

State of birds **IN WALES 5**



The headlines

- 1.** Targets for the Biodiversity Action Plan were updated in 2006 and new species added. The list of bird species of Principal Biodiversity Importance has increased to 51.
- 2.** We report on species surveys that show the first known **woodlarks** nesting in Wales since the early 1980s and an exciting increase in **Dartford warblers** from none in 1990 to 73 territories in 2006. On the down side, **curlews** had declined by 81% throughout their range in Wales between 1993 and 2006 and **golden plovers** by 88% between 1982 and 2007 in their stronghold.
- 3.** The Welsh Assembly Government's **Wild Bird Indicator** is updated to 2006. The index has declined since 2005, and now lies a few per cent above the baseline year of 1994. This apparent stability can mask important changes in individual species and species groups, with increases in generalists offsetting declines in specialists.
- 4.** The index of widespread breeding birds of farmed habitats declined on the previous year's figure and is now at its lowest point since 1994 when the survey started.
- 5.** The 2006 Breeding Bird Survey shows 18 species increasing and 9 declining significantly since 1994, out of 52 species represented in the scheme. The top three increasing and declining species were:

Up: **stonechat** (+287%), **house sparrow** (+107%) and **house martin** (+95%)

Down: **starling** (-51%), **yellowhammer** (-44%) and **bullfinch** (-42%).



Stonechat

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Throughout this report, species are colour-coded according to their conservation status, as published in *The population status of birds in Wales: birds of conservation concern*. The 27 species identified as being of the greatest conservation concern are red-listed, the 69 species of moderate concern are amber-listed and the 125 species of least concern are green-listed. This assessment did not cover non-native or very scarce species, so such species are not colour-coded.



Sedge warbler

David Klaar (rspb-images.com)



Great spotted woodpecker

David Kjaer (rspb-images.com)



Introduction



Ben Hall (rspb-images.com)

Razorbill over Ellin's Tower, South Stack, Anglesey

This is the fifth *State of Birds in Wales* report and interest in the report has developed each year. Its aim is to provide easily accessible information on the status, trends and issues affecting the birds of Wales. Following feedback on earlier reports, we have improved the format to include a section on planned work.

The State of Birds in Wales 5 is produced by four non-governmental organisations (NGOs) – the Royal Society for the Protection of Birds (RSPB), the British Trust for Ornithology (BTO), the Wildfowl & Wetlands Trust (WWT) and the

Welsh Ornithological Society (WOS) – and the Welsh Assembly Government's statutory conservation agency, the Countryside Council for Wales (CCW).

Monitoring birds in Wales involves a partnership of Assembly Government agencies, NGOs, sponsors and independent ornithologists, including:

The British Trust for Ornithology, CCW, County Bird Recorders, Forestry Commission Wales, Joint Nature Conservation Committee (JNCC), Local

Biodiversity Officers, National Park Authorities, National Trust, RSPB Cymru, Severn Trent Water, Wales Raptor Study Group, Welsh Kite Trust, Welsh Ornithological Society, Wildfowl & Wetlands Trust and the Welsh Wildlife Trusts.

For bibliographic purposes, this report should be referred to as Johnstone IG, Bladwell S, Noble DG, (2008). *The State of birds in Wales 5: a review of 2006 and 2007*. RSPB Cymru, Cardiff.



Short-eared owl

Steve Round (rspb-images.com)

Biodiversity Action Plans for birds in Wales



Bar-tailed godwits

Sue Tranter (rspb-images.com)

In 2006 and 2007 there were significant reviews of the Biodiversity Action Plan process in Wales and the UK. Two major reviews were undertaken on species and habitat targets and the list of species considered to be Priority species (UK) and of Principal Biodiversity Importance (Wales). This section reports on these reviews and biodiversity action underway or completed and also provides the latest information on the status of some of these species.

Updated Biodiversity Species Targets

In 2005, the UK lead partners and steering groups for Habitat Action Plans (HAPs) and Species Action Plans (SAPs) reviewed their existing plan targets. The purpose was to update knowledge of species' needs, further standardise plans and confirm, remove or re-set time limited targets to ensure their continued relevance. The revised targets were published in 2006 and for the first time targets for Welsh species and habitats have been identified.

The next stage, already underway in late 2007, will be a disaggregation of the Welsh targets to Local Authority areas. The net result will be a cohesive set of targets where the sum of the local level targets (included in Local Biodiversity Action Plans – LBAP) will deliver the country level target.

In Wales, there are 24 local biodiversity partnerships with enthusiastic volunteers, county recorders, representatives from public, private and voluntary sectors, including staff from Local Authorities and non-governmental organisations (NGOs), working to deliver LBAP objectives and targets. The success of action planned and implemented at UK, Wales and Unitary Authority levels will depend on ecological knowledge, resources and the enthusiasm and commitment of those involved at all three levels.

In Wales, actions within SAPs for some birds have been or are being completed. For example, action 4.1 (Establish baseline population size through species specific survey) of

the **curlew** SAP was achieved in 2006 through an RSPB/CCW survey. Action 5.2.1 of the **chough** SAP (Pursue site safeguard of existing nest sites, roost sites and important feeding locations through appropriate national and international legislation) is on schedule as part of a Special Protection Area (SPA) review. Survey work in 2007 completed Action 4.1 (Establish baseline population size) of the golden plover SAP, again through an RSPB/CCW survey and the achievement of the population target of 270 male black grouse by 2010 within the action plan for that species is on course.

These examples indicate the range of actions required to meet the objectives. They have required project specific funding, co-ordination by BAP lead partners and support from within local or Wales-wide partnerships. This type of approach will be necessary to ensure that many more of the targets to halt and reverse widespread bird population declines are achieved.

Species of Principal Biodiversity Importance

In 2007, a revised UK BAP priority species and habitats list was adopted and published by the Governments of all four UK administrations. This UK list also identifies species and habitats of relevance to each country. This assessment was based on a set of objective criteria and, for birds, at the taxonomic level of race (subspecies). This is new for conservation priority setting in the UK, which has traditionally used the species level. This recognises diversity within species and allows conservation effort to be targeted at the genetic and ecological level. It emphasises the importance of conserving the UK's endemic races, some of which face severe threat, for example the UK endemic race of **lesser spotted woodpecker**, which occurs in Wales, could face extinction if declines continue.

Four scientific criteria were used to select the UK BAP species/races:

- 1 international threat (ie risk of

extinction in Europe)

- 2 international responsibility (25% of European population) plus at least 25% decline in the UK
- 3 marked decline (greater than 50% over last 25 years) in the UK
- 4 other valid reasons for qualification including very restricted range and a lack of recovery from the declines that led to inclusion on the UK BAP list in 1995.

Using this approach and assessment criteria specific to Wales, the new UK BAP list was used to develop a list of species of principal importance for conservation of biological diversity in Wales under section 42 of the Natural Environment and Rural Communities (NERC) Act 2006. This was adopted and published by the Welsh Assembly Government in 2008, updating a previous list often referred to as the "section 74 list".

The new Welsh list of species of principal biodiversity importance contains 51 birds and includes eight species not identified as a priority on the UK BAP list. Three of these

species, **chough**, **golden plover** and **hen harrier**, had been previously identified as especially important in Wales under section 74 of the Countryside and Rights of Way (CRoW) Act 2000. A further five species were added because of their conservation status in Wales using the criteria outlined above – **ringed plover** (winter), **bar-tailed godwit** (winter), **kestrel**, **black-headed gull** and **pie'd flycatcher**.

