# Counting birds with BTO

Dawn Balmer Head of Surveys



100 staff

150 Regional Representatives

70,000 volunteers

19,000 BTO members

Working in partnership



## Key questions

### **Status**

How many?

Where?

Migration routes?

Trends and change

**Numbers** 

**Distribution** 

Phenology

**Movements** 

Demography

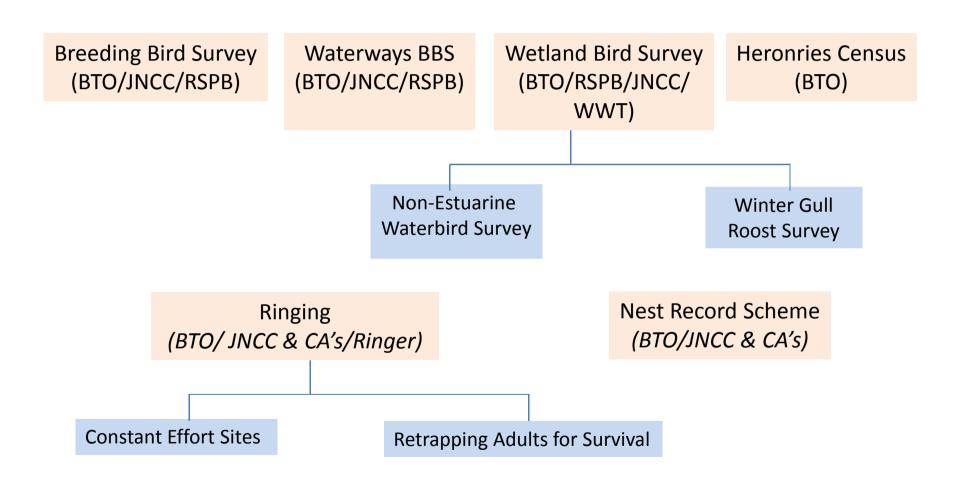
**Behaviour** 



What is behind these changes?



## **Core schemes**

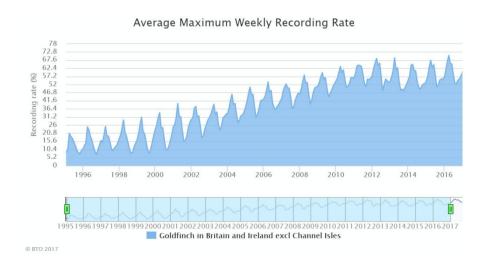


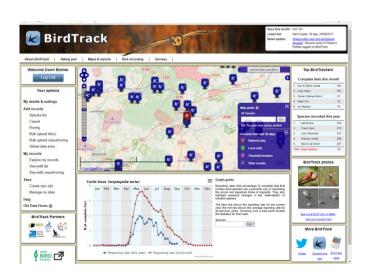
# **Ongoing monitoring**

Garden Bird Feeding Survey 1970/71 BTO

Garden BirdWatch 1995 BTO

BirdTrack
BTO/RSPB/BirdWatch Ireland/SOC/WOS





## Periodic surveys

Woodcock Survey

2003, 2013 (BTO/GWCT) Peregrine Survey

1961, 1971, 1981, 1991, 2002, 2014 (Country Agencies/BTO) Nightjar Survey

1957, 1981, 1992, 2004 (BTO/RSPB/NE/Forestry Commission)

**Dartford Warbler Survey** 

1974, 1984, 2006 (BTO/BirdWatch Ireland/SOC)

Nightingale Survey

1980, 1999, 2012 (BTO) **Woodlark Survey** 

1986, 1997, 2004 (BTO/RSPB/JNCC/NE)

**Breeding Waders of Wet Meadows** 

1982, 1989 (BTO/RSPB)

Rook Survey

1944, 1975, 1980, 1996 (BTO/DETR) Sawbills Survey

1987, 1997 (BTO/DETR)

Ringed & Little Ringed Plover Survey

1973, 1984, 2007 (NE/SNH/CCW/E&HS, Anglian Water) Tawny Owl Survey

1989, 2005, 2018 (BTO)

## **One-off surveys**

Breeding Waders of English Upland Farmlands (NE)

Dispersed Waterbird Survey (BTO/JNCC/RSPB/WWT)

Winter Farmland Bird Survey (JNCC)

Winter Skylark Survey (JNCC)

Organic farms (DEFRA)

Winter Plovers Survey (BTO/JNCC)

Lapwings in Plots (NE)

Scarce Woodland Birds (JNCC)

Ptarmigan Survey (Scottish executive)

Short-eared Owl Survey (BTO/SNH/RSPB/CCW/JNCC)

