



Department for Environment, Food and Rural Affairs

STATISTICAL RELEASE: 30 NOVEMBER 2011

WILD BIRD POPULATIONS IN ENGLAND, 1970 TO 2010¹

- **Overall breeding bird populations in England** have changed little compared with 40 years ago. In 2010 they were just above what they were in 1970, following a small decline of 1.5 per cent in the most recent five years, from 2004 to 2009. However this masks considerable variation between individual bird species and groups of species that share the same broad habitats.
- **In 2010 breeding farmland bird populations in England** were at the lowest level ever recorded, at less than half (48 per cent) of what they were in 1970. Most of the declines occurred between the late seventies and the early nineties, but there had also been a decline of ten per cent overall in the most recent five years, from 2004 to 2009.
- **Breeding woodland bird populations in England** were 20 per cent lower in 2010 than what they were in 1970. The greatest decline of woodland birds occurred from the late eighties until the mid nineties, but there had been little change in the most recent five years, from 2004 to 2009.
- **In 2010 breeding water and wetland bird populations in England** were at about the same level as they were in 1975. However populations have fluctuated and had shown a decline of 3.5 per cent overall in the most recent five years, 2004 to 2009.
- **Breeding seabird populations in England in 2010** were 3.3 per cent higher than in 1986 and had increased by 5.6 per cent overall in the most recent five years, 2004 to 2009.
- **In the winter of 2009-10 populations of wintering waterbirds in England** were 85 per cent higher than in the winter of 1975-6. However, populations had been higher and had shown an overall decline of 7.1 per cent over the most recent five winters, from 2003-4 to 2008-9.

¹ A separate Defra National Statistics Release, Wild bird populations in the UK, 1970 to 2010, is also published today

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Factors affecting bird populations²

The major declines in **farmland birds** have several known and potential causes. Many of the declines in bird populations have been caused by land management changes and intensification of farming that took place over a long period, such as the loss of mixed farming, a move from spring to autumn sowing of arable crops, change in grassland management (e.g. a switch from hay to silage), increased pesticide and fertiliser use, and the removal of non-cropped features, such as hedgerows. These changes resulted in habitat loss, a lack of suitable nesting habitat, and a reduction in available food sources.

Some farming practices can still have a negative impact on bird populations, but farmers can and do make a positive contribution. In particular a number of schemes³ are in place to improve environmental stewardship in farming, with some specifically designed to help stabilise farmland bird populations. The ongoing decline for some species may be additionally contributed to by other pressures, for example there is evidence of an impact for some species from weather effects, disease, and land development pressures. There are also an increasing numbers of studies finding evidence of a changing climate affecting birds here and during migration.

The declines in **woodland birds** have several known and potential causes including past poor woodland conservation management, resulting in a lack of diversity in habitats and food sources in the woodland environment; loss of habitats and food sources through damage caused by increasing deer populations; and a reduction in some migratory species owing to pressures elsewhere in the world.

Populations of **wintering wetland birds** are affected by a range of factors including conditions in the countries where the birds are breeding, and changes in migratory patterns, which may be affected by climatic changes.

Why monitor bird populations?

Bird populations have long been considered by scientists to provide a good indication of the broad state of wildlife because birds occupy a wide range of habitats, they tend to be near or at the top of food chains and there are considerable long-term data on changes in bird populations which help in the interpretation of shorter term fluctuations. Birds also have huge cultural importance and are viewed as a highly valued part of England's natural environment by the general public.

² For more information see: ["Understanding the Causes of Decline in Breeding Bird Numbers in England"](#)

³ Entry Level and Higher Level Environmental Stewardship. For further information see: www.naturalengland.org.uk/ourwork/farming/funding/es/default.aspx

Whilst it may not be possible to determine actual bird abundance with any accuracy, it is possible to make estimates of the changes or trends in populations, based on a range of national surveys and monitoring schemes coordinated by expert organisations.⁴

This annual Defra National Statistics Release presents trends up to 2010 in populations of birds that are native and breed in England, with trends overall and for four main habitat groups (see Annex A for a list of birds in each group):

- (i) 'All species', covering a wide selection of species (105 species)
- (ii) Farmland birds (19 species)
- (iii) Woodland birds (35 species)
- (iv) Water and wetland birds (26 species)
- (v) Seabirds (9 species)

The Release also presents population trends in

- (vi) wintering water birds (water birds that do not breed in England, but which are resident here during our winters).

Note: only species native to England are included within the indices.

Trends in bird populations are used by policy makers and non-governmental organisations to help monitor the effects of farming practices (including interventions intended to address declines in farmland birds) and other environmental interventions, trends in biodiversity (the variety of living things and the natural environments that support them), and to determine whether our natural environment is being managed sustainably.

Understanding the bird population indices

Individual bird species population trends, based on the expert surveys, are calculated as an index, which relates the population in a given year to a 'baseline' – the first year that data are available - and this baseline population is given a notional value of 100. Thereafter the index is expressing the population as a percentage of this 'baseline' and in this Release reference will be made to the 'index'.

The indices presented combine individual species indices⁵ into a single index to provide an overall trend for each habitat group mentioned above.

The indices show the year-to-year fluctuation in populations, reflecting the observed changes in the expert survey results. However 'smoothed trends'⁶

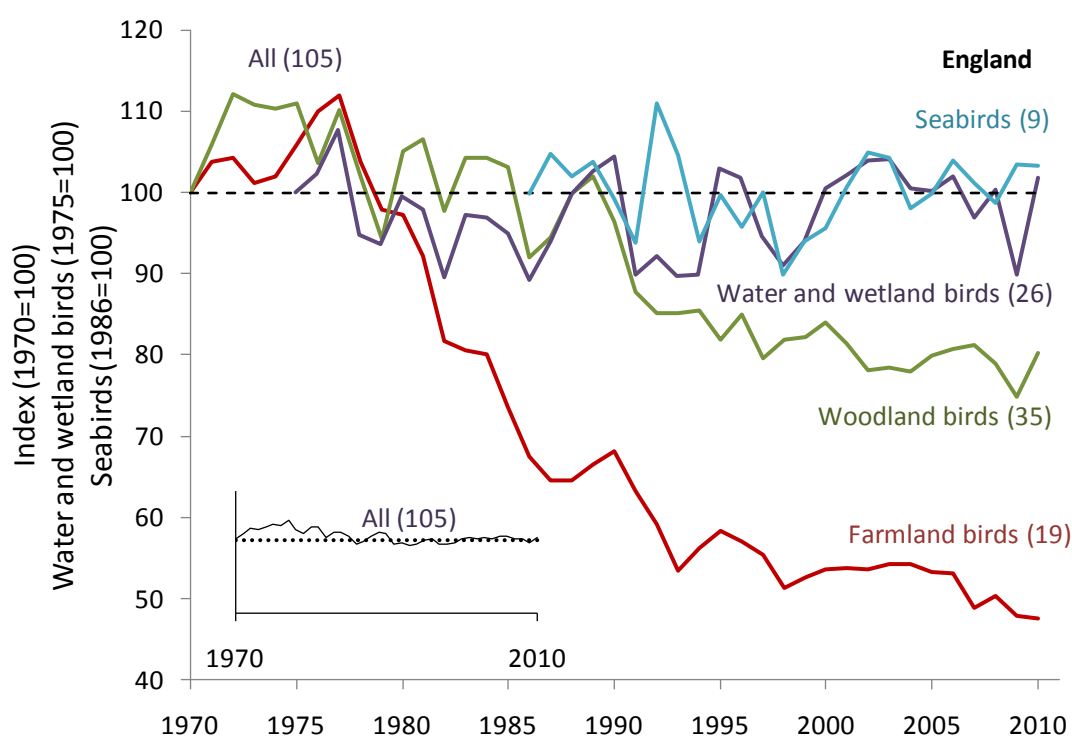
⁴ See 'Notes' at the end for further details of the surveys sources used.