Conversely, six species identified as a priority at the UK level and included on the UK BAP list (relevant to Wales) were not listed as principal biodiversity species in Wales due to their ecological and/or conservation status. They are considered so rare in Wales that directing resources towards their conservation would not be practical in the lifetime of the current revision. They are **arctic skua**, **black-throated diver**, **marsh warbler**, **red-necked phalarope**, **scaup** and **wryneck**.



Hen harrier

Biodiversity Action Plans for birds in Wales



Chough

Ben Hall (rspb-images.com)



Red grouse

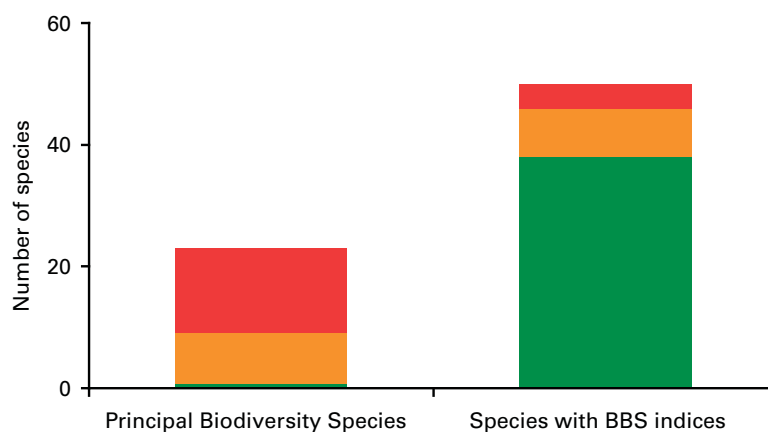
David Norton (rspb-images.com)

Bird Species of Principal Biodiversity Importance in Wales (2008).

Name	UK BAP	Criteria			
		1	2	3	4
Aquatic warbler	Y	✓		✓	✓
Balearic shearwater	Y	✓			
Bar-tailed godwit (winter)	N		✓		
Bewick's (Tundra) swan	Y	✓		✓	
Bittern	Y			✓	
Black grouse	Y	✓	✓	✓	✓
Black-headed gull	N		✓		
Bullfinch	Y		✓		✓
Chough	N				✓
Common scoter	Y			✓	✓
Corn bunting	Y	✓	✓	✓	✓
Corncrake	Y				✓
Cuckoo	Y			✓	
Curlew	Y		✓		
Dark-bellied brent goose	Y	✓			
Dunnock (Hedge accentor)	Y		✓		
Golden plover	N			✓	
Grasshopper warbler	Y			✓	
Greenland white-fronted goose	Y	✓			
Grey partridge	Y	✓		✓	✓
Hawfinch	Y			✓	
Hen harrier	N			✓	
Herring gull	Y		✓	✓	
House sparrow	Y			✓	
Kestrel	N			✓	
Lapwing	Y	✓		✓	
Lesser redpoll	Y			✓	
Lesser spotted woodpecker	Y	✓	✓	✓	
Linnet	Y				✓
Marsh tit	Y		✓		
Nightjar	Y				✓
Pied flycatcher	N			✓	
Red grouse	Y		✓		
Red-backed shrike	Y			✓	✓
Reed bunting	Y				✓
Ring ouzel	Y			✓	
Ringed plover (winter)	N			✓	
Roseate tern	Y			✓	✓
Skylark	Y			✓	
Song thrush	Y		✓		✓
Spotted flycatcher	Y			✓	✓
Starling	Y			✓	
Tree pipit	Y			✓	
Tree sparrow	Y			✓	✓
Turtle dove	Y			✓	✓
Twite	Y		✓		
Willow tit	Y	✓	✓	✓	
Wood warbler	Y			✓	
Woodlark	Y				✓
Yellow wagtail	Y		✓	✓	
Yellowhammer	Y			✓	

Monitoring report

The majority of the birds identified as Principal Biodiversity Species in Wales are red-listed, but most widespread breeding birds reported on by BBS are green-listed. This is because, although many of the red-listed birds, such as **lapwings**, **grey partridges**, **tree sparrows** and **turtle doves**, are recorded during a few visits to Breeding Bird Survey (BBS) squares, they are too scarce for individual abundance indices to be calculated. There is no formal monitoring of short-term abundance trends for these breeding birds.



Status of the bird species of **Principal Biodiversity Importance in Wales (2003–2007)**. Trend data are for the most recent period available, and are expressed as abundance where possible.

Species	Trend %	Years	Monitoring method	Population size	Year	Monitoring method
Aquatic warbler	Not known	–	–	Not known	–	–
Bittern	-100	1968–91	8	0	2007	4
Black grouse	-19	1986–2007	2	213	2007	2
Bullfinch	-42	1994–2006	3	Not known	–	–
Chough	48	1992–2002	1	262	2002	1
Common scoter	Not known	–	–	32,500	2001-02	5
Corn bunting	-57	1968–91	8	1	2007	4
Corncrake	-97	1968–91	8	0	2004	1
Curlew	-81	1993–2006	2	1,099	2006	2
Golden plover	-84	1978–2007	2	36	2007	2
Grey partridge	-66	1968–91	8	200-500	2002	7
Hen harrier	159	1988–2004	1	43	2004	1
Lapwing	-77	1987–98	1	1,698	1998	1
Linnet	-7	1994–2006	3	Not known	–	–
Nightjar	332	1982–2004	1	269	2004	1
Reed bunting	-9	1968–91	8	Not known	–	–
Roseate tern	-100	1986–2007	7	0	2007	6
Skylark	-2	1994–2006	3	Not known	–	–
Song thrush	31	1994–2006	3	Not known	–	–
Spotted flycatcher	-7	1968–91	8	Not known	–	–
Tree sparrow	-25	1968–91	8	Not known	–	–
Turtle dove	-73	1968–91	8	1	2007	4
Yellowhammer	-44	1994–2006	3	Not known	–	–

Monitoring method		
1 SCARABBS (Statutory Conservation Agencies/RSPB Annual Breeding Birds Scheme)	2 Wales survey	6 Full annual monitoring
	3 BBS	7 Informed estimate
	4 County bird reports	8 Atlas change
	5 Aerial surveys	

Status summary	
Increase >50%	2
Increase 0-50%	2
Decline 0-50%	8
Decline >50%	9
Not known	2
Total	23

The wild bird indicator for Wales



Swallows

Ray Kennedy (rspb-images.com)

The Welsh Assembly Government measures the health of the environment annually, and birds are included in this using a **Wild Bird Indicator** based on different groups of widespread breeding bird species.

The first part of this indicator has been updated using data collected in 2006. It measures the change in abundance (numbers) of a wide range of native birds surveyed by the BTO/JNCC/RSPB Breeding Bird Survey (BBS) since 1994 (figure 1a)¹. Species are included if they are recorded annually in 20¹ or more 1 km squares (so this method tends not to include scarce species). Nevertheless, the coverage achieved by this survey has more than doubled since 1994 from 123 to 271 1 km squares, and the indicator includes a new species, the **sedge warbler**, that meets this minimum sample size for the first time this year. Of the 59 species¹ now included in the

indicator, 28 have increased since 1994 (18 significantly so) and 18 have declined (statistically significant for nine). The index has declined since 2005, and now lies a few per cent above the baseline year of 1994. However, this apparent stability overall can mask important changes in individual species and species-groups, with increases in generalists, which do well from current land-uses, offsetting declines in specialists, for which resources such as food and nest sites are harder to find.

