

MONITORING WATERWAYS BIRDS (AND MAMMALS)

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The BTO's programme of annual surveys includes two that offer birdwatching walks in what is often prime habitat for breeding birds. *John Marchant* gives the latest news from these surveys: Waterways Bird Survey and Waterways Breeding Bird Survey.

MONITOREO DE AVES (Y MAMÍFEROS) A LO LARGO DE CURSOS ACUÁTICOS

El programa de conteos anuales del BTO incluye dos que ofrecen paseos de observación de aves en lo que suele ser hábitat de alta calidad para aves reproductoras. *John Marchant* aporta las últimas noticias de estos conteos: Conteos de aves en cursos acuáticos, y Cuento de aves reproductoras en cursos acuáticos.

The Waterways Bird Survey (WBS) has just entered its fourth decade of territory mapping along rivers and canals. It was begun in recognition of the special importance of waterways as a habitat for birds, with some of its species being found only rarely elsewhere, and also of their vulnerability to pollution and mismanagement. The Breeding Bird Survey now measures the population trends of most UK breeding birds, but there are several species that WBS covers better. Further, WBS can produce trends in bird numbers that are specific to the waterside habitat: these help to indicate the health of that ecosystem.

Table 1, drawn directly from the website, shows that six declining species have crossed thresholds (at -25% or -50%) for BTO to raise an alert to conservation bodies that action may be needed to reverse the current trend. Three of the species that raise alerts are the wagtails, with Yellow Wagtail clearly in serious trouble. Detailed studies have already begun to examine why this should be so.

Across these 24 species, the median change is an increase of about one-third. Undoubtedly the well-documented general improvement in water

quality has contributed to this change. Some of the species, initially too scarce in the sample to monitor, have logged substantial increases over periods shorter than 25 years. It is surprising to see Lapwing, which is Amber-listed because of its strong decline on farmland, as the second-strongest increase — but, perhaps because of its semicolonial nesting behaviour, the confidence interval for this species is exceptionally wide, and the change is not statistically significant. For the introduced geese, and maybe also for Mallard (many of which along waterways show evidence of domestic ancestry), the increases may indicate burgeoning problems for conservation rather than success stories. WBS does not monitor the Hebridean or Icelandic populations of Greylag, for which the species is Amber-listed in the UK.

A review, just completed at the request of the Environment Agency, looks at WBS population trajectories in more detail (Newson *et al.*, BTO research report 337). The similarity between Dipper and Grey Wagtail suggests a relationship to environmental conditions along fast-flowing rivers, although Grey Wagtails occur much more widely. For Mute Swan, Moorhen, Kingfisher, and

TABLE 1. Long-term trends from the Waterways Bird Survey.

Species	% change
<i>Yellow Wagtail</i>	-89 *
Reed Bunting	-68 *
Little Grebe	-60 *†
<i>Redshank</i>	-49 *†
Pied Wagtail	-48 *
<i>Grey Wagtail</i>	-34 *
Common Sandpiper	-23 *
Sedge Warbler	-15
Dipper	-13
Moorhen	-13
<i>Kingfisher</i>	+3
<i>Sand Martin</i>	+32 *†
Tufted Duck	+41
Coot	+49
<i>Curlew</i>	+64 *
Goosander (1981–2000)	+65
<i>Mute Swan</i>	+73 *
Canada Goose (1981–2000)	+76
Whitethroat	+81
Reed Warbler	+81 *†
<i>Oystercatcher</i>	+112 *
Greylag Goose (1993–2000)	+145 *†
<i>Lapwing</i>	+170
Mallard	+196 *

Data cover 1975–2000 unless stated otherwise. An asterisk indicates statistical significance, and a dagger warns that the sample size is small. Species shown as *italic* are Amber-listed, and those shown as **bold** are Red-listed. For more information, see www.bto.org/birdtrends.

Grey and Pied Wagtails, annual changes in abundance were related to mean winter temperature.

WBS RESULTS FROM 2003

There were 74 plots where results for 2002 and 2003 could be paired to assess population changes between these two years. Of these, 31 (42%) were in counties north of the Mersey and Humber; again, none were in Northern Ireland. Rivers made up 65% of the sample and the others were canals or mixed sites. Paired counts from these sites are summarised in Table 2.