⁵ Using a geometric mean - an average calculated by multiplying a set of numbers and taking the nth root, where n is the number of numbers

given in Annex B are used for formal assessments of change over time, as these reduce the short-term peaks and troughs resulting from, for example, year to year weather and sampling variations. These smoothed trends, derived using a well-established statistical methodology⁷, have been used to make assessments of change over the most recent five-year period possible, from 2004 to 2009 - the smoothing method requires that the most recent year of data, i.e. here 2010, is not estimated by smoothing. Where results from the smoothed indices are quoted they will be clearly indicated.

Native breeding wild bird populations in England

Figure 1: Populations of wild birds, 1970 to 2010



Source: RSPB, BTO, JNCC, Defra Note: figures in brackets show the number of species

- In 2010 the **all-species index in England** (105 species) was just above its baseline level in 1970. The smoothed index showed a small but statistically significant decline of 1.5 per cent over the most recent five years, from 2004 to 2009.

The species trends within the all-species index vary widely from species increasing several-fold (e.g. Cetti's Warbler, Dartford Warbler, Woodlark) to those having declined to less than a tenth of 1970 levels (Turtle Dove, Corn

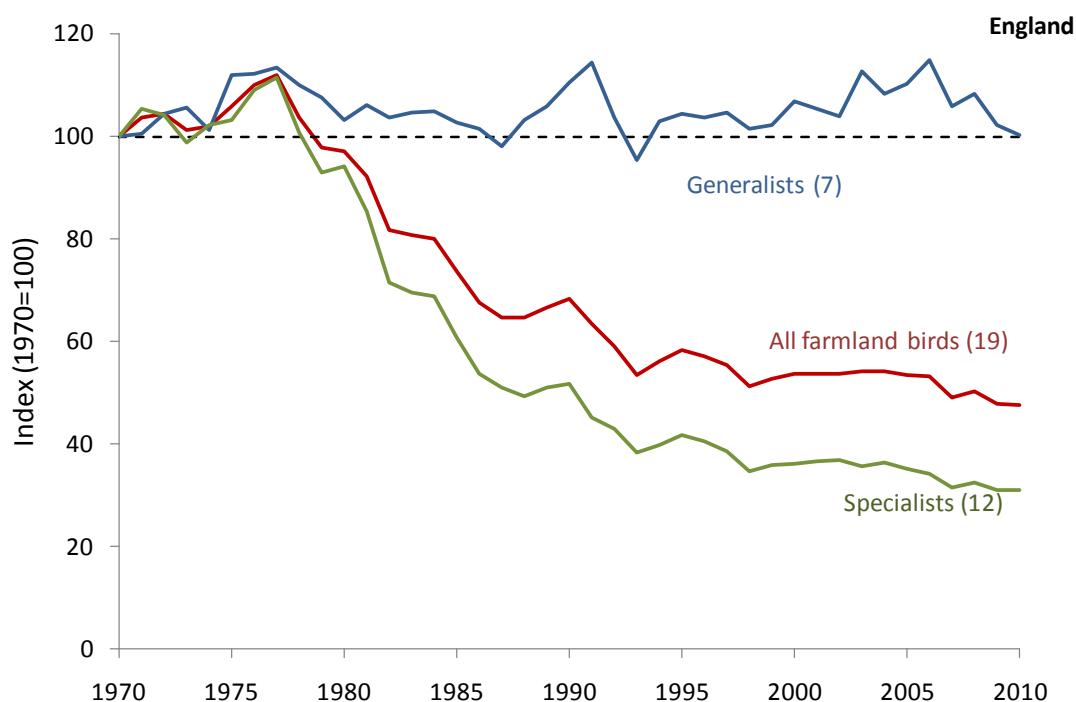
⁶ It is not possible to produce smoothed trends for seabirds, owing to survey methodologies.

⁷ See analytical methods on BTO website (www.bto.org/birdtrends2010/methodology.htm)
Fewster et al. 2000. Ecology 81: 1970-84...

Bunting, Grey Partridge). The main patterns and drivers of change are best considered by looking at the species group indices (below).

Breeding farmland birds populations in England

Figure 2: Populations of farmland birds, 1970 to 2010



Source: RSPB, BTO, JNCC, Defra Note: figures in brackets show the number of species

- In 2010 the breeding **farmland birds index in England** (19 species) was less than half (a decline of 52 per cent) of its value in 1970 – the lowest level ever recorded.
- Most of the declines in farmland birds occurred between the late seventies and the early nineties, but the smoothed index shows a significant on-going overall decline of ten per cent between 2004 and 2009.

The smoothed index of farmland generalists shows a significant decline of 6 per cent and the farmland specialists a significant decline of 12 per cent between 2004 and 2009.

The long term decline of farmland birds in England has been driven mainly by the decline of those species that are restricted to or highly dependent on farmland habitats (the 'specialists'); whilst the index of those species found on farmland and other widespread habitats (the 'generalists') in 2010 was similar (+0.3 per cent) to its baseline level in 1970.

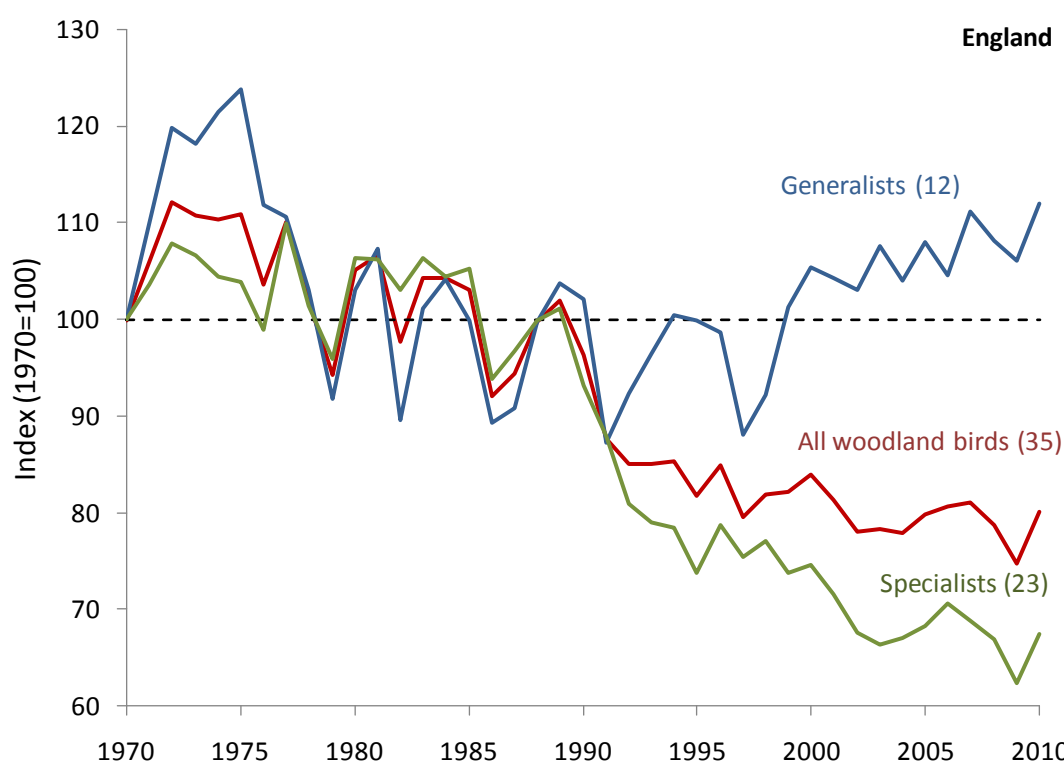
Changes in farming practices, such as the loss of mixed farming systems, the move from spring to autumn sowing, and increase pesticide use, have been demonstrated to have had adverse impacts on farmland birds such as Skylark and Grey Partridge, although other species such as Woodpigeon have benefitted.