This first part of the indicator must always be viewed within the context of long-term historic change. This is provided by part 2 of the indicator that shows changes in range (geographical distribution) from 1968–1971 to 1988–91. More than half of the 119 native species represented show a contraction in range over this period (figure 1b) and the results of current surveying for

the UK Bird Atlas 2007–11 will allow us to update this figure by 20 years. Contraction in range is also likely to indicate decline in abundance.

It should be remembered that because a) scarce species are not included in the short-term indicator and b) the long-term indicator measures range rather than abundance, the **Wild Bird Indicator** does not represent a complete picture of bird population trends in Wales, although it is an important component of measuring the health of the environment.

Widespread breeding birds of farmed habitats

This index declined on last year's figure and is now at its lowest point since 1994 when the survey started. Over this period, eight birds have increased (just **greenfinch** and **woodpigeon** significantly so), and six declined, with more than half of these significant

(**curlew**, **starling**, **yellowhammer** and, based on a small sample size, **kestrel**). **Curlew**, **starling** and **yellowhammer** are Principal Biodiversity Species. The long-term indicator highlights the number of species for which range has declined, many of which are now too scarce for inclusion in the BBS results. For comparison with the UK, the short-term indicator is also shown for lowland farmland birds, and this shows the same pattern.

Widespread woodland breeding birds

Woodland birds were also less abundant in 2006 compared with the previous year, with the index now marginally below the baseline level in 1994. Over this period, nine have declined (significant for **bullfinch**, **coal tit**, **goldcrest**, **willow warbler** and, based on small sample sizes, **pie d flycatcher** and **wood warbler**). The last three of these are long-distance migrants. Although **bullfinch** abundance has fluctuated in recent years, the 2006 index shows a 42% overall decline for this Principal Biodiversity Species. Thirteen birds have increased (**blackbird**, **blackcap**, **blue tit**, **dunnock**, **great spotted woodpecker**, **great tit**, **nuthatch**, **robin** and **song thrush** significantly so). All except **blackcap** are resident all year in Wales. The long-term indicator shows that the ranges of most woodland birds were stable.

Other widespread breeding birds

Some birds in other groups also show notable changes over the short term. Of eight birds that increased since 1994, **carrion crow**, **swallow**, **house martin**, **stonechat** and **house sparrow** did so significantly. The increase in **house sparrows** in Wales is in contrast to their decline in England. Three birds declined, and this was significant for **swift** and **cuckoo**.

¹ See *The state of birds in Wales 2003* for details of survey methods, analysis, the species represented and their habitat groupings. www.rspb.org.uk/ourwork/science/sotukb/sobiw

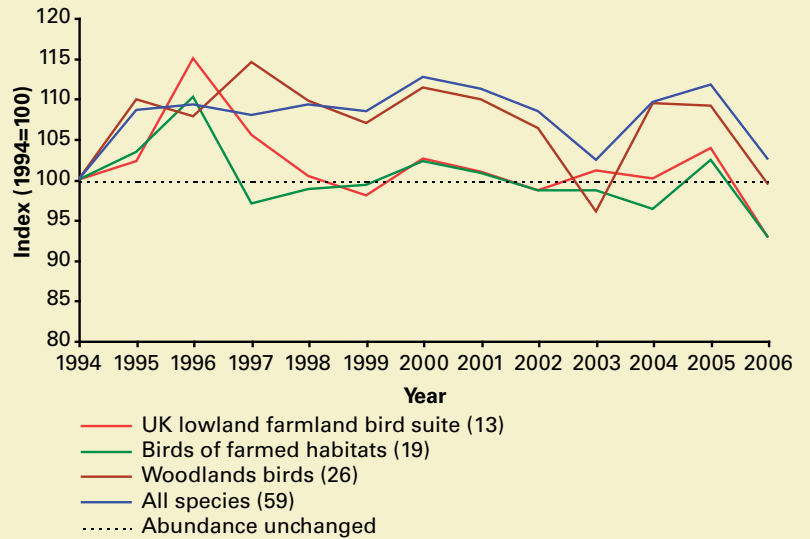
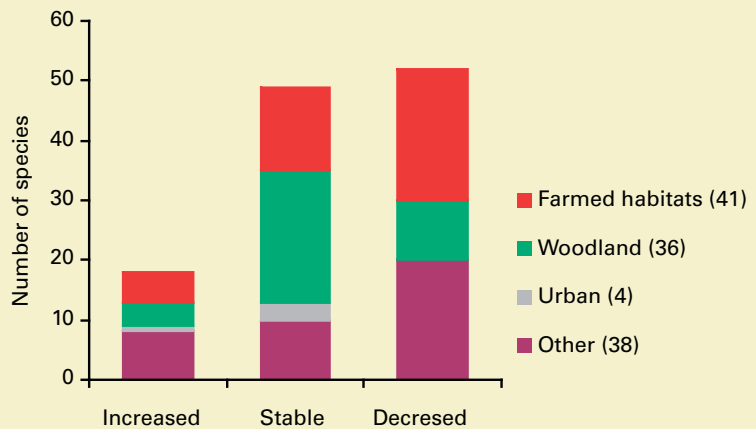


Figure 1a (above) Part one of the Widespread Breeding Bird Indicator for Wales is a measure of how bird numbers have changed since 1994.

Figure 1b (below) Part two of the Wild Bird Indicator for Wales shows long-term changes in the geographical distribution of birds between 1968–72 and 1988–91.



House sparrow

Ray Kennedy (rspb-images.com)

Bird news



Greenland white-fronted goose

Andy Hay (rspb-images.com)

In this section we report on some selected highlights of bird surveys in Wales from 2006 and 2007 (see centrefold for details of how to find additional information).

