* document (Annex 3).

### A. Background, structure and statistical issues/biases

- This indicator describes UK trends from 1975-2014 in 26 bird species identified with one or more of seven freshwater wetland habitat types and for which sufficient data exist.
- Indices are derived from counts of individuals on a suite of surveys: for most species the data comprise a combination of the Waterways Bird Survey (since 1975), the Waterways Breeding Bird Survey (since 1998), the Common Bird Census (up to 2000) and its successor, the Breeding Bird Survey (BBS: since 1994). Species index values are calculated from a statistical model of all contributing datasets. Data for Little Egret and Cetti's Warbler are derived from specific surveys. Each species is given equal weighting in the composite index, and the annual index is the geometric mean of the individual species indices for that year<sup>i</sup>.
- The BBS employs a random stratified sampling approach and has good coverage of UK habitats<sup>ii</sup>, although the CBC did not. England is over-represented in the BBS compared with other countries<sup>iii</sup>, but a statistical correction is applied at the region level to counter any spatial bias. As wetlands are restricted in extent some species are inadequately sampled in the BBS; data from the WBS and WBBS, targeted at wetland habitats, enables better representation of wetland specialist species.
- Assessment of the wetland bird index is robust to temporal biases<sup>iv</sup>.

### B. Representation

1. **The indicator is the average trend in relative abundance of a suite of species associated with wetland habitats, but from a variety of surveys differing in coverage and techniques** <sup>[Medium]</sup>. It does not measure the average trend of populations living in wetlands.
2. **There is little evidence on whether other wetland animals show similar patterns of change as those exhibited in the wetland bird indicator** <sup>[High]</sup>, although we know some are affected by similar drivers of change.

### C. The Trend

3. **The wetland bird indicator was stable until 2005 then declined by 15% between 2005-2014** <sup>[High]</sup>.
4. Seven species (27%) declined in the long-term and nine (35%) increased<sup>vi</sup>. Species contributing to the wetland bird indicator are moderately coherent in trajectory (compared with other indicators)<sup>vii</sup>. **There is good evidence that some wetland bird species have declined much faster than the headline indicator, and others have increased in abundance** <sup>[High]</sup>.
5. The indicator has declined by 6-11% in the short term (2008-2013), during which time 8 species (31%) declined and one (4%) increased<sup>ii</sup>. **There is strong evidence for a short-term decline in the wetland bird indicator** <sup>[High]</sup>.
6. **The England wetland bird indicator exhibits a similar pattern in the short term as for the UK, but the long-term decline in England is not significant** <sup>viii [Medium]</sup>. Comparable indicators do not exist for other nations, although a number of species in the wetland indicator have decreased in Scotland since 1995<sup>ix</sup>.

### D. Wider Application

7. Birds are charismatic and highly visible animals that provide an important way for people to connect with nature (i.e. cultural ecosystem services)<sup>x</sup>. However, the link between species status and cultural services is not well-established, so it remains unclear how changes in the indicator could be used as a measure of cultural ecosystem services.
8. **The status of wetland birds should not be used to measure progress towards Aichi target 12** <sup>[Medium]</sup> (extinction of threatened species)<sup>xii</sup>. Most wetland birds remain common: the subset that

are rare or declining also contribute to indicator C4a, which is a more direct measure of progress towards Aichi target 12.

#### *E. Drivers of change*

9. **There is good evidence that the intensive management of farmland has had a very strong adverse impact on populations of a small number of species in the wetland bird indicator** <sup>[High]</sup>, due to the impact of drainage on breeding waders<sup>xi</sup>.
10. **There is good evidence that climate change has had strong impacts on birds in the wetland bird indicator** <sup>[Medium]</sup>, with a strong net positive impact on the indicator due to milder winters supporting better survival in a range of species<sup>xii</sup>.
11. A range of species appear to have benefitted from new habitat arising from the restoration of gravel pits after extraction has finished. **The creation of new wetland habitat has had a strong positive effect upon the indicator although the evidence for this is weak** <sup>xiii [Medium]</sup>.
12. **There is good evidence that drivers acting outside the UK have a strong negative impact on populations of migratory wetland species that overwinter in sub-Saharan Africa** <sup>xiv [Medium]</sup>.
13. **There are variable levels of evidence to suggest that hydrological change, increasing plantation area, water pollution and invasive species have had moderate negative influences on the wetland bird indicator** <sup>xv [Medium]</sup>.

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*Endnotes refer to the “Technical Report – Summary of Evidence” document, unless otherwise stated*

<sup>i</sup> [http://jncc.defra.gov.uk/docs/UKBI2015\\_TechBG\\_C5\\_Final.doc](http://jncc.defra.gov.uk/docs/UKBI2015_TechBG_C5_Final.doc)

<sup>ii</sup> Table 2.3, section 2.2.8

<sup>iii</sup> Table 2.3

<sup>iv</sup> Sections 2.3.4 – 2.3.6, notably figure 2.6.

<sup>v</sup> <http://jncc.defra.gov.uk/page-4235>

<sup>vi</sup> [http://jncc.defra.gov.uk/docs/UKBI2015\\_DS\\_C5\\_Final.xlsx](http://jncc.defra.gov.uk/docs/UKBI2015_DS_C5_Final.xlsx)

<sup>vii</sup> Section 2.1.5, table 2.1.

<sup>viii</sup> <https://www.gov.uk/government/statistics/wild-bird-populations-in-england>

<sup>ix</sup> <http://www.bto.org/sites/default/files/u16/downloads/reports/bbsreport14.pdf>

<sup>x</sup> Section 3.4.2.1

<sup>xi</sup> Section 3.2.5, especially table 3.15 and subsection 3.2.5.2

<sup>xii</sup> Section 3.2.5, especially table 3.15 and subsection 3.2.5.1

<sup>xiii</sup> Section 3.2.5, especially table 3.15 and subsection 3.2.5.3

<sup>xiv</sup> Section 3.2.5, especially table 3.15 and subsection 3.2.5.4

<sup>xv</sup> Section 3.2.5, especially table 3.15 and subsections 3.2.5.5, 3.2.5.6, 3.2.5.7 and 3.2.5.8