Most of the farmland specialists have declined since 1970, with five, Grey Partridge, Turtle Dove, Starling, Tree Sparrow and Corn Bunting having declined by over 80 per cent. By contrast, Stock Dove and Goldfinch, have increased by 68 and 106 per cent, respectively, over the same period, the latter likely due to increased use of food resources associated with gardens.

Populations of one of the farmland generalists, the Yellow Wagtail, have declined by over 70 per cent since 1970. However, this is balanced by increases in most of the other generalist species such as Woodpigeon and Jackdaw, whose populations went up by 170 and 119 per cent, respectively, over the same period. Populations of the Reed Bunting have declined by 26 per cent since 1970 but the smoothed index showed a recent upward trend with an increase of 14 per cent between 2004 and 2009.

Breeding woodland birds populations in England

Figure 3: Populations of woodland birds, 1970 to 2010



Source: RSPB, BTO, JNCC, Defra

Note: figures in brackets show the number of species

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- In 2010 the breeding **woodland birds index for England** (35 species) was about 20 per cent lower than its 1970 level.
- The greatest decline of woodland birds occurred from the late eighties until the mid nineties and the index has been relatively stable in recent years – the smoothed index showed a non-significant decrease of 0.7 per cent between 2004 and 2009. The smoothed index of the woodland generalist showed a shallow but significant increase of 2.8 per cent between 2004 and 2009 whereas that of the woodland specialists showed a non-significant decline of 2.5 per cent over that same period.

The long term decline of woodland birds in England was mostly driven by the decline of specialist woodland birds (those restricted to or highly dependent on woodland habitats); the index of generalist woodland birds (found in woodland and other widespread habitats) increased by 12 per cent between 1970 and 2010 while the index of specialist woodland birds decreased by 33.5 per cent over that same period.

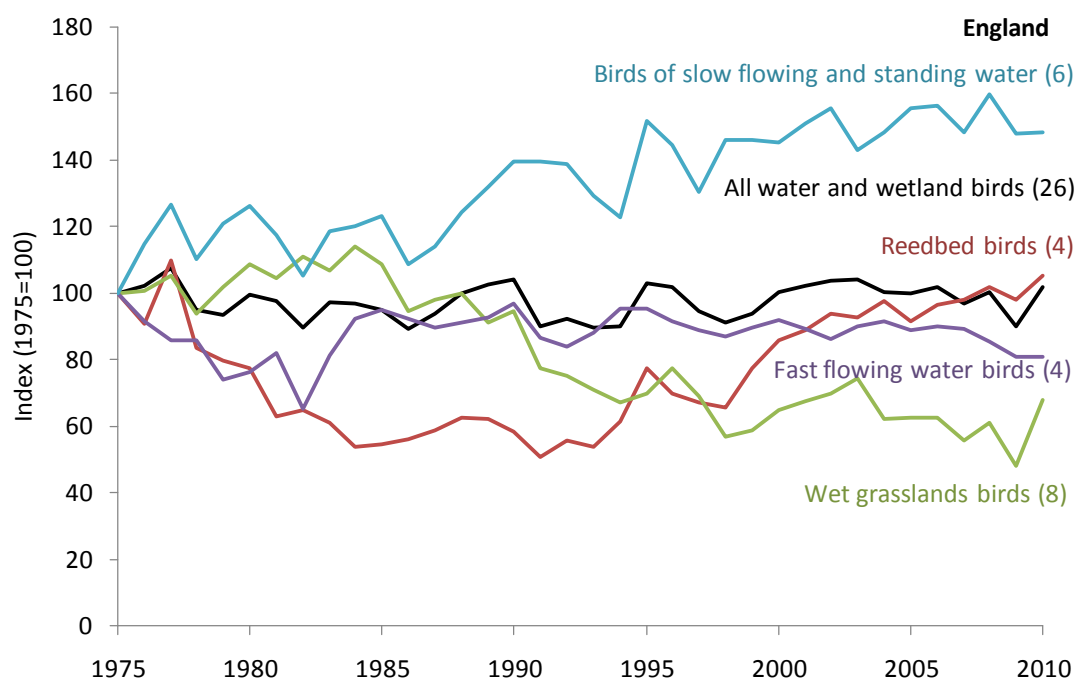
Nine of the woodland specialists have at least halved since 1970, with seven species, Wood Warbler, Willow Tit, Tree Pipit, Spotted Flycatcher, Lesser Redpoll, Lesser Spotted Woodpecker and Nightingale having declined by over 70 per cent relative to 1970. The smoothed index showed that five woodland specialists, Marsh Tit, Nightingale, Spotted Flycatcher, Tree Pipit and Willow Tit declined by over 20 per cent between 2004 and 2009.

By contrast, five woodland specialists, Blackcap, Great Spotted Woodpecker, Green Woodpecker, Nuthatch and Sparrowhawk, saw their populations more than double since 1970. The smoothed index showed that the Siskin saw their population more than double between 2004 and 2009.

Populations of five woodland generalists - Blackbird, Bullfinch, Dunnock, Song Thrush and Tawny Owl, have declined relative to 1970, whilst populations of the other seven generalists have increased, Wren, Robin, Long-tailed Tit and Great Tit by more than 50 per cent. The smoothed index shows a decline for Wren, Dunnock, Blue Tit and Tawny Owl populations, whilst Lesser Whitethroat increased by over 20 per cent between 2004 and 2009.

Breeding water and wetland birds populations in England

Figure 4: Populations of breeding water and wetland birds, 1975 to 2010



Source: RSPB, BTO, JNCC, Defra

Note: figures in brackets show the number of species

- In 2010 the breeding **water and wetland birds index in England** (26 species) was at a level similar (+ 1.8 per cent) to the start of monitoring in 1975. The smoothed index showed a statistically significant decline of 3.5 per cent between 2004 and 2009.

