

## YELLOW WAGTAILS SINKING — WATERWAYS BIRD SURVEY'S LATEST POPULATION TRENDS

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Territory mapping surveys carried out by WBS volunteers now cover a quarter-century of population change. *John Marchant* and *Peter Beaven* report the most recent results, including further severe losses for the Yellow Wagtail.

### LA LAVANDERA BOYERA SE HUNDE – ULTIMAS TENDENCIAS POBLACIONALES DEL MUESTREO DE AVES EN CURSOS ACUATICOS

Muestreos de mapeo de territorios llevados a cabo por voluntarios del Waterway Bird Survey cubren ya un cuarto de siglo de cambios poblacionales. *John Marchant* y *Peter Beaven* informan sobre los resultados más recientes, incluyendo más graves pérdidas para la lavandera boyera (*Motacilla flava*).

### LA BERGERONNETTE PRINTANIERE PLONGE –DENIERES TENDANCES DES POPULATIONS FOURNIES PAR LE WATERWAY BIRD SURVEY

Le recensement des territoires par les bénévoles du WBS couvre maintenant un quart de siècle d'évolution des populations. *John Marchant* et *Peter Beaven* exposent les derniers résultats, qui montrent notamment encore des pertes sévères pour la Bergeronnette Printanière.

### SCHAFSTELZEN IM ABWIND – NEUESTE BESTANDSTRENDS AUS DEM FLIEßGEWÄSSER-MONITORINGPROGRAMM

Die Revierkartierungen durch ehrenamtliche Mitarbeiter im Fließgewässer-Monitoringprogramm umfassen nun 25 Kartierungsjahre. *John Marchant* und *Peter Beaven* berichten über die jüngsten Bestandsveränderungen, darunter die anhaltend drastische Abnahme bei der Schafstelze.

The Waterways Bird Survey (WBS) began in 1974. Its observers monitor the numbers of breeding birds along stretches of river and canal by means of a nine-visit mapping census each spring. The great value of WBS is that it extends the monitoring of the UK's breeding birds to a habitat that is poorly represented both by its parent scheme, the Common Birds Census (CBC), and by the BTO/JNCC/RSPB Breeding Bird Survey (BBS). Only waterbird species are included and 24 of these are abundant enough to be monitored. WBS observers are unique in

providing monitoring data for Goosander, Kingfisher and Dipper, which are covered by neither CBC nor BBS. Their data are also longer-running or more extensive than CBC and BBS data for a number of other waterbirds, such as Canada Goose, Common Sandpiper and Grey Wagtail. Importantly, WBS results are indicators of the general health of waterways, a vital yet vulnerable element of the UK countryside.

This report covers results for the 1999 season and discusses the population changes detected between 1998 and 1999 and also over a longer

run of years. It follows on from joint reports with CBC in *BTO News* 216/217 and 222.

### WBS PLOTS

WBS plots are stretches of linear waterway typically around 4-5 km long. They are chosen by the observers as convenient sites for study. On the River Lune, the Lancaster & District Birdwatching Society has organised coverage of almost the whole length of the river annually since 1974. The Sheffield Bird Study Group is also a major contributor to the survey, with plots on the Derwent and other local rivers, some with data from 1973, which was the pilot year for WBS.

In all, 104 WBS plots were surveyed in 1999 (Figure 1). This is a satisfactory total, but compares poorly with 121 in 1998 and with the peak of 134 plots in 1992-93. The distribution of plots is similar to that of the CBC, being concentrated in England, but, within England, the WBS distribution is more northerly. WBS has no current representation in Ireland.

Of the 104, all but six were surveyed comparably in 1998 and 1999 and so contributed to the estimates of annual population change (Table 1). The 98 plots in the index cover a total of 461.5 km of waterway; 65% of the plots were defined as rivers, 29% as canals, and 6% either were river-canal hybrids or were tidal. Most rivers had a gradient of less than five metres per kilometre and so were classed as "slow-flowing".

