

## **Wetland Bird Survey (Core Counts)**

### **Title**

Wetland Bird Survey (WeBS) Core Counts 1954 to present

### **Description and Summary of Results**

The UK is known to hold large numbers of waterbirds in the non-breeding season, both because of its relatively mild climate during the mid winter period and because of its location along major flyways for Arctic-breeding species coming from both northeast and northwest and moving on further south.

The Wetland Bird Survey (WeBS) is the scheme that monitors these non-breeding waterbirds in the UK, and the principal monitoring project within this is now known as the Core Counts Scheme. The scheme aims to provide the data used to help drive the conservation of waterbird populations and indeed of the wetland habitats themselves. The data collected are used to assess the size of waterbird populations, to determine any trends in numbers and distribution, and to assess the importance of individual sites for these birds, in line with the requirements of international conservation Conventions and Directives.

The project is an amalgamation of the National Wildfowl Counts (started under the jurisdiction of the Wildfowl Trust (now Wildfowl & Wetlands Trust (WWT)) in 1954 (although the database only currently holds data since 1960), and the Birds of Estuaries Enquiry (started as a joint project of BTO and RSPB for the winter of 1969-70). (There had, however, been regular counts on some inland waters back to 1947 and on a few sites to the 1930s under the auspices of the International Council for Bird Preservation (now Birdlife International)). The two surveys effectively merged in 1993 to become this Wetland Bird Survey, and it became jointly organised and run by BTO and WWT. At much the same time the Low Tide Count Scheme was set up as a subsidiary project and the main survey became known as the Core Counts Scheme. WeBS is now organised by BTO, on behalf of the partnership of BTO, RSPB and JNCC, and in association with WWT.

Counts are made at about 2000 wetland sites over the course of each winter although larger sites are split into sectors for counting purposes. Sites range from estuaries and large freshwater lakes (the predominant types) through ponds, reservoirs, gravel pits, rivers, canals and freshwater marshes, to sections of open coast. Many sites are counted in every month from September to March with some counted in the other months as well, but a few are only counted once or twice each winter period. Overall the database in 2010 held data from around 5.5 million individual species counts at sites.

For the majority of the scheme's existence only wildfowl and waders were counted but the organisers now ask that observers count all waterbirds including grebes, divers and Kingfishers *Alcedo atthis* although gulls and terns remain optional. In all around 1.5 million waterfowl and 1.7 million waders in Great Britain (and another 250000 wildfowl and 500000