Species groups associated with particular wetland or waterway habitats show different trends since 1975. Species associated with slow-moving and standing waters increased the most, with the 2010 index 48 per cent higher than in 1975. This is driven by marked increases (more than doubling) in duck species such as Mallard and Tufted Duck, and in Coot. However, Moorhen and Little Grebe have declined by more than 20 per cent over this period. With a current index 32 per cent lower than in 1975, species of wet grasslands showed the steepest declines. Although Little Egrets and some waterfowl (e.g. Mute Swan) have increased, breeding waders such as Redshank and Snipe have declined by more than 50 per cent, and Yellow Wagtail by more than 95 per cent. Species associated with fast-flowing waters also declined, by 19 per cent since 1975. Indices for three species in this indicator (Dipper, Common Sandpiper and Grey Wagtail) are more than 25 per cent lower. The reed-bed indicator is currently only slightly higher (5 per cent) than in 1975 and includes two markedly increasing species (Cetti's Warbler and Reed Warbler) and two declining species (Sedge Warbler and Reed Bunting).

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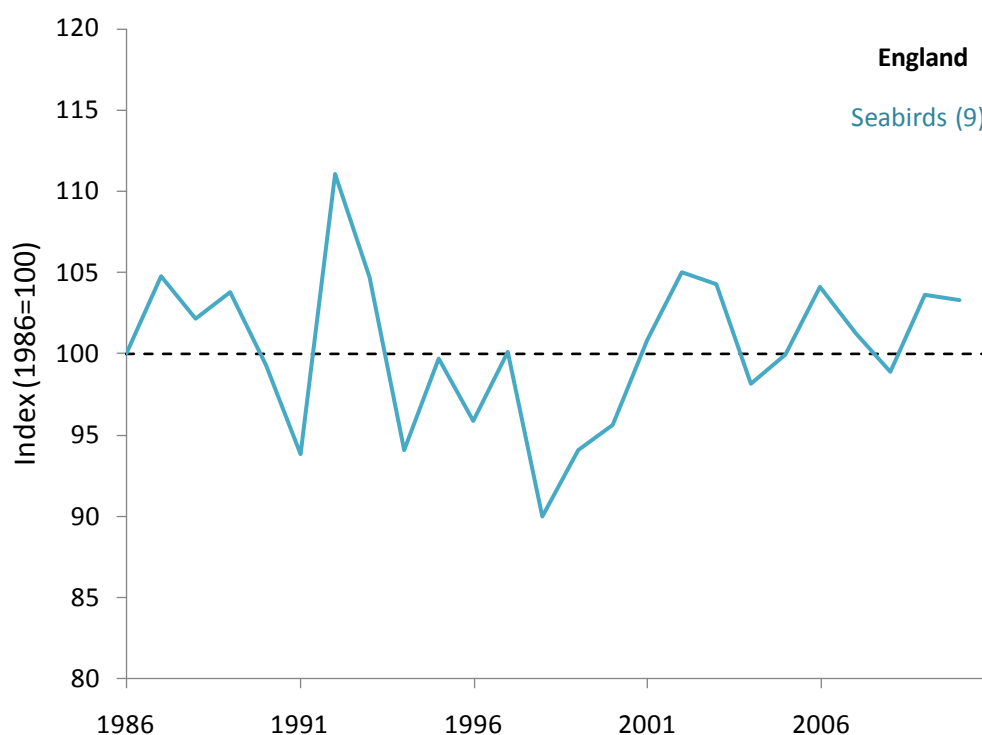
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In recent years (based on changes in the smoothed index from 2004 to 2009) birds of wet grasslands have declined significantly by 7 per cent, birds of reed beds have increased significantly by 6.5 per cent, and birds of fast-flowing waters and birds of slow flowing and standing water have shown no significant changes.

Breeding seabird populations in England

Figure 5: Populations of seabirds, 1986 to 2010



Source: RSPB, BTO, JNCC, Defra

Note: figures in brackets show the number of species

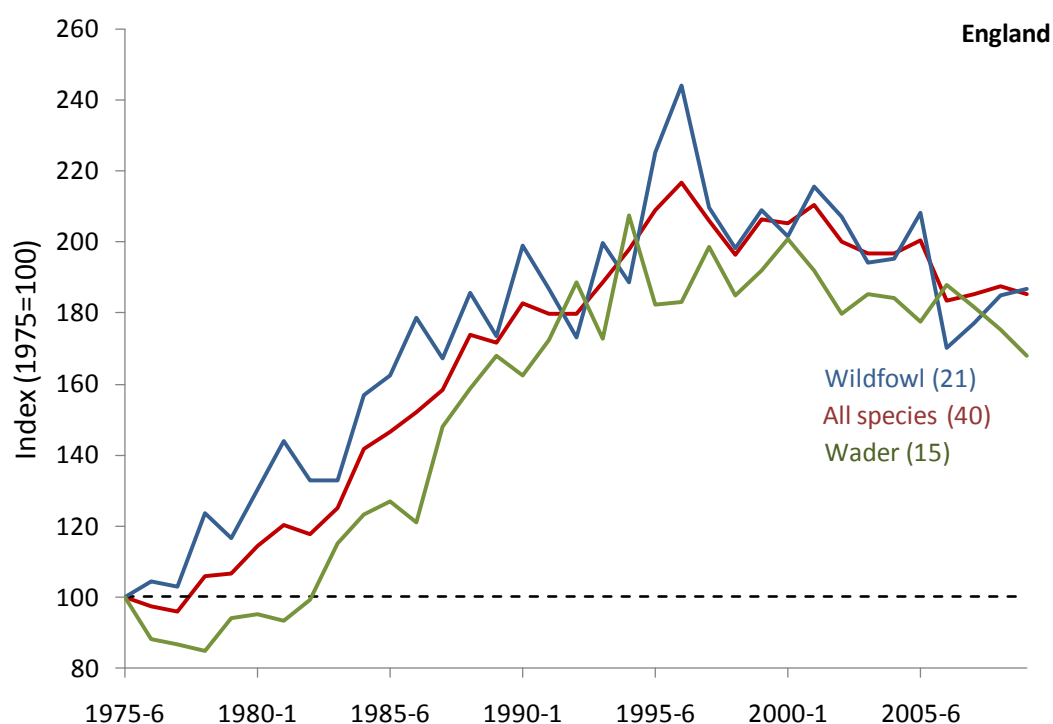
- In 2010 the breeding seabird index in England showed an increase of 3.3 per cent from its baseline level in 1986.

A breakdown (not shown in the figure above) by feeding behaviour shows a 9.1 per cent decline in seabirds that fish on the surface of the sea (surface piscivores) in contrast with a 30.4 increase in those that dive for fish (subsurface piscivores). Species have had mixed fortunes; for example, Kittiwakes declined by 21 per cent between 1986 and 2010, whereas Guillemots increased by 130 per cent between 1986 and 2010. Kittiwakes declines have been linked to increases in sea surface temperatures, a result of climate change, and in some regions to commercial exploitation of their sandeel prey.

Note: The seabirds index in the UK⁸ in 2010 showed an increase of 30 per cent from its baseline level in 1970. Apart from compositional differences between the England and UK indices other considerations affect the England index. Many seabirds have the bulk of their populations in northern parts of the British Isles and in England some species are represented by only a single very large colony (e.g. Gannet). In other cases, there are insufficient data to generate an England-only trend. Nevertheless, the main difference is in the inclusion / exclusion of Gulls. This group has both coastal-marine and inland populations, the latter growing in proportion. In the UK seabirds index, gulls are included but in the England seabirds index a more strict definition has been applied and all Gull species are excluded because of the complication of inland breeding birds and the fact that much of their diet is obtained from non-marine environments.