Wintering waders and wildfowl

White-fronted goose

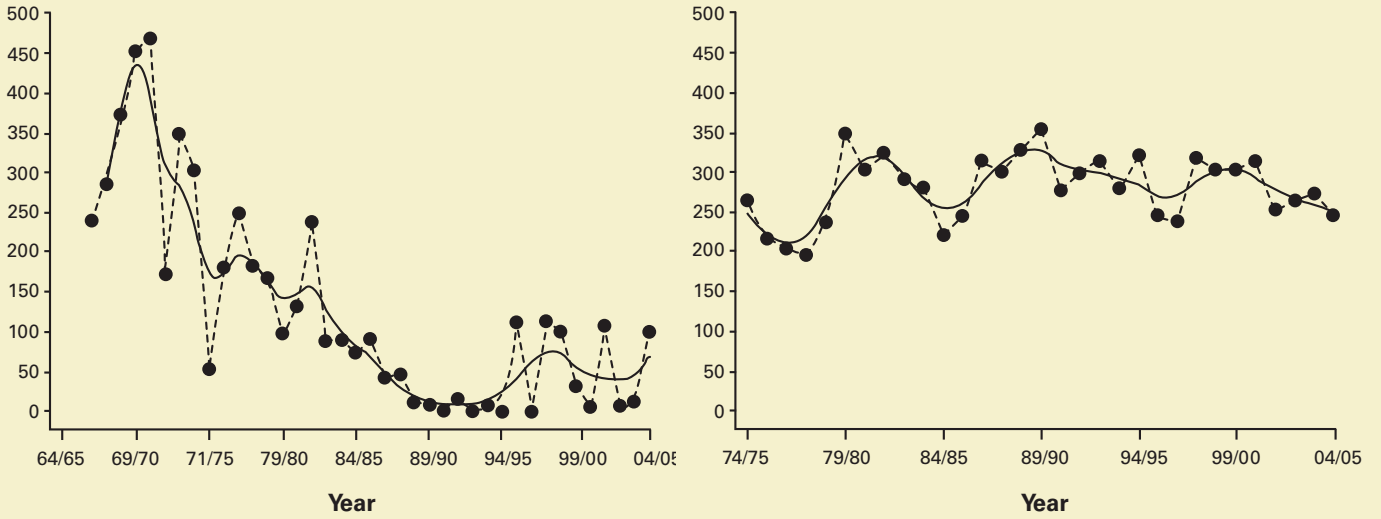
Two races of **white-fronted goose** winter in Wales. Breeding in the tundra of northern Europe, the **European white-fronted goose** has declined sufficiently to trigger a long-term high WeBS alert in Wales and elsewhere in the UK, because of a shift in distribution. Evidence suggests a link with reduced hunting pressure and an increase in intensive pasture in the Netherlands, combined with climate change making the winters there more benign. The **Greenland white-fronted goose** is too scarce to be reported on by WeBS, and only winters on one site: the Dyfi. Globally, however, this race is also declining due to fewer pairs attempting to breed in Greenland.

Curlew

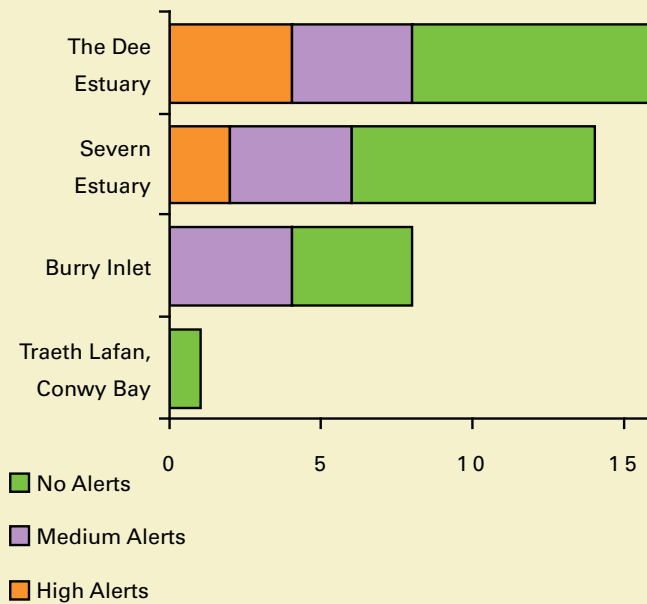
In contrast, **curlews** consistently winter in internationally important numbers on the two largest estuaries in Wales, the Dee and Severn. Wintering numbers have remained stable in recent decades. Most of these **curlews** have travelled from breeding areas elsewhere in the northern UK.

Trends in the SPA network

The online Wetland Bird Survey (WeBS) alert system is rapidly becoming the location to find trends at designated sites across the UK. In Wales four of our Special Protection Areas are represented in the results.



Wintering white-fronted geese (left) have declined, while curlew numbers (right) are stable. Population indices are shown as points linked by dashed lines, along with a smoothed trend.



Numbers of waterbirds with different WeBS-Alerts on four estuarine SPAs in Wales

Bird news



Fulmar

Genevieve Leaper (rspb-images.com)



Kittiwake

Niall Berne (rspb-images.com)

Fulmar

The **fulmar** feeds at or near the sea surface on plankton, fish and fishery waste. Mirroring the UK population, fulmars in Wales increased up to the mid 1990s. Since then the Welsh population has remained stable, in contrast to decline overall in the UK.

Kittiwake

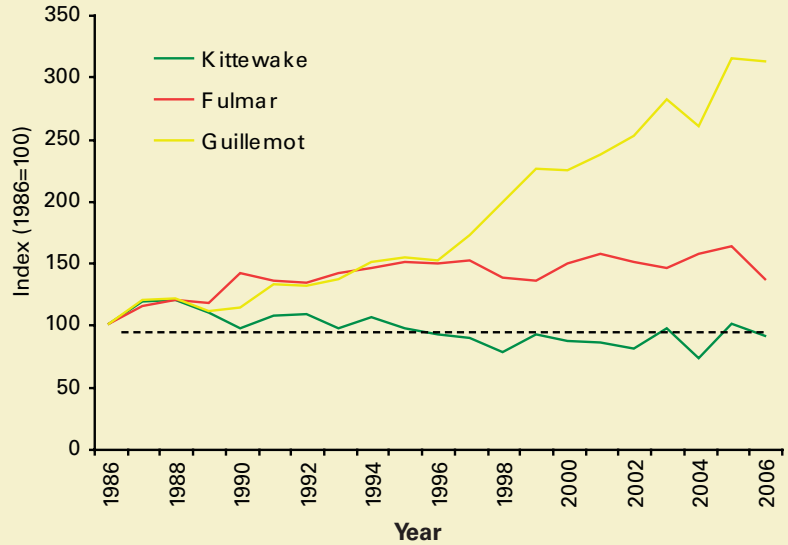
The main diet of **kittiwakes** is small fish, such as sandeels, taken from just below the sea surface. In 2006 the UK population index reached its lowest in 21 years of monitoring, 50% lower than its peak in 1992. In Wales the trend was broadly stable over this period.

Guillemot

Being a diving species, the **guillemot** is able to exploit a wider range of fish species and sizes than the previous two species. Although the UK guillemot population index is now at a new high, the index in Wales has increased by twice that of the UK with the rate of change most rapid since 1996. Breeding success in 2006 at Skomer (Pembrokeshire) was at an all time low, thought at this stage to be due to predation by gulls rather than a food shortage. Because seabirds are long lived, it often takes repeated years of poor breeding before populations decline.

Seabird numbers and breeding success

The JNCC Seabird Monitoring Programme provides an annual update on the fortunes of our seabirds from a network of sites around the Welsh coast. Here we provide the latest information on three species – **fulmar**, **kittiwake** and **guillemot**. At present, numbers of all three species seem to be faring better than in the UK as a whole.



Guillemot

Graham Eaton (rspb-images.com)

Breeding Bird Survey

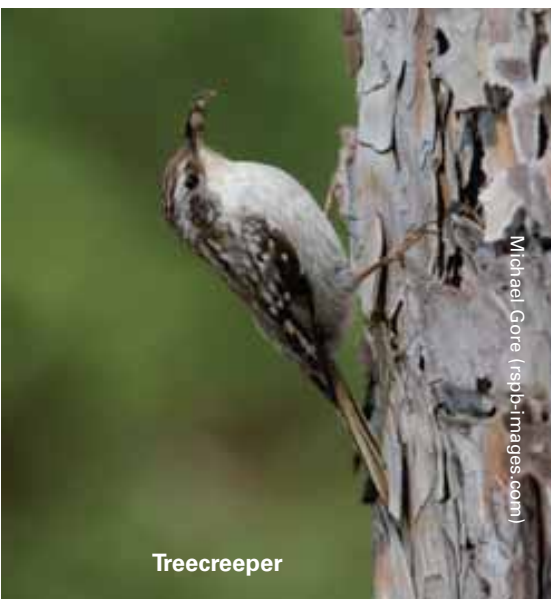


Sue Tranter (rspb-images.com)

Bullfinch

Up or down or staying the same?