Of the five statistically significant changes between these two years, four were increases and only one, for Sand Martin, a decrease. On both WBS and BBS, Sand Martins have decreased since a population peak in 1996. Among the 'alert' species, decreases continued

for Common Sandpiper, but both Pied and Grey Wagtails increased significantly. Little Grebe, Redshank and Yellow Wagtail have become too scarce for annual WBS monitoring. All the wildfowl species that are covered by the indices continued their population growth, including Greylag Goose, for which an increase of 16% was recorded from 13 plots.

WBS NEEDS MORE PLOTS!

It is important for waterbird conservation that the long run of WBS trend data is continued. The BTO's keen band of volunteer surveyors is doing just this –and deserve our thanks! The number of surveys completed annually has started to fall in recent years, however, from 105 in 1999 to 98 in 2000, 91 in 2002, and just 83 last year. This may be because potential observers are anticipating the survey's (as yet unplanned) demise. We are very keen to add more new WBS plots in 2005, in all parts of the UK, to reverse this decline. This survey suits people who enjoy a riverside walk and can identify the water birds they are likely to meet. Volunteers can choose their own stretch of river or canal to cover, provided it is at least 3 km long and does not overlap with existing surveys. If you may be able to help, please ask us for more details.

NEWS FROM WBBS

The Waterways Breeding Bird Survey is a BBS-style transect survey along waterways, introduced as a pilot scheme in 1998, and still in development. The current phase of WBBS development ends in 2004, and we are now seeking funding for further work. Eventually, WBBS might supersede WBS, but this depends on the results of studies still in progress, and on whether funding can be found for WBBS as an ongoing scheme. It is vital that WBS mapping continues strongly, at least until we understand how the WBBS's transects might replace it.

The plan for 2004 was to double the sample of random WBBS sites, and to bring the total sample up towards 300 sites (see *BTO News* 249: 22). Good progress towards this target was made in 2003, with an increase to 261 sites from 228 in 2002.

A full analysis of the WBBS data collected so far will be made before next spring. This will tell

TABLE 2. Estimates of population change 2002–03, from WBS data.

Species	Territory totals		% change	lcl	ucl	Number of plots
	2000	2002				
<i>Mute Swan</i>	79	81	+3	-10	+16	46
Canada Goose	133	146	+10	-19	+42	34
Mallard	1810	1910	+6	-2	+14	74
Tufted Duck	57	60	+5	-31	+59	15
Goosander	51	61	+20 *	0	+43	25
Moorhen	537	586	+9 *	+2	+17	65
Coot	203	205	+1	-12	+14	34
Oystercatcher	232	218	-6	-20	+59	24
<i>Lapwing</i>	181	195	+8	-22	+37	33
<i>Curlew</i>	54	54	0	-17	+17	17
Common Sandpiper	101	90	-11	-19	+3	18
<i>Kingfisher</i>	49	43	-12	-34	+12	38
<i>Sand Martin</i>	1734	1060	-39 *	-66	-3	17
Dipper	83	88	+6	-9	+21	29
Reed Warbler	222	238	+7	-5	+19	21
Sedge Warbler	302	274	-9	-21	+5	35
Whitethroat	215	200	-7	-20	+7	45
Pied Wagtail	163	186	+14 *	+2	+27	53
<i>Grey Wagtail</i>	132	159	+20 *	+7	+37	48
Reed Bunting	210	217	+3	-7	+15	42

lcl and ucl = 95% lower and upper confidence limits; * = statistically significant change. Species listed in italics are Amberlisted, and those in bold Red-listed. Species with fewer than 15 plots contributing paired data are excluded.

us how many plots would be needed to make monitoring of trends for a range of target species sufficiently precise. Probably, trends of the same precision can be drawn from fewer occupied WBBS than BBS sites: this is because WBBS observers walk on average 50% further than BBS's standard 2 km, and keep to rich bird habitats, and so record more birds per site.

Unlike WBS, WBBS covers all bird species. This opens the possibility of producing trends that are specific to the waterside habitat for widespread species like Blackbird and Robin. These could be compared with similar habitat-specific trends for the same species derived from BBS, for example for farmland and woodland. By combining data for a range of species, WBBS could also produce an indicator of bird populations generally along waterways. The first attempts at producing trends from WBBS data, using old-style chain methods, are encouraging — despite the much-reduced sample of sites surveyed in 2001, when Foot & Mouth struck (Figure 1). These graphs compare the results from randomly selected sites with those from sites that were surveyed because they were also being covered for WBS, and show good

consistency with BBS and other schemes.