Wintering waterbirds populations for England

Figure 6: Populations of wintering waterbirds, 1975-6 to 2009-10



Source: RSPB, BTO in association with WWT, JNCC, Defra

Note: figures in brackets show the number of species in each grouping. Four species (Little Grebe, Great Crested Grebe, Cormorant and Coot) are included in the all species line along with the 21 wildfowl species and the 15 waders.

⁸ Published in the separate Defra National Statistics Release *Wild bird populations in the UK, 1970 to 2010*

- In the winter of 2009-10 the **wintering waterbirds index in England** (40 species) was 85 per cent higher than its 1975-6 level. However, the smoothed index showed a decline of 7.1 per cent over the five years between 2003-4 and 2008-9.

The 2009-10 wintering wildfowl and waders indices were higher than in 1975-6 respectively by 87 per cent and 68 per cent but had seen a steady decline since the late 1990s.

Of the wildfowl, the wintering populations of European White-fronted Goose, Mallard, Pochard, Goldeneye, Red-breasted Merganser and Goosander have all decreased since 1975-6 whereas those of Whooper Swan, Svalbard Light-bellied Brent Goose and Gadwall have increased more than ten-fold over the same period. The wildfowl smoothed indices show a decrease for the wintering populations of European White-fronted Goose and Scaup between 2003-4 and 2008-9, whereas Pink-footed Goose has increased more than 20 per cent over the same period.

Many waders showed increases in wintering populations with Avocet populations increasing by a factor of more than 50-fold since 1975-6, whereas over the same period Dunlin populations declined by 44 per cent. Smoothed indices for five waders showed increases in wintering populations between 2003-4 and 2008-9 with Black-tailed Godwit increasing by 24 per cent, whereas over the same period Bar-tailed Godwit population declined by 21 per cent.

A Defra National Statistics publication

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Main notes

1. The bird population indices have been compiled in conjunction with the Royal Society for the Protection of Birds (RSPB), the British Trust for Ornithology (BTO) and the Joint Nature Conservation Committee (JNCC) from a wide range of sources, principally:
 - the [Common Birds Census](#) (from 1966 to 2000)
 - the [BTO/JNCC/RSPB Breeding Bird Survey](#) (from 1994 to 2010)
 - the [BTO/ Waterways Bird Survey](#) (from 1974 to 2007)
 - the [BTO/Environment Agency for England and Wales \(EA\) Waterways Breeding Bird Survey](#) (from 1998 to 2010)
 - the [BTO/Wildfowl & Wetland Trust/RSPB/JNCC Wetland Bird Survey counts](#) (from 1975-76 to 2009-10)
 - the WWT [Goose & Swan Monitoring Programme](#) in partnership with the JNCC and Scottish Natural Heritage
 - the [Seabird Monitoring Programme](#) (from 1986 to 2010) and
 - the Periodic Seabird censuses supplied by JNCC, RSPB, the Seabird Group, and other partners.

The census sources provide an indication of the average annual rate of change between censuses for some species, and this is assumed to apply to each year between censuses.

More information about individual species trends, including photographs, background to the changes in population are available via the [BTO](#) website.

2. The indices cover birds that are native to England, excluding rare (less than 300 breeding pairs) and introduced species. The indices portray the annual changes in abundance. Within the indices, each species is given equal weighting, and the overall index is the geometric mean of the species indices. Individual species populations within the index may be increasing or decreasing, irrespective of the overall trends. Species indices are derived by modelling count data and estimates are revised when new data or improved methodologies are developed and applied retrospectively to earlier years.
3. The indices are considered to give reliable medium to long-term trends but strong reliance should not be attached to short term changes from year to year.
4. Table 1 gives the underlying unsmoothed figures for England. The individual species included within each indicator are given in Annex A.
5. Smoothing is a standard procedure in the generation and reporting of bird population trends (www.bto.org/birdtrends2010/methodology.htm) by the

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BTO and partners in its major bird monitoring schemes, i.e. RSPB and JNCC). The smoothing methodology involves the application of a thin plate smoothing spline to remove the short-term peaks and troughs due to weather effects and any between year sampling error. Research by the BTO and RSPB further developed this procedure to enable the production of an indicator based on smoothed individual species' indices. Bootstrapping, a standard statistical technique, is used to calculate 95 per cent confidence intervals in the indicators and in change over any specified period.

6. For the farmland birds index it should be noted that although 20 species were originally chosen for the index, a reliable annual index is not available for Barn Owl, so for that reason it is excluded.
7. Defra previously also published an annual National Statistics Release, *Wild bird population indicators for the English regions*. This Release was discontinued in 2011, as a result of resource constraints and changes in regional governance. The last release⁹ covered trends for 1994 to 2008 and was published in 2010. However, these statistical releases drew upon results from the Joint BTO/JNCC/RSPB Breeding Bird Survey and some regional analysis will continue to be published as part of the [Breeding Bird Survey](#), including for other constituent countries of the UK.

⁹ www.defra.gov.uk/statistics/files/wdbrds201004.pdf

Table 1: Populations of England wild birds: 1970 – 2010

Note: the index is set at 100 for 1970 and the subsequent figures give relative estimates of abundance (unsmoothed indices). Source: RSPB, BTO, JNCC, Defra