House Sparrow Survey (BTO)

Winter Thrushes Survey (BTO Appeals)

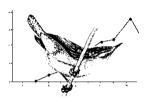
Naturalised Goose Survey (Civil Aviation Authority)

House Martin Survey (BTO Appeals)

## Bird Atlases

	The Atlas of Breeding Birds in Britain and Ireland JT R SHARROCK British Trust for Ornithology   Frish Wildbird Conservancy	The Atlas of Wintering Birds in Britain and Ireland PETER LACK  British Trust for Ornithology Irigh Wildbird Conservancy	The New Atlas of Breeding Birds in Britain and Ireland: 1988–1991  Dank Wingfield Disbons James E. Red Robert A. Chapman  Broad had for Christologie. Socran Christologies; Cult. Frish Wildlied Carservatory.	Bird Atlas 2,007—11 The broading and watering that of fallow the Market of Market with storage that of Market with
10-km distribution				
Breeding fieldwork				
Winter fieldwork				
Abundance				
Distribution change				
Abundance change				

# **Spectrum of BTO-run schemes**









BirdTrack



# Structured recording

### Good...

- Skilled volunteers
- Information on effort
- Species detected/not detected
- Robust analytical approaches
- Other taxa

## Challenges...

- Habitat bias?
- Geographical coverage bias?
- Smaller sample size?

# Less/unstructured recording

### Good...

- All seasons, all habitats
- Lots of data
- Flexible
- Anyone can take part

## Challenges...

- Variation

   (effort, detectability, expertise)
- Error (identification, abundance)
- Bias
   (site-selection, spatial, temporal, species)
- New analytical solutions

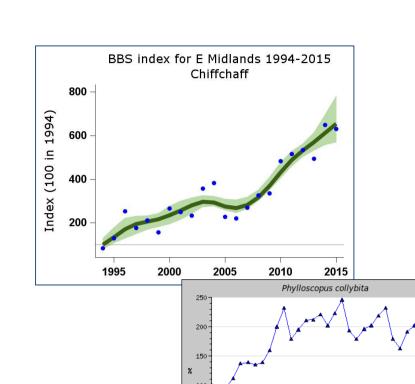
# **BTO Regional Network**





# **BBS** outputs







Rainfall on wintering grounds affects population change is species of Afro-Palaearctic migrants

Nancy Ockend
Stephen R. Bai

Journal of Animal Ecology

Explore this journal >

Standard Paper

Drivers of climate change

EUT ) WHICH RES
DOT 10.1007/S10344-013-0768-X
ORIGINAL PAPER

The value of a random sampling design for annual monitoring
of national populations of larger British terrestrial mammals
Lucy J. Wright - Smart E. Newson - David G. Nobble



Source of the data: EBCC/RSPB/BirdLife/Statistics Netherlands

### BirdTrends



Home About birds Volunteer surveys Science Research & data services My BTO News & events Support us Shop
BirdFacts Bird trends Bird ID Book Reviews National Nest Box Week Ornithological links Taxonomy

home » about birds » birdtrends » species home

- BirdTrends 2016: trends in numbers, breeding success and survival for UK breeding birds
- · Key findings
- Introduction
- Methods
- Species
  - · Key to species texts
- · Summary tables
- Discussion
- Utilities

#### Species links

Alphabetic species...
Treecreeper
Tufted Duck
Turtle Dove
Wheatear
Whinchat
Whitethroat

Taxonomic species...

Swallow House Martin Cetti's Warbler Long-tailed Tit Wood Warbler Chiffchaff

Key to species texts

#### Section links

- Population changes
- Demographic trends
- Causes of change

#### Additional info

Distribution maps for Britain and Ireland

#### Willow Warbler Phylloscopus trochilus

#### Key facts

Conservation listings: Global: Least Concern

Europe: Least Concern

UK: amber (breeding population decline); at race level, trochilus amber, acredula green

Long-term trend: England: rapid decline

Population size: 2.4 million territories in 2009 (APEP13: 1988-91 Atlas

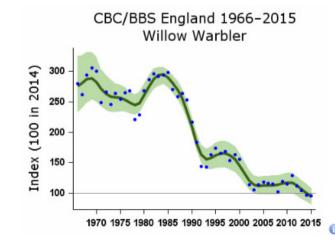
estimate updated using CBC/BBS trend)