MAMMALS, TOO

BTO is making increasingly valuable contributions to mammal as well as bird recording in the UK. This began in 1995 with BBS observers noting mammals on their transect walks. Using a very similar protocol, WBBS has recorded mammals since 1998, its first year. A study is now under way to investigate whether WBBS mammal data can usefully augment those collected by BBS and other schemes. We hope that WBBS will have a very special part to play in monitoring those mammals that specialise in waterside habitats — especially Otter, American Mink and Water Vole.

WBBS IN 2005

How WBBS will operate in spring 2005 will not be known in detail until the New Year. We fully expect, however, that we will be asking for repeat surveys at all sites already surveyed for the scheme. This will extend the overlap between WBS and WBBS monitoring to seven years

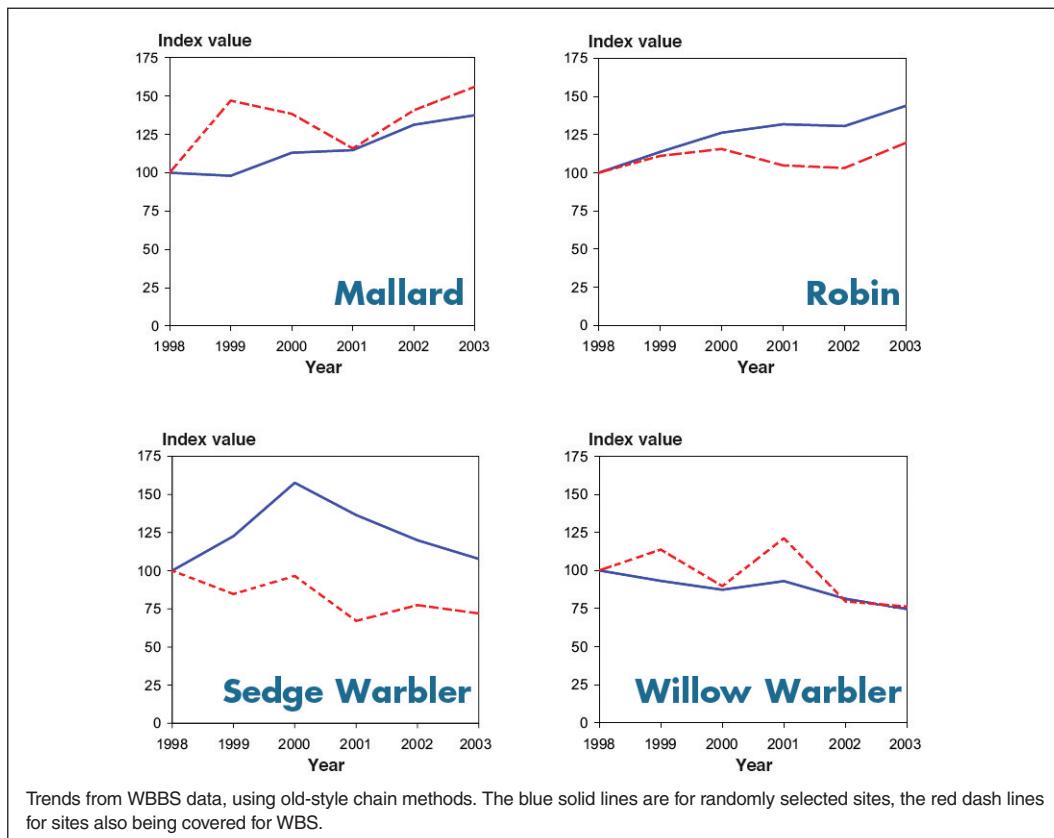


FIGURE 1. Example trend graphs from WBBS — not just waterbirds!

(omitting 2001 when FMD restrictions made most sites inaccessible), and provide seven data points on WBBS trend graphs — enough to assess the direction of trends for mammals and nonwaterbirds along waterways for the first time.

If you are interested in helping with WBS and/or WBBS, please contact me at BTO Thetford HQ, e-mail: john.marchant@bto.org

Thank you to the Environment Agency for funding WBBS.

INFORMATION ON BIRD POPULATION TRENDS

For information on bird population trends in the UK, the 'Wider Countryside' report on the BTO web site (www.bto.org/birdtrends), which combines data from all BTO surveys that look at changes in population size and productivity, and has only recently been updated and rewritten, is by far the best single source.