Year	All species (105)	Farmland species			Woodland birds			Water & Wetland (26)	Seabird species (9)	Wintering Water (40)
		All (19)	Generalist (7)	Specialist (12)	All (35)	Generalist (12)	Specialist (23)			
1970	100.0	100.0	100.0	100.0	100.0	100.0	100.0			
1971	104.6	103.7	100.5	105.4	106.0	110.0	103.6			
1972	109.1	104.3	104.5	104.2	112.2	119.8	107.8			
1973	108.4	101.1	105.7	98.9	110.8	118.1	106.6			
1974	109.9	101.9	101.3	102.3	110.4	121.4	104.3			
1975	112.1	106.0	111.9	103.1	111.0	123.8	103.9	100.0		
1976	111.3	110.0	112.3	109.1	103.6	111.9	98.9	102.3		100.0
1977	115.8	112.0	113.5	111.6	110.2	110.6	109.9	107.7		97.4
1978	108.6	103.8	110.0	100.7	102.0	103.0	101.4	94.9		96.0
1979	104.9	97.9	107.7	93.0	94.3	91.8	95.8	93.6		105.8
1980	110.5	97.2	103.3	94.2	105.1	103.1	106.4	99.5		106.6
1981	110.5	92.2	106.1	85.4	106.7	107.3	106.2	97.9		114.4
1982	101.7	81.7	103.6	71.4	97.7	89.6	103.0	89.6		120.2
1983	105.6	80.6	104.7	69.5	104.3	101.1	106.3	97.2		117.7
1984	105.5	80.0	104.8	68.7	104.3	104.1	104.4	97.0		125.2
1985	102.2	73.6	102.7	60.8	103.2	99.8	105.2	95.0		141.9
1986	96.3	67.6	101.6	53.5	92.1	89.3	93.8	89.3	100.0	146.6
1987	97.5	64.6	98.0	50.9	94.5	90.8	96.7	94.0	104.8	152.3
1988	102.3	64.6	103.2	49.4	99.8	99.8	99.8	99.8	102.1	158.6
1989	105.8	66.5	105.8	51.0	102.0	103.7	101.1	102.7	103.8	173.8
1990	104.1	68.2	110.6	51.7	96.4	102.1	93.2	104.4	99.3	171.8
1991	95.8	63.3	114.4	45.1	87.7	87.3	87.9	89.9	93.8	182.9
1992	97.2	59.1	103.8	42.8	85.1	92.4	81.0	92.2	111.0	179.9
1993	94.7	53.5	95.4	38.3	85.1	96.5	78.9	89.7	104.7	179.7
1994	95.3	56.2	103.0	39.7	85.4	100.4	77.5	90.0	94.0	188.8
1995	98.8	58.3	104.5	41.7	81.9	99.9	72.9	103.0	99.7	197.8
1996	99.7	57.1	103.6	40.5	85.0	98.7	77.7	101.7	95.9	209.2
1997	95.9	55.4	104.6	38.4	79.6	88.1	74.5	94.7	100.1	216.8
1998	95.3	51.3	101.4	34.6	81.9	92.2	76.0	91.0	90.0	206.1
1999	96.6	52.6	102.3	35.8	82.2	101.3	72.8	93.9	94.0	196.5
2000	100.8	53.6	106.8	36.1	84.0	105.4	73.7	100.5	95.6	206.6
2001	100.8	53.7	105.4	36.4	81.4	104.3	70.7	102.1	100.8	205.5
2002	100.7	53.7	103.9	36.7	78.1	103.1	66.7	103.9	105.0	210.5
2003	101.2	54.2	112.6	35.6	78.3	107.7	65.5	104.1	104.3	200.2
2004	100.1	54.2	108.3	36.4	77.9	104.1	66.1	100.5	98.1	196.9
2005	101.9	53.4	110.2	35.1	79.9	108.0	67.4	100.1	100.0	196.8
2006	102.8	53.1	114.9	34.0	80.8	104.5	69.7	102.0	104.1	200.6
2007	100.3	49.0	105.9	31.4	81.1	111.1	68.0	96.9	101.2	183.6
2008	100.1	50.3	108.3	32.3	78.8	108.1	66.0	100.3	98.9	185.5
2009	97.1	47.9	102.2	30.9	74.8	106.1	61.5	90.0	103.6	187.5
2010	101.3	47.6	100.3	30.9	80.2	112.0	66.5	101.8	103.3	185.3

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Annex A: Bird species by habitat¹⁰ group in England**Farmland (19)**

Generalists (7)

Greenfinch	Rook	Reed Bunting
Jackdaw	Woodpigeon	
Kestrel	Yellow Wagtail	

Specialists (12)

Corn Bunting	Linnet	Tree Sparrow
Goldfinch	Skylark	Turtle Dove
Grey Partridge	Starling	Whitethroat
Lapwing	Stock Dove	Yellowhammer

Woodland (35)

Generalists (12)

Blackbird	Dunnock	Robin
Blue Tit	Great Tit	Song Thrush
Bullfinch	Lesser Whitethroat	Tawny Owl
Chaffinch	Long-tailed Tit	Wren

Specialists (23)

Blackcap	Jay	Sparrow hawk
Chiffchaff	Lesser Redpoll	Spotted Flycatcher
Coal Tit	Lesser Spotted Woodpecker	Treecreeper
Garden Warbler	Marsh Tit	Tree Pipit
Goldcrest	Nightingale	Willow Tit
Green Woodpecker	Nuthatch	Willow Warbler
Great Spotted Woodpecker	Redstart	Wood Warbler
Hawfinch	Siskin	

Water and wetland birds (26)

Fast-flowing (4)

Common Sandpiper	Grey Wagtail	Goosander
Dipper		

Slow/Standing (6)

Coot	Mallard	Tufted Duck
Little Grebe	Moorhen	Great-crested Grebe

¹⁰ Habitat classifications are generally based on 'Gibbons, D.W., Reid, J.B. & Chapman, R.A. 1993. The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991. London: T. & A.D. Poyser.

Reedbed (4)

Cetti's Warbler	Reed Warbler	Reed Bunting
Sedge Warbler		

Wet Grasslands (8)

Mute Swan	Yellow Wagtail	Teal
Redshank	Curlew	Little Egret
Snipe	Lapwing	

All species only

Oystercatcher	Grey Heron	Sand Martin
Kingfisher		

Seabirds (9)

Arctic tern	Cormorant	Little Tern
Black-legged kittiwake	Fulmar	Sandwich Tern
Common Tern	Guillemot	Shag

Wintering water birds (40)

Wildfowl (21)

Mute Swan	Shelduck	Pochard
Bewick's Swan	Wigeon	Tufted Duck
Whooper Swan	Gadwall	Scaup
Pink-footed Goose	Teal	Eider
European White-fronted Goose	Mallard	Goldeneye
Dark-bellied Brent Goose	Pintail	Red-breasted Merganser
Svalbard Light-bellied Brent Goose	Shoveler	Goosander

Wader (15)

Avocet	Golden Plover	Purple Sandpiper
Bar-tailed Godwit	Grey Plover	Redshank
Black-tailed Godwit	Knot	Ringed Plover
Curlew	Lapwing	Sanderling
Dunlin	Oystercatcher	Turnstone

Other (4)

Coot	Great Crested Grebe	Little Grebe
Cormorant		

Bird species included in the All-Species index in England

The all-species line is comprised of all 105 available population trends for widespread breeding species in the England, from all landscape types. It excludes rare species (with less than 300 breeding pairs) and all species for which no English trend information is available.

The species composition of the All species index (105 species) includes:

19 farmland* species trends (i.e those in the farmland bird index)

35 woodland bird species (ie those in the woodland bird index)

26 breeding wetland* species (ie those in the breeding birds of waterways and wetlands index)

9 seabirds

and

19 other species trends, including birds of urban areas, heathlands, uplands, some coastal species (e.g. gulls) not included with seabirds, and species with no strong habitat preferences (generalists). These are listed below:

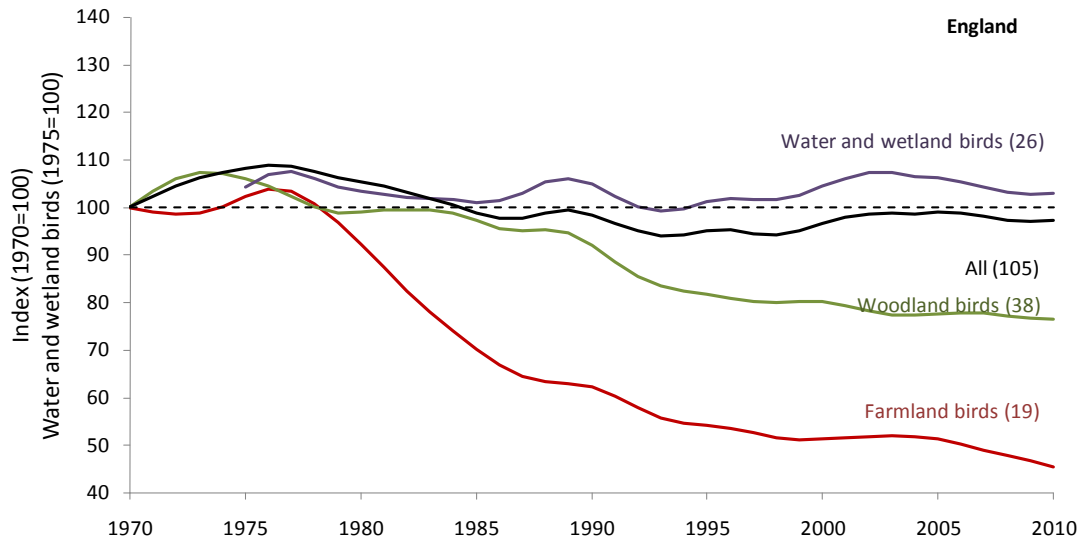
Dartford Warbler	Collared Dove	Black-headed Gull
Woodlark	Meadow Pipit	Herring Gull
Avocet	Mistle Thrush	Lesser Black-backed Gull
Cirl Bunting	Pied Wagtail	Greater Black-backed Gull
Buzzard	Swallow	Puffin
Cuckoo	Cormorant	Common Gull
House Sparrow		

* Note that trends for three species (Yellow Wagtail, Reed Bunting and Lapwing) are included in two separate habitat-specific indicators (farmland and breeding wetland) due to their reliance on both of these habitats. However, only the farmland trend is used in the all-species indicator to avoid duplication.