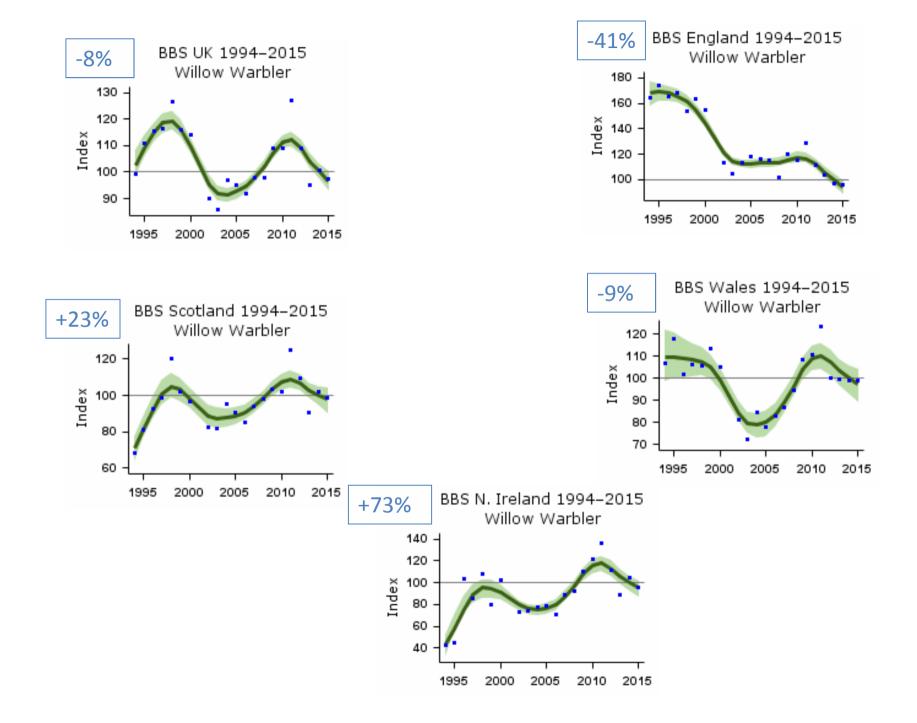


#### Status summary

Willow Warbler abundance has shown regionally different trends within the UK (Morrison et al. 2010, 2013a, 2015, Massimino et al. 2013). The overall CBC/BBS trend shows a rapid decline during the 1980s and early 1990s, after 20 years of relative stability, and, on the strength of a 31% decline on CBC plots between 1974 and 1999, the species was moved from the green to the amber list. This decline occurred mainly in southern Britain, however, accompanied by a fall in survival rates there (Peach et al. 1995a), with Scottish populations remaining unaffected. BBS figures since 1994 indicate a contrast between an upward trend in Scotland and in Northern Ireland, and continued severe decreases in England, with no overall trend in Wales. The BBS map of change in relative density between 1994-96 and 2007-09 indicates that strong decrease has been widespread across England and Wales, with little change across Northern Ireland, northern England and most of Scotland and increases in the far northwest.

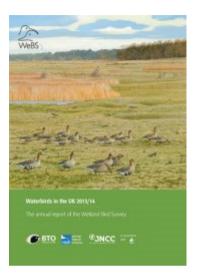
There has been widespread moderate decline across Europe since 1980 (PECBMS: PECBMS 2016a; see also Lehikoinen et al. 2014).