Of the 51 species recorded on average in sufficient squares to be included in the Breeding Bird Survey, 17 increased and nine decreased significantly.

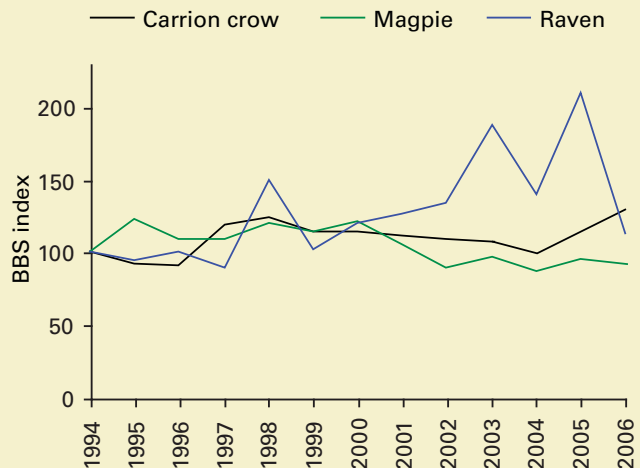
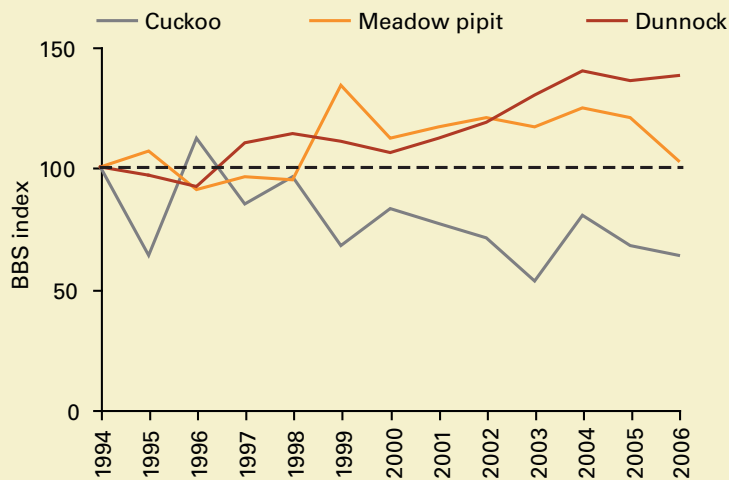


Michael Gore (rspb-images.com)

Treecreeper

Species	% change 94-06	
Blackbird	39	*
Blackcap	77	*
Blue tit	32	*
Bullfinch	-42	*
Buzzard	-5	
Collared dove	33	*
Carrion crow	30	*
Chaffinch	-6	
Chiffchaff	1	
Coal tit	-28	*
Cuckoo	-36	*
Curlew	-40	*
Dunnock	38	*
Garden warbler	-24	
Goldcrest	-40	*
Goldfinch	25	
Great spotted woodpecker	82	*
Great tit	55	*
Green woodpecker	11	
Greenfinch	26	*
Grey heron	-18	
House martin	95	*
House sparrow	107	*
Jackdaw	19	
Jay	33	
Linnet	-7	
Long-tailed tit	33	
Magpie	-8	
Mallard	23	
Meadow pipit	3	
Mistle thrush	2	
Nuthatch	51	*
Pied wagtail	13	
Raven	13	
Redstart	-2	
Robin	13	*
Rook	-24	
Skylark	-2	
Song thrush	31	*
Starling	-51	*
Stonechat	287	*
Swallow	73	*
Swift	-31	*
Tree pipit	-28	
Treecreeper	40	
Wheatear	10	
Whitethroat	-9	
Willow warbler	-22	*
Wood pigeon	31	*
Wren	3	
Yellowhammer	-44	*

Species are included if they occur in a mean of 30 or more 1km squares between 1994 and 2006 * indicates changes that are statistically significant



Cuckoo declines

The BBS trends can be used to explore potential reasons behind declines when comparing similar or inter-dependant species. For example, **cuckoos** lay their eggs in the nests of other birds and have declined significantly in abundance over the short-term. In the UK the decline in **cuckoos** is mirrored by declines in two of the main host species (**meadow pipit** and **dunnock**) and this could be implicated in the decline of the **cuckoo** – however these hosts have not declined in Wales. As the **cuckoo** is a long-distance migrant, environmental conditions in its wintering areas or during migration may have deteriorated, reducing survival. However, significant increases in cuckoos have occurred in Scotland over the same period. This all suggests that other factors, such as a lack of insect food for adults, or their hosts nesting earlier providing fewer opportunities for them to lay eggs, may be causing the decline.



Cuckoo

Mark Hamblin (rspb-images.com)

Are crows, magpies and ravens really increasing?

It is often said that **carrion crow**, **magpie** and **raven** have increased in numbers. There is evidence for this between the mid 1960s and mid 1990s in Wales and south west England. BBS indices show that **carrion crows** and **magpies** are no longer increasing rapidly, although the **raven** index has been high in some years. The significance of these trends is not consistent over time. The main period of increase matched the greatest economic pressure to intensify agriculture.



Raven

Sue Tranter (rspb-images.com)

Species surveys



Curlew

Roger Wilmsnurst (rspb-images.com)

Breeding curlews – population crashes by more than 80%

A repeat sample survey by RSPB Cymru in 2006 showed there were now only 1,099 pairs of **curlews** (95% confidence limits 576–1755) remaining in Wales, a significant decline, of 81% since 1993. Losses took place in all regions and altitudes, suggesting the influence of large-scale long-term processes such as agricultural and environmental change. These are in broad agreement with BBS results showing a 40% decline, although wintering populations appear to be stable. Just 14% of occupied squares had evidence of chicks being hatched: low breeding success could explain the decline in numbers.

Funded by Countryside Council for Wales Species Challenge Fund

Golden plover - Welsh breeding population now down to 36 pairs

In 2007 the first full survey of current and historic **golden plover** breeding areas was undertaken with a total of 36 pairs located. Although a previous population estimate of between 213 and 214 pairs from the mid 1970s is not directly comparable, due to different survey methods, the 83% decline indicated is in line with results from the stronghold of the Elenydd, which shows a 88% decline since 1982 with only 11 pairs remaining.

Funded by Countryside Council for Wales Species Challenge Fund



Golden plover

David Kraer (rspb-images.com)

Woodlark survey – first proved breeding since 1991

Although **woodlarks** were once reasonably widespread in Wales, there has been no confirmed breeding in Wales since the early 1980s. The last pairs were known in Radnorshire. In 2006, suitable sites, mainly in South Wales, were checked for occupancy and one pair was located, which successfully fledged young.

A SCARABBS survey

David Kraer (rspb-images.com)



Woodlark



Mike McKavett (rspb-images.com)

Dartford warbler

Dartford warbler survey – from 0 to 72 territories in 10 years...