Annex B: SMOOTHED INDICES FOR BIRD POPULATIONS IN ENGLAND

All breeding bird populations for England (smoothed indices)

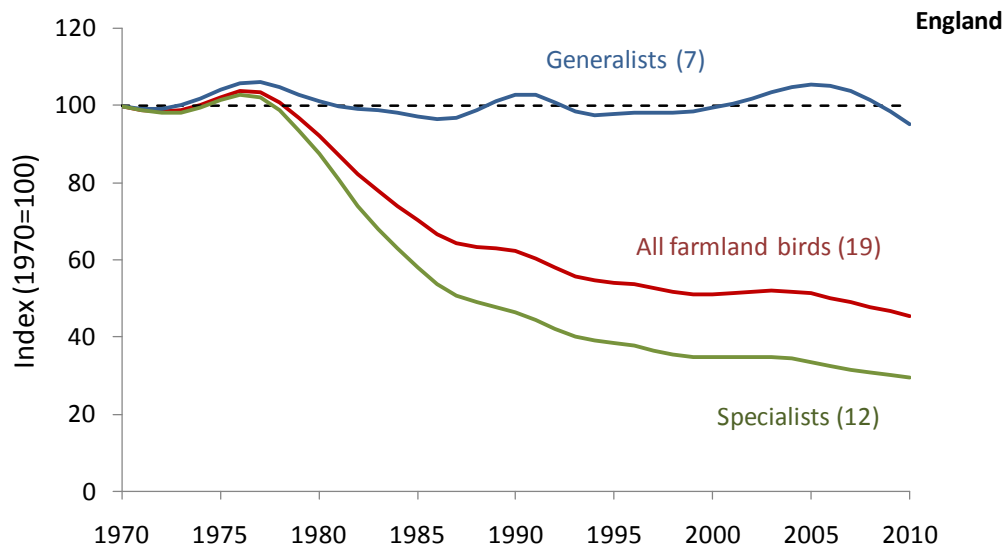
Figure B.1: Populations of wild birds, 1970 to 2010



Source: RSPB, BTO, JNCC, Defra Note: figures in brackets show the number of species

Breeding farmland birds populations for England (smoothed indices)

Figure B.2: Populations of farmland birds, 1970 to 2010



Source: RSPB, BTO, JNCC, Defra Note: figures in brackets show the number of species

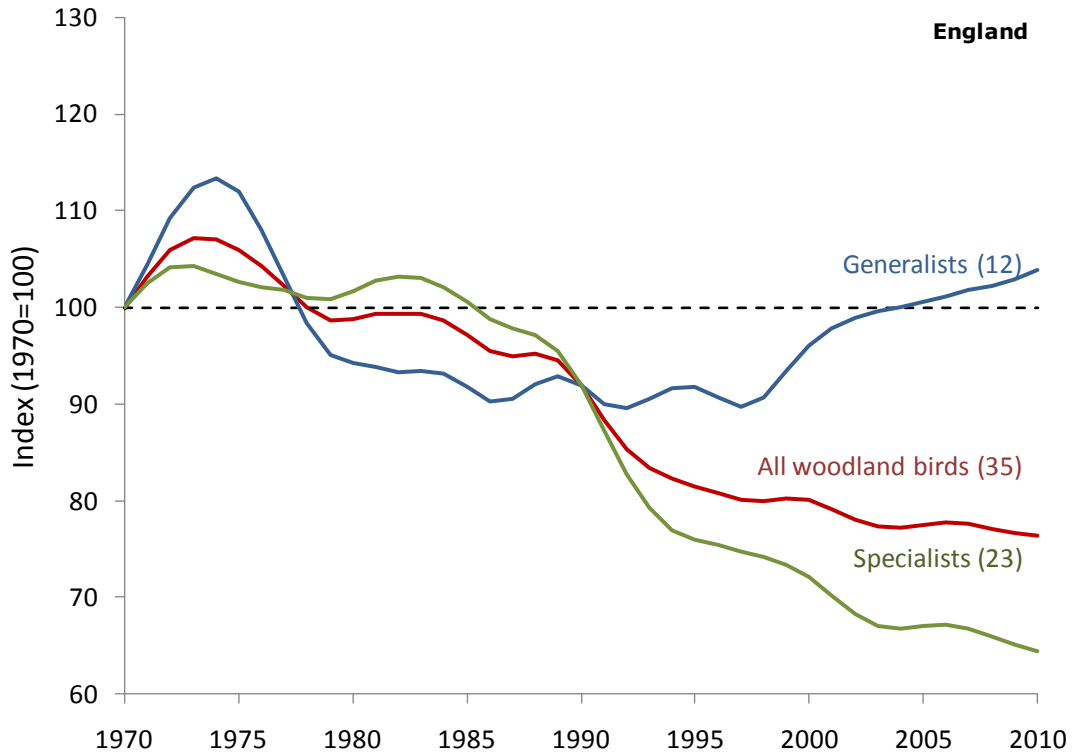
Department for Environment, Food and Rural Affairs
Nobel House, 17 Smith Square, London, SW1P 3JR

Public enquiries: 08459 335577 or Press enquiries: 020 7238 5498
Public enquiries & user feedback: enviro.statistics@defra.gsi.gov.uk

Website: www.defra.gov.uk/statistics/environment/

Breeding woodland birds populations for England (smoothed indices)