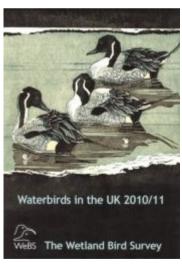
## **WeBS** outputs









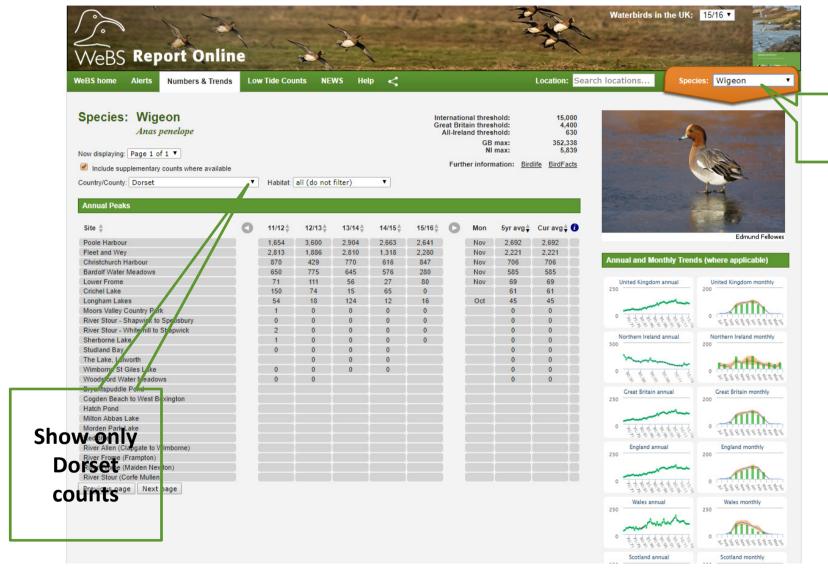






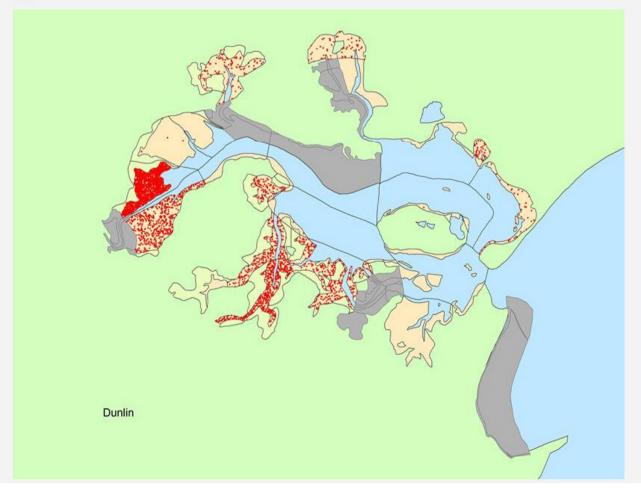


## Online report



**Choose Species** 

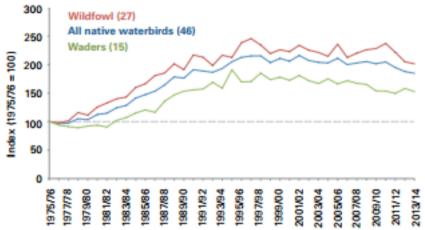
One of the largest natural harbours in the world, Poole Harbour, Dorset, comprises extensive intertidal flats and saltmarsh, with non-tidal refuges such as Brownsea Island. Unusual tidal patterns and low tidal range coupled with poor flushing characteristics help to preserve the extent of intertidal habitat, and the vast majority of the site is in favourable condition. The importance of Poole Harbour is underlined by its protective legislation, being designated as a Ramsar site, SPA and SSSI. The site incorporates National Nature Reserves and both RSPB and National Trust manage areas of Poole Harbour. Surrounding habitat is diverse. To the south and west, the Purbecks are dominated by heath and grassland, whereas to the north and east the Poole-Bournemouth conurbation includes a major dock in addition to urban development. Coastal erosion and sea-level rise are potential future concerns, and recreational disturbance may influence patterns of feeding bird distribution at low water.



Low Tide Count year: 04/05 ▼								
Display Map	English Name	Month Peak	Monthly average	Average density				
0	Brent Goose (Dark-bellied)	720	466	0.15				
	Brent Goose (Light-bellied)	35	10	<0.01				
0	Shelduck	1439	1016	0.34				
	Wigeon	1517	1080	0.36				
	Teal	1793	1184	0.40				
0	Mallard	71	58	0.02				
	Pintail	123	102	0.03				
0	Oystercatcher	1360	1175	1.10				
0	Ringed Plover	16	7	< 0.01				
0	Golden Plover	2	<1	< 0.01				
0	Grey Plover	152	65	0.06				
0	Lapwing	1505	762	0.53				
0	Knot	4	1	<0.01				
•	Dunlin	6551	3430	3.14				
0	Black-tailed Godwit	1684	1307	0.89				
0	Bar-tailed Godwit	78	52	0.05				
0	Curlew	2374	1841	1.28				
0	Redshank	592	443	0.31				
0	Turnstone	26	16	0.01				
	Mute Swan	107	59	0.04				
	Canada Goose	355	132	0.04				
	Gadwall	15	4	< 0.01				
	Shoveler	31	22	< 0.01				
	Pochard	4	2	< 0.01				
	Tufted Duck	7	2	< 0.01				
	Long-tailed Duck	2	<1	< 0.01				
	Goldeneye	88	63	0.04				
	Smew	1	<1	< 0.01				
	Red-breasted Merganser	305	203	0.13				
	Little Grebe	10	3	< 0.01				
	Great Crested Grebe	81	35	0.02				
	Slavonian Grebe	1	<1	< 0.01				
	Black-necked	2	1	<0.01				