The **Dartford warbler**, one of the few resident warbler species in the UK, was first proved to breed in Wales in 1998. The survey in 2006, as part of a UK-wide survey, estimated a total of 72 territorial pairs in Wales, based on 41 territories actually located.

Carmarthenshire	10
Glamorgan	12
Gwent	4
Pembrokeshire	15
Wales total	41

A SCARABBS survey

Countryside Council for Wales Species Challenge Fund

This fund has provided resources for work relating to *Species of Principal Biodiversity Importance in Wales*.

Most of the monitoring programmes described here depend heavily on volunteer bird surveyors for their success. However, as birds decline, increased survey effort is needed to get reliable results and more surveyors are always needed. Details of how to get involved in bird surveys can be found on the websites of the partner organisations shown inside the front cover.

Research update

In this section, you will find updates on some of the recent work to help birds in Wales. There is some good news, but also evidence of current or future damaging impacts on birds. Once again, there are examples of how some birds depend on conditions being favourable outside Wales for their populations to prosper. The symbols show examples of bird monitoring and research, Principal Biodiversity Species and where volunteers have helped achieve the results.



Bird monitoring and research



Principal Biodiversity Species



Volunteer action

Commercial conifers can be good for nightjars

Nightjars have increased in Wales over the last 20 years. This is primarily associated with commercial conifers, where they are thought to nest in and forage close to large (approx 2 ha) coupes that have been clear-felled or have a young open canopy. However, one aim of the Welsh Assembly Government's policy document Woodlands for Wales is to convert half of Forestry Commission land to continuous cover forestry (CCF) over the next 20 years. This will replace large coupes with much smaller linear or irregular shaped coupes for aesthetic purposes, and could remove **nightjar** nesting and foraging sites.

A recent project undertaken by Tony Cross and Jerry Lewis, financially supported by the CCW Species Challenge Fund, Brecknock Wildlife Trust and Forestry Commission, has used radio-tracking to measure nest site selection, foraging behaviour and breeding success of **nightjars** in mid and south Wales to help the Forestry Commission manage plantations sensitively for them.

On average, nightjars chose to nest on flat areas in large clear-felled coupes (average 23 ha, range 5-65) that contained young replacement trees (average eight years, range 0-19). The minimum size used was larger than coupes used by some kinds of CCF. Conifers are usually felled after around 50 years. Radio-tracking showed that territories ranged from 28-53 ha in size, with the majority of foraging taking place in open areas within plantations. Foraging took place close to nests when providing food for chicks. Breeding success was high in these places compared with lowland heaths, with two broods being raised by single pairs in some cases.

These results suggest that CCF could reduce nest site availability if implemented indiscriminately. However, in forests where **nightjars** breed, restricting CCF to steeper slopes could meet the Assembly Government's target without causing the loss of **nightjar** nest sites.

Funded by Countryside Council for Wales Species Challenge Fund



Nightjar



Andy Hay (rsnb-images.com)

Redshank

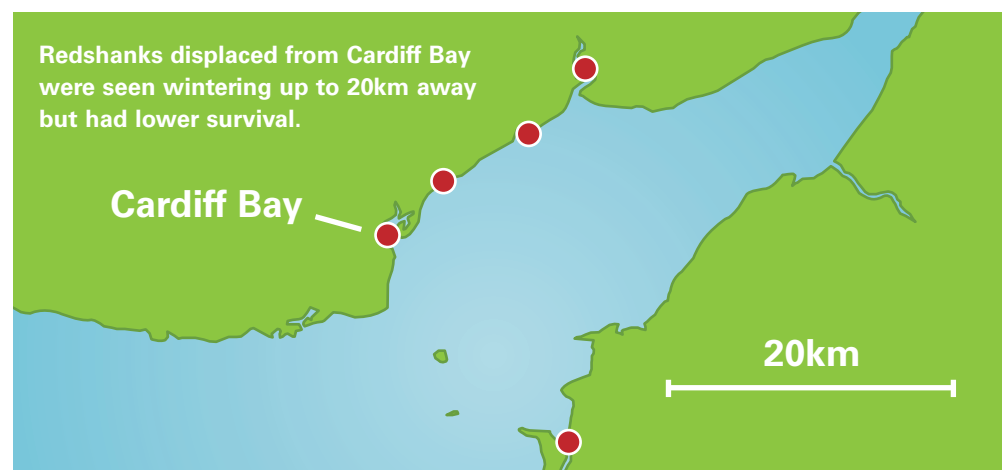
Homeless Cardiff Bay redshanks more likely to die

Prior to redevelopment, Cardiff Bay, home to the new Senedd building, was also home to wintering shorebirds, including around 300 **redshanks**. In November 1999, a barrage across the bay was closed, and the formerly inter-tidal mudflats behind were lost beneath a freshwater lake. A study was carried out by the BTO, partly funded by the Cardiff Bay Development Corporation and Cardiff County Council, to look at how the loss of habitat affected the survival of birds.

To do this, for several years before and after the barrage was closed, **redshanks** in the bay and nearby 'control' sites were routinely captured by licensed bird ringers and fitted with numbered metal leg rings and colour-rings to identify them if later recaptured, or seen in roosting flocks. Data from recaptures of ringed birds and sightings of birds with colour-rings can be used to measure body condition when captured, and survival over the previous year.

Most **redshanks** displaced from Cardiff Bay moved to inter-tidal flats at nearby Rhymney, although some moved as far as Newport, and Weston-super-Mare. In the first winter following closure of the barrage, the body condition of displaced birds was significantly lower than that of birds that had always wintered at Rhymney, suggesting they had trouble finding enough food in their new wintering site. Following closure of the barrage, the annual mortality of **redshanks** from Cardiff Bay increased by 44%. In comparison, the survival of those **redshanks** that had always wintered at Rhymney did not differ before and after closure of the barrage.

Together, these results suggest that the Rhymney site could not fully support the displaced birds from Cardiff Bay following its loss as habitat. Because of this, the ecological 'fitness' of the Cardiff Bay birds was reduced, as shown by their trouble finding enough food, and lower survival. Without an increase in the number of young birds joining the population, this is likely to have led to a decline in the **redshank** population of this part of the Severn Estuary (**redshanks** from this wintering population breed elsewhere in the UK and in Iceland).



Research update



Common scoter

Mark Hamblin (rspb-images.com)

Offshore wind farms might reduce common scoter over-winter survival

In Liverpool Bay, one offshore wind farm, North Hoyle, has already been built, and other areas have been opened to development where shallow water makes turbine construction most economical. However, these areas are also important for wintering **common scoters**, which prefer shallow water in which to dive to the seabed and find their shellfish food. It is important to understand how these birds might be disturbed and displaced from favoured feeding sites by wind farms, so that planning applications can be properly assessed.