Figure B.3: Populations of woodland birds, 1970 to 2010

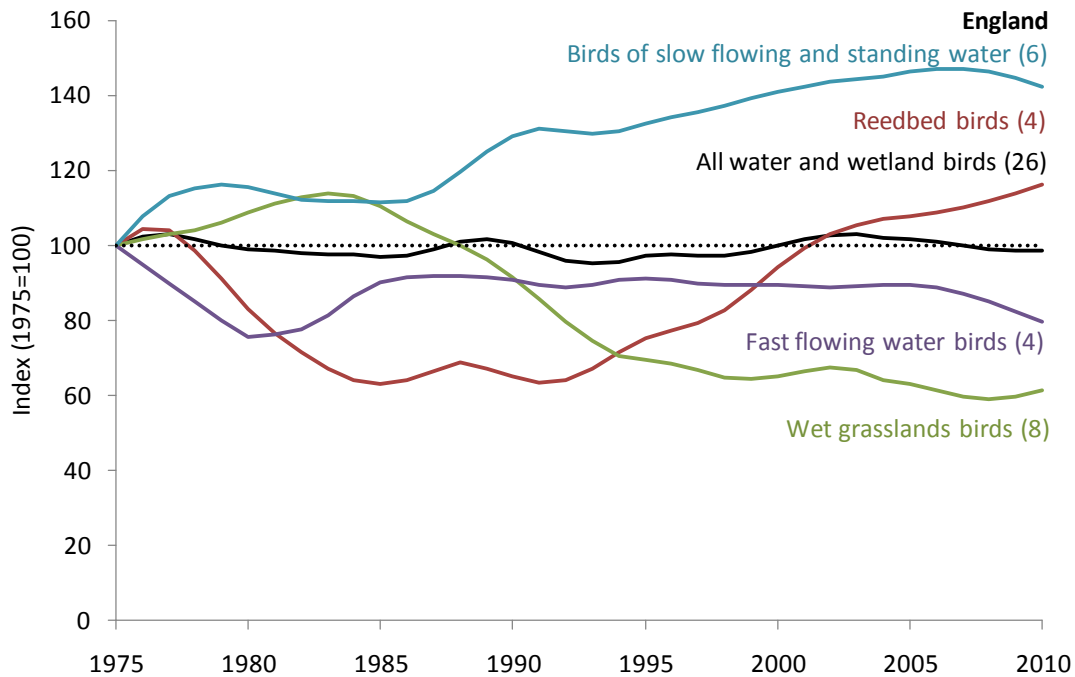


Source: RSPB, BTO, JNCC, Defra

Note: figures in brackets show the number of species

Water and wetland birds populations for England (smoothed indices)

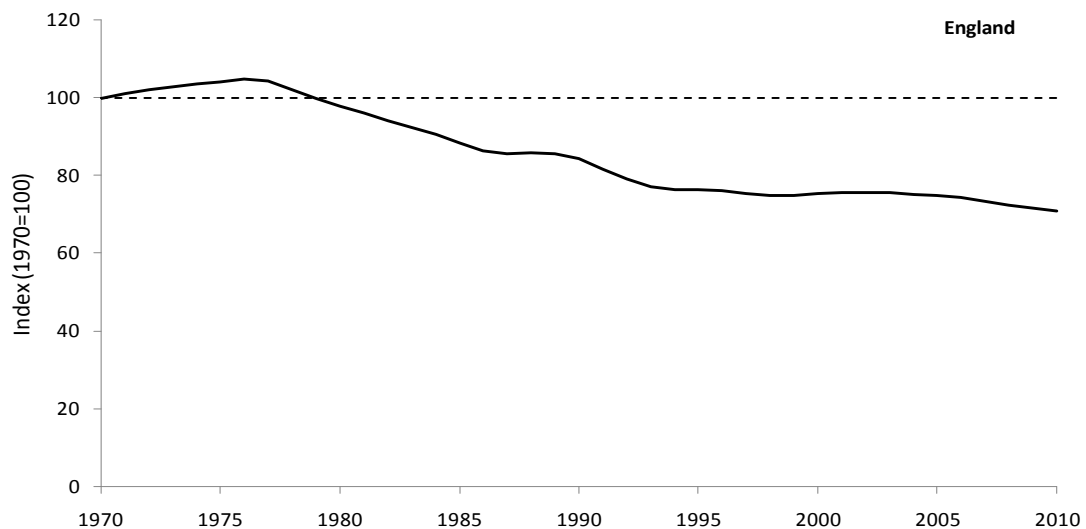
Figure B.4: Populations of water and wetland birds, 1975 to 2010



Source: RSPB, BTO, JNCC, Defra Note: figures in brackets show the number of species

Combined index for farmland, woodland and water and wetland breeding birds populations in England (smoothed index)

Figure B.5: Combined index for farmland, woodland and water and wetland breeding birds, 1970 to 2010



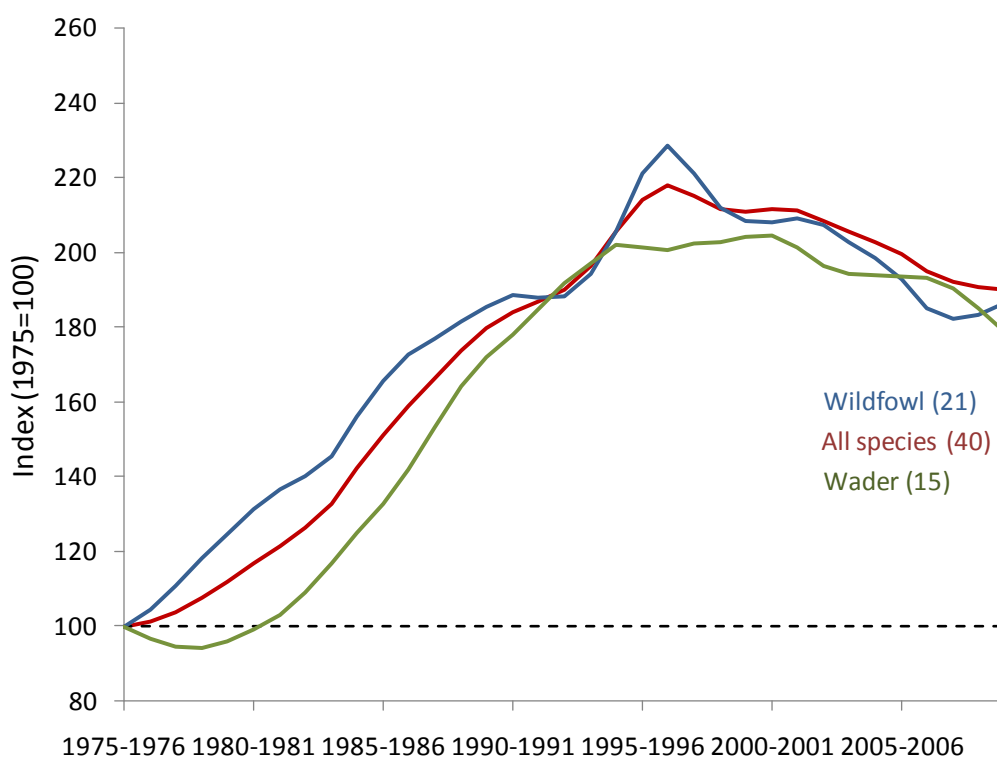
Source: RSPB, BTO, JNCC, Defra

The aggregated index is an un-weighted aggregation (using a geometric mean) of the three smoothed indices of farmland, woodland and water and wetland breeding birds relative to 1970. In 2009 the aggregate index was 28 per cent below its 1970 level.

This index was formerly used as a Defra performance measure, but has been superseded by the use of the farmland birds index as a Defra Business Plan¹¹ indicator. It is therefore proposed that this aggregated index will be discontinued, as it does not provide any additional insight beyond the individual habitat group indices. Any comments on this proposal should be made via enviro.statistics@defra.gsi.gov.uk.

Wintering waterbirds populations for England (smoothed indices)

Figure B.6: Populations of wintering waterbirds, 1975-6 to 2008-9



Source: RSPB, BTO in association with WWT, JNCC, Defra

Note: figures in brackets show the number of species

¹¹ www.defra.gov.uk/corporate/about/what/business-planning/