# UK wintering waterbird indicator



Working together to give nature a home















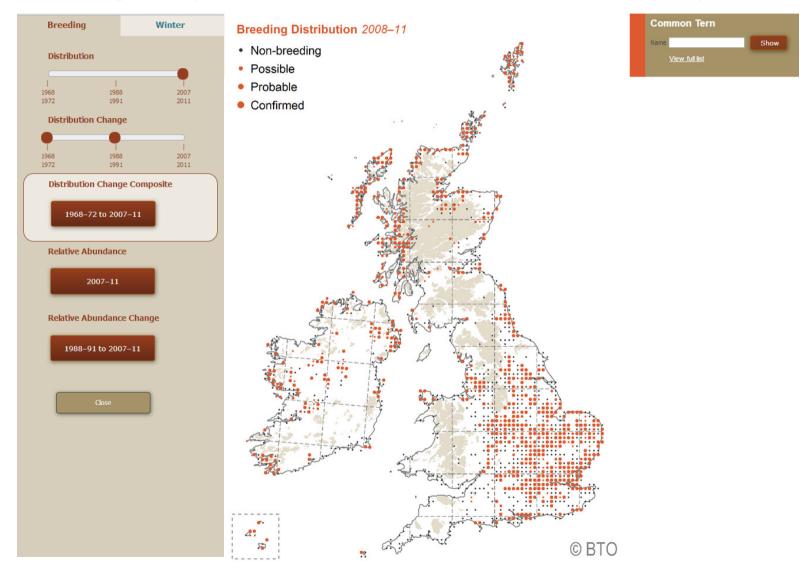
Front cover image: lapwing by Ray Kennedy (rspb-images.com)

Produced by the RSPB, a registered charity in England & Wales 207076, in Scotland

# Bird Atlas Mapstore – free online

www.bto.org/mapstore

3683 maps





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Report a Ringed Bird

Ringers' Pages

**IPMR Page** 

DemOn

#### Ringing publications

- Online Ringing and Nest Recording Report
- ▶ Online Ringing Report -Phenology ▶ Methods

home » volunteer-surveys » ringin

### Online Ringing

These summaries provide infor (recoveries) of ringed birds rec Britain and Ireland, as well as t area (in Britain) or county (Irela BTO during the selected year, found in earlier years.

Useful Notes: The bird record Birds paper and are delineated are covered by two or more rec squares will appear in both sur shown if they were received by the site of ringing or of finding i deliberately inaccurate. Maps a

View the timing of breeding a

### What do you want

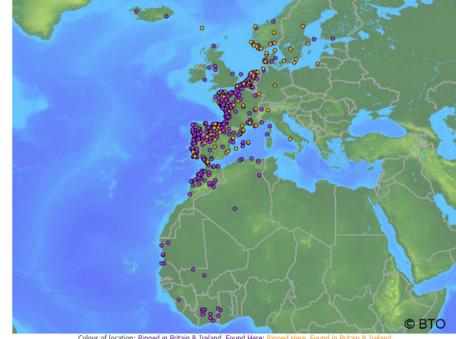
Ringing totals by Area

Britain &

Number of birds ringed or recovered in counties of Britain & Ireland, or countries overseas

County	Ringed in	Found in	Country	Ringed in	Found in
Cavan	0	1	Algeria	0	6
Clare	3	3	Belgium	18	13
Cork	6	4	Ceuta	1	1
Donegal	1	7	Channel Islands	36	45
Dublin	1	1	Cote d`Ivoire	0	8
Galway	33	34	Denmark	9	9
Kerry	0	1	English Channel and Irish Sea	0	4
Kildare	5	9	Faroe Islands	2	0
Mayo	7	8	Finland	0	2
Monaghan	0	1	France	30	141
Offaly	1	0	Germany	7	6
Roscommon	0	2	Ghana	0	3
Sligo	0	4	Gibraltar	2	3
Tipperary	1	4	Iceland	0	3
Waterford	3	0	Italy	1	0
Westmeath	0	1	Mali	0	2
Wexford	20	10	Mauritania	0	5
Wicklow	3	4	Melilla	0	1
Angus & Dundee	32	32	Morocco	1	40
Argyll	37	43	North Atlantic Ocean (other parts)	0	1
Anglesey	8	9	North Sea	0	3
Avon	66	64	Norway	17	8
Ayrshire			<b>*</b> -		

Foreign location of birds ringed or recovered in Britain & Ireland:



Colour of location: Ringed in Britain & Ireland, Found Here; Ringed Here, Found in Britain & Ireland

Ringing totals -

by Species

▼ All ▼ Go!

Buckinghamshire

Badenoch & Strathspey

Bedfordshire

Cambridgeshire Ceredigion

Caernarfonshire

Cheshire & Wirral Carmarthenshire Cornwall Caitlanger

Berkshire

Borders