Completed in 2006, a COWRIE funded collaboration between the Universities of Bangor and East

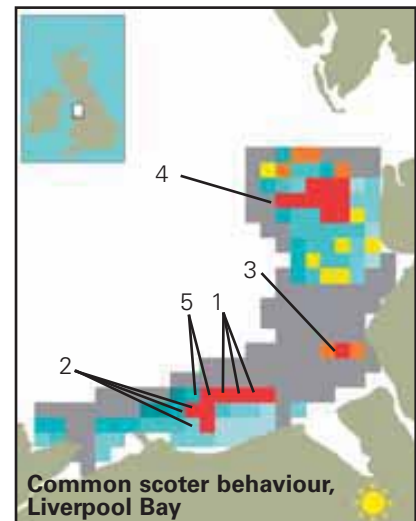
Anglia and the CEH (Centre for Ecology and Hydrology) used data on tidal variation in water depth, seabed food supplies, scoter food requirements, their foraging behaviour, and sensitivity to disturbance (the distance from an approaching ship that they flew away) to predict how scoters would react to new wind farms in the areas earmarked for development. These were included in a behaviour-based model that calculated over-winter survival. For long-lived birds such as **common scoters**, even a small decrease in survival can cause a significant population decline.

They found that if scoters were assumed to move away from disturbance within 2 km, then the presence of proposed wind farms at Burbo Bank, Rhyl Flats and Gwynt-y-Mor in addition to the existing North Hoyle array would not reduce survival.

However, if a wind farm were also built at Shell Flat, then survival would decrease significantly. This is because they could not find enough food on the remaining undisturbed feeding sites.

Uncertainties over some aspects of scoter ecology, such as the sensitivity of flocks to disturbance and whether they feed at night, inevitably translate into some uncertainty over the conclusions. Further research is needed to improve confidence in the model's predictions.

A one hour 'snap shot' (below) of the Liverpool Bay **common scoter** behaviour-based model, shows where common scoters are excluded under the assumption that flocks are disturbed by activities closer than 2 km. Cells with disturbance during this hour are coloured: red shows wind farms, orange shows passage of large ships and yellow shows over-flights by helicopters serving gas exploration rigs. The areas affected by the wind farms are numbered: consented: North Hoyle (1), Rhyl Flat (2), Burbo Bank (3), and proposed: Shell Flat (4) and Gwynt y Mor (5). The intensity of blue shows water depth at this stage of tide. Cells are grey if the water is too deep for feeding or if there is no food on the seabed.



Satellite tracking Grassholm gannets

Whilst colonies of breeding seabirds and their immediate surroundings can easily be monitored and protected from damaging activities, such as over fishing and pollution, seabirds are capable of travelling large distances to good feeding sites, which may coincide with oceanographic features that favour the fish they feed on, such as water temperature and nutrient levels. Knowing where seabirds feed and why they choose those places is equally important in protecting their populations, but technologically much more difficult.

Internationally important numbers of **gannets** nest on Grassholm, one of the Pembrokeshire seabird islands, from which they can reach extensive inshore waters or deeper oceanic areas. In 2006, a team from the Marine Biology and Ecology Research Centre at Plymouth University fitted satellite transmitters to 24 gannets to track their movements during trips to collect food for chicks. The results showed that none of them fed in the Irish Sea. Instead, they all moved south and west into the Atlantic Ocean, covering up to 800 km during a single trip. Food regurgitated by other **gannets** at the same colony showed that they were catching surface-living fish, such as mackerel and garfish, as well as bottom-living fish such, as haddock, that must have been scavenged as discards from fishing boats.

The results are being combined with other data on plankton and diet to explain why these offshore waters provide the best feeding sites.



Gannet



Research update

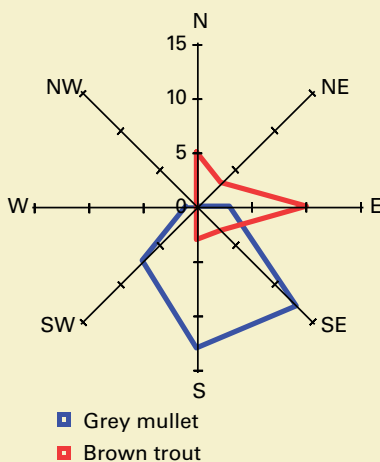


Osprey

Peter Cairns (rspb-images.com)

Glaslyn ospreys prefer seafood

Ospreys first bred in Wales in 2004, and have bred successfully in subsequent years. The nest site near Porthmadog has been strengthened



The Glaslyn ospreys brought different sorts of fish to the nest when returning from different directions

following its collapse during bad weather in 2004. Ospreys are welcome colonists in Wales and the site continues to receive 24-hour protection during the incubation period to guard against egg collectors.

When the ospreys began nesting in Wales, some concerns were raised as to their local impact on commercial angling interests, particularly trout fisheries. As part of its refurbishment, the nest was equipped with a camera to provide live pictures for a public observation point, and this presented the opportunity to study the ospreys' diet in detail. This took the form of an MSc project at Bangor University's School of Biological Sciences, assisted by volunteers.

Over the 2006 breeding season, around 200 fish were brought back to the nest, exclusively by the male bird, made up of five different species. Because the fish live in

different habitats, this diet shows that the osprey hunted over both coastal salt waters and inland freshwaters. This is mirrored by the direction from which the male bird returned to the nest with fish. The most frequently returned fish, grey mullet (50%), were delivered from a southerly direction, presumably caught in the tidal reaches of the Afon Glaslyn and Afon Dwyrdd. In contrast the second most frequent prey, brown trout (25%), was returned from an easterly direction, in which there are numerous upland lakes. Some brown trout are released for commercial angling so were available to the osprey. However, the relatively small size of trout delivered at the nest suggests instead that wild stocks were being selected. Released rainbow trout only made up 12% of the osprey family's diet in 2006. Other fish brought to the nest were sea trout (10%) and rudd (3%).





Mike Lane (rspb-images.com)

Buzzard

Looking forward

Fieldwork for the North Wales Breeding Bird Atlas began in April 2008 and will run for four years. The Atlas will cover the local authority areas of Anglesey, Conwy, Denbighshire, Flintshire, Gwynedd and Wrexham, and will include the whole of the Snowdonia National Park. It will be the first systematic assessment of breeding birds across North Wales covering 1,793 tetrads. It will run alongside and use the same methods as the UK Bird Atlas 2007-11.

Details available from:

www.northwalesbirdatlas.co.uk

To view progress and results from atlasing for breeding and wintering birds across the whole of Wales (and the rest of the UK and Ireland) see www.birdatlas.net



Geoff Simpson (rspb-images.com)

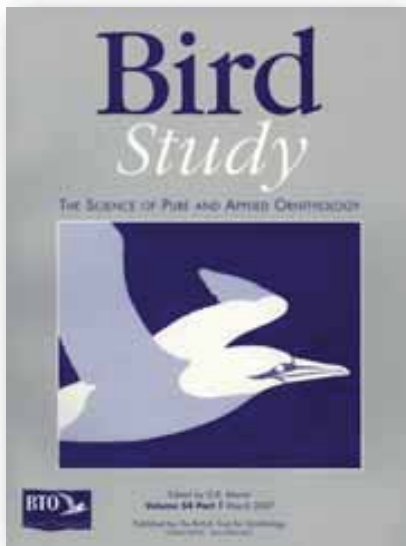
SCARABBS and other surveys

A repeat of the 1993 UK **merlin** survey is being undertaken in 2008. Surveys of **twite** and **corn bunting** are also taking place.