### POPULATION CHANGE

Table 2 shows the WBS estimates of population change for the 24 species now monitored, including Greylag Goose, Canada Goose and

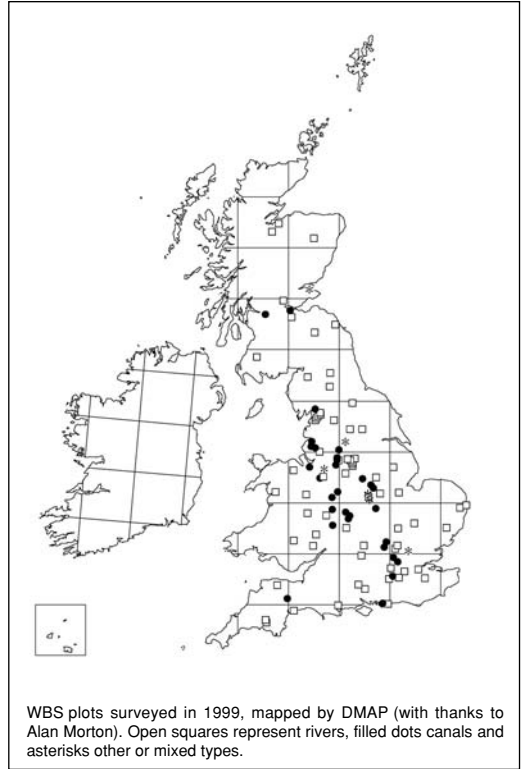


FIGURE 1. 1999 WBS plots.

Goosander that were all included in the WBS tables for the first time last year. It is always risky to speculate on longer-term trends from just one year-to-year comparison. Experience shows that long-term population trends are generally composed of a mixed series of increases and decreases between consecutive years. The trend modeled from the complete run of WBS data is therefore included in Table 2 (except for a few species where the data do not cover this full period), to give a clear picture.

TABLE 1. Plots contributing to the estimates of population change 1998-99.

	Fast-flowing rivers	Slow-flowing rivers	Canals	Other or mixed types	Totals
Southern England	3	11	3	0	17 (17%)
Eastern England	0	12	8	3	23 (23%)
Western England	4	7	7	1	19 (19%)
Northern England	6	9	8	1	24 (24%)
Wales	1	3	0	0	4 (4%)
Scotland	4	4	2	1	11 (11%)
<b>Totals</b>	<b>18 (18%)</b>	<b>46 (47%)</b>	<b>28 (29%)</b>	<b>6 (6%)</b>	<b>98</b>

TABLE 2. Population change as measured by the WBS, 1998-99, and summary figure for 1975-98.

Species	23-year trend 1975-98 (%)	1998 territories	1999 territories	% change	Number of plots
Little Grebe	-51 *	33	30	-9	14 !
Mute Swan	+67 *	135	136	+1	60
Greylag Goose	-	104	81	-22	15 !
Canada Goose	-	184	232	+26 *	44
Mallard	+190 *	2181	2321	+6	96
Tufted Duck	+48	133	128	-4	38
Goosander	-	60	73	+22 *	26
Moorhen	-11	778	794	+2	84
Coot	+63 *	473	458	-3	58
<i>Oystercatcher</i>	+109 *	177	171	-3	27
<i>Lapwing</i>	+174	146	152	+4	38
<i>Curlew</i>	+77 *	59	59	0	23 !
<i>Redshank</i>	-34	54	45	-17	16
Common Sandpiper	-16 *	119	100	-16 *	23 !
<i>Kingfisher</i>	-14	48	47	-2	42
<i>Sand Martin</i>	+70	1598	1570	-2	26
Dipper	-16	84	84	0	30
Yellow Wagtail	-81 *	29	16	-45 *	14 !
Grey Wagtail	-48 *	124	146	+18 *	60
Pied Wagtail	-49 *	169	176	+4	57
Sedge Warbler	-18	477	555	+16 *	55
Reed Warbler	+71 *	277	284	+3	29
Whitethroat	+63	315	292	-7	62
<b>Reed Bunting</b>	-68 *	291	308	+6	54

\* change statistically significant

! small sample size in 1998-99 (between 14 and 25 plots)

Species in *italics* are Amber-listed in *Birds of Conservation Concern*; Reed Bunting is Red-listed

Because the method used truncates the first and last years' data, once the model is fitted, the figures that are quoted cover the period 1975-98.

