

## C5e Birds of the Countryside: Wintering Waterbirds

This Evidence Statement should be read in conjunction with the *Summary of Evidence* document (Annex 3). Assertions in bold text have been assigned a confidence rating following assessment by a panel of independent experts (see main report for details).

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

- This indicator describes trends from 1975-2013 in 46 species of waterbirds that overwinter in the UK. Waterbirds are defined primarily based on taxonomy (mainly waterfowl and waders and excluding species such as gulls), rather than because they represent specific aquatic habitats. The species composition includes migratory species that breed outside the UK.
- Indices are derived from counts on the Wetland Bird Survey and the Goose & Swan Monitoring Program. 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>.
- Although both data sources show strong spatial biases, these largely match the distributions of the species being counted. For many species the surveys count virtually the entire wintering populations. However, for some species the coverage is biased towards the populations occurring at large water bodies and estuaries<sup>ii</sup>.
- Assessment of the wintering waterbird index is robust to temporal biases<sup>iii</sup>.

### B. Representation

1. **The indicator represents the national average trend in abundance of waterbirds in the UK during winter, with good coverage for the majority of species** <sup>[Medium]</sup>. When interpreting the trend, it is important to recognise that many breed outside of the UK and so are subject to pressures on breeding grounds and migration routes.
2. **There is little evidence on whether other wetland biodiversity shows similar patterns of change as those exhibited in the wintering waterbird indicator** <sup>[High]</sup>, although we know some are affected by similar drivers of change. Moreover, other taxa are likely to be much less mobile and/or restricted to the water.

### C. The Trend

3. The headline indicator increased by 88% from 1975-2013<sup>iv</sup>. Most of this increase occurred between 1975 and 1995. **This is strong evidence for a long-term increase in species contributing to the indicator** <sup>[High]</sup>.
4. Five species (11%) declined in the long-term and 23 (50%) increased<sup>v</sup>. Trends for increasing species were larger, on average, than for decreasing ones. Species contributing to the waterbird indicator are moderately coherent in trajectory (compared with other indicators)<sup>vi</sup>. **There is good evidence that the number of waterbirds wintering in the UK has increased** <sup>[Medium]</sup>, although a minority of species have declined.
5. The indicator has declined by 10% in the short term (2008-2013), during which time 19 species (41%) declined and 14 (31%) increased<sup>ii</sup>. The official assessment is that the indicator is in decline, although this is based on a rule-of-thumb rather than a formal statistical comparison. **There is moderate evidence that wintering waterbirds have declined during the short term** <sup>[Medium]</sup>.
6. The wintering waterbird indicator for England shows a very similar pattern to that for the UK, whereas that for Scotland, produced using similar species, does not show the long-term increase but has a similar decline in the short-term<sup>vii</sup>, although there are minor differences in how the indicators are constructed. **There is mixed evidence for whether the trends are consistent across the UK** <sup>[High]</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>viii</sup>, but there may also be disbenefits where waterbirds exploit human food resources such as crops. Moreover, 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 waterbirds birds should not be used to measure progress towards Aichi target 12** <sup>[Medium]</sup> (extinction of threatened species)<sup>xii</sup>. Most waterbirds 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 very good evidence to suggest that climatic change has had a extremely strong impact on species within the indicator** <sup>[Medium]</sup>, with a strong net negative impact, principally due to milder winters leading to wintering ranges shifting away from the UK<sup>ix</sup>.
10. Some wintering waterbirds have benefitted from the move to the sowing of winter crops, but breeding populations of species such as Curlew have been adversely impacted by modern farming practices; **the intensive management of agricultural land has had a moderate net negative effect on the indicator**<sup>x [Medium]</sup>.
11. **There is moderate evidence that impacts occurring on the high latitude breeding grounds of species that migrate to winter in the UK have had both beneficial and adverse effects on numbers reaching the UK** <sup>[Medium]</sup>. Breeding success has increased for some, such as the Icelandic-breeding Black-tailed godwits, but declined for birds in other regions such as the Greenland White-fronted Goose<sup>xi</sup>.
12. **Wintering waterbirds have benefitted strongly from the creation of new wetland habitat in recent years** <sup>[Medium]</sup>, although evidence to demonstrate population-level impacts is weak<sup>xii</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> Musgrove *et al.* (2011). Overwinter population estimates of British waterbirds. *British Birds*, 104, 364-397.

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

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

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

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

<sup>vii</sup> <http://www.snh.gov.uk/docs/B424905.pdf>

<sup>viii</sup> Section 3.4.2.1

<sup>ix</sup> Section 3.2.7, especially table 3.19 and subsection 3.2.7.1

<sup>x</sup> Section 3.2.7, especially table 3.19 and subsection 3.2.7.2

<sup>xi</sup> Section 3.2.7, especially table 3.19 and subsection 3.2.7.3

<sup>xii</sup> Section 3.2.7, especially table 3.19 and subsection 3.2.7.4