Our knowledge of the state of birds in Wales results from the tremendous efforts of volunteers working in collaboration with the British Trust for Ornithology (BTO), the county bird recording network, the RSPB, the Wales Raptor Study Group, the Welsh Ornithological Society and the Wildfowl & Wetlands Trust (WWT). If you are one of these volunteers, we offer a big thank you. If you are thinking of helping birds in Wales, more volunteers are always needed. Please contact the appropriate organisation (their details are on the last page of this report) if you would like to participate in any surveys or contribute any records. We also thank the landowners and their agents, tenants and employees who have allowed surveyors to visit their land to count birds.

Need to know more about surveys in Wales?

Bird surveys and research are essential to measure progress towards targets. Although it still depends heavily on volunteer birdwatchers throughout the country, counting birds has evolved over recent decades into a highly scientific activity. A number of schemes have emerged, each covering different types of bird during different life stages. In *The State of Birds in Wales* we can only report on some of the more interesting results from surveys or research. In this section we signpost the annual or regular monitoring undertaken in Wales and where full details of the survey results or research relevant to Wales can be found.



Statutory Conservation Agencies and RSPB Annual Breeding Birds Scheme (SCARABBS).

A programme of UK-wide surveys of priority breeding species has been established under the Statutory Conservation Agencies and RSPB Breeding Bird Scheme (SCARABBS). Within this programme, a survey schedule has been established for the priority species until 2018. Results for

Wales are published in *Welsh Birds* with the full UK survey report typically published in *Bird Study*.

Latest reports

UK

Sim IMW, Dillon IA, Eaton MA, Etheridge B, Lindley P, Riley H, Saunders R, Sharpe, Tickner M. 2007. Status of the Hen Harrier *Circus cyaneus* in the UK and Isle of Man in 2004, and a comparison with the 1988/89 and 1998 surveys. *Bird Study* Vol.54 No.2, July 2007. British Trust for Ornithology. Thetford.

Conway G, Wotton S, Henderson I, Langston R, Drewitt A, Currie F. 2007. Status and distribution of European Nightjar *Caprimulgus europaeus* in the UK in 2004. *Bird Study* Vol.54. No.1 March 2007. British Trust for Ornithology. Thetford.

Wales

Wotton S and Conway G. 2008. The Woodlark and Dartford Warbler Surveys in Wales in 2006. *Welsh Birds* Vol.5 No.8, July 2008. Welsh Ornithological Society.

Breeding Bird Survey (BBS)

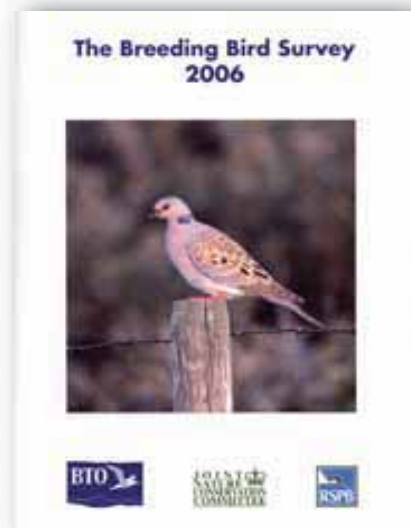
This general survey of widespread UK birds began in 1994 and is designed to measure not population size, but how abundance indices change over time. Only those species recorded in sufficient squares can be included and many species are not covered in Wales. The BBS results can also be used to assess range changes (based on percentage of occupied 1 km squares). A BBS report is produced annually providing details of population trends for UK, England, Wales and Scotland.

The Breeding Bird Survey 2006

Available from:

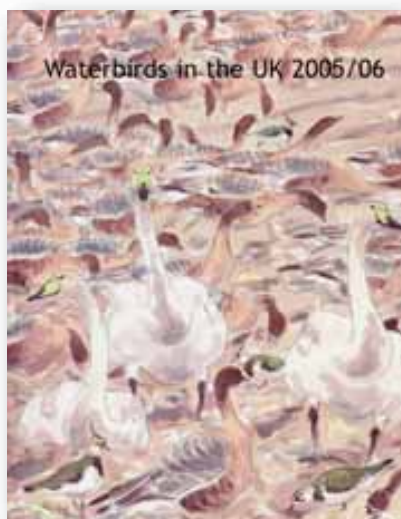
www.bto.org/bbs/results/bbsreport.htm

Bird atlases



Surveys can also tell us what the geographic distribution of different species is and, if repeated, assess range changes. The most comprehensive surveys of this type are the UK bird atlases, which, owing to the amount of work involved, can only take place infrequently – the last between 1988 and 1991. Other local, usually vice-county, atlases have been completed in detail for some areas of Wales and provide more local information usually at a tetrad level (2 x 2 km squares). Fieldwork for the next UK bird atlas, covering both wintering and breeding birds, began in 2007/08. For updates on progress and provisional reports on species coverage, see www.birdatlas.net





The North Wales Breeding Bird Atlas began in April 2008 and will run for four years. The Atlas will cover the local authority areas of Anglesey, Conwy, Denbighshire, Flintshire, Gwynedd and Wrexham and will include the whole of the Snowdonia National Park. It will be the first systematic assessment of breeding birds across North Wales covering 1,793 tetrads. It will run alongside and use the same methods as the UK Bird Atlas 2007–11.

Details available from:

www.northwalesbirdatlas.co.uk

Wetland Bird Survey (WeBS)

Wintering waders, wildfowl and other waterbirds are counted during high tides on estuaries in Wales as part of a UK-wide survey. These data are used to monitor how abundance changes over time, and to trigger alerts when regional numbers, or numbers in internationally important protected areas show significant declines. For some estuaries additional low-tide counts are completed. A WeBS report is produced annually. See www.bto.org/webs

Waterbirds in the UK 2005/06: The Wetland Bird Survey.

BTO/WWT/RSPB/JNCC, Thetford.

Available from: www.bto.org/webs

Seabird Monitoring Programme

Since 1986 the Joint Nature Conservation Committee (JNCC) has co-ordinated a Seabird Monitoring Programme (SMP) across the UK. A sample of Welsh sites are included in this programme.

Seabird numbers and breeding success in Britain and Ireland 2007

Available from:

www.jncc.gov.uk/publications

Other sources of information relating to the State of Birds in Wales 2006 and 2007

Welsh Bird Report

This report produced annually by the Welsh Ornithological Society provides a summary (in the form of a systematic list) of the most important records published in the individual County Bird Report Welsh Bird Report

Available from: www.welshos.org.uk

Welsh Birds

Welsh Birds, the journal of the Welsh Ornithological Society, is produced biannually in June and December. It reports on surveys and research at a National level as well as more locally. The journal also

reports on interesting aspects of bird behaviour, issues impacting on birds and ornithological activity in general in the form of short notes. The December issue is primarily devoted to the Welsh Bird Report and the annual report on Bird Ringing in Wales.

Welsh Birds

Available from: www.welshos.org.uk

County Bird Reports

These reports produced by the local Bird Clubs in Wales provide detailed information on birds recorded (in the form of a systematic list) as well as additional papers relevant to the birds of the local area. A summary of the bird record appears in the Welsh Bird Report (see above).

contact details to obtain all county bird reports included in *Welsh Birds*

Wales Raptor Study Group (WRSG)

Publishes information on numbers and trends of raptors (birds of prey) in Wales.

Report: 2004 Not publicly available.



***The State of Birds in Wales 5* is a joint publication by:**



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The Wildfowl & Wetlands Trust

National Wetlands Centre Wales,
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www.wwt.org.uk

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