Of the 24 species, there were equal numbers of increases and decreases in the WBS year totals for 1998 and 1999, but only six species showed a change in numbers that was statistically significant (four increases and two decreases). Further large increases for Canada Goose and Goosander follow the strongly rising trends WBS has detected for these species since 1980 (70% and 110% respectively). Grey Wagtail and Sedge Warbler, for which WBS has shown relatively little change over the years, also increased substantially — as they did also on CBC and BBS plots between 1998 and 1999 (*BTO News* 228 & 230).

Common Sandpipers dropped sharply in numbers, as they did on BBS plots, and may be slipping towards serious national decline. Some local declines in this species are already well

documented. Yellow Wagtail appears to be losing its remaining toehold on WBS plots (see Box).

Seven species monitored by WBS are of particular conservation concern, six of them are Amber-listed and Reed Bunting is Red-listed. (Table 2). Redshank, for many years now on the retreat as an inland breeding bird in England, was the only one of these to show a decrease in 1999. The long-term data also show about the same numbers of significant ups and downs (Table 2). The increase in Mallards on WBS is in agreement with trends on CBC and BBS plots, but contrasts with the declining trend on coastal sites in winter revealed by the Wetland Bird Survey. Mute Swan, Tufted Duck and Coot have also increased. Moorhen populations, despite reduced breeding performance in recent years, show no significant population trend.

Trends for water birds on riverine sites do not always agree with trends on habitats monitored by other surveys. Lapwings, for example,

## CONCERN FOR UK YELLOW WAGTAILS

The Yellow Wagtail is widespread across Europe and Asia, breeding from Britain and Morocco east to Alaska but our breeding race *flavissima* is very largely restricted to Britain. The UK therefore bears a particularly heavy responsibility for its conservation. The unremitting and apparently accelerating decline along waterways, highlighted by WBS, should therefore alert conservationists. Both CBC and WBS data are drawn from a small and dwindling number of survey plots, however, and have not been convincing enough in the past to add the species even to the Amber list of birds of conservation concern. BBS results show a significant 29% decline between 1994 and 1999 (*BTO News* 230).

appear to be increasing on WBS sites but are declining on other inland sites such as farmland. Taking only the last 10 years, however, Lapwings have declined by a significant 23% along waterways. Whereas Oystercatchers have increased and spread, Redshank and Common Sandpipers have declined on WBS sites over the 23-year period — the latter significantly.

All three wagtails show strong evidence of declines since 1975. Grey Wagtails, found mainly on upland sites, and Pied Wagtails, which are widespread, have both declined moderately, whereas population declines in the lowland-breeding Yellow Wagtail have been steep enough to trigger a high alert. Reed Buntings show a severe long-term decline of 68%. This species has recently been shown to be experiencing reduced survival rates and breeding performance.

### PROVIDING DATA FOR CONSERVATION

WBS data, alongside figures from CBC and BBS, have contributed to recent reviews of bird conservation priorities in the UK and to the headline indicator of wild bird populations, one of just 13 trend-lines selected by the government to indicate the quality of life in the UK. Mapping along waterways has not proved the ideal method, however, for linking bird surveys to

conservation along waterways. There have been too few surveys, and they have been poorly distributed across the UK.

The new Waterways Breeding Bird Survey (WBBS) aims to rectify these problems. It uses a BBS-style two-visit transect method, and is pioneering ways of selecting linear waterways randomly. WBS observers are playing a major part in the WBBS pilot work, by using both survey methods on their existing plots. WBBS began in 1998. Next spring, we will be reporting to the Environment Agency on the performance of WBBS for breeding bird monitoring and on how it relates to the results of River Habitat Surveys made by Agency staff alongside WBBS on its sample of random waterways.

We envisage that WBBS may become an ongoing supplement to population monitoring via BBS and also a standard method for bringing breeding birds into assessments of conservation value along waterways. The future direction of the BTO's data collection along waterways will depend on the outcome of the new analyses.

### THANKS

The contributions of willing volunteers are vital to the continuing success of WBS. We are very grateful to all participants. Thanks also to David Noble for comments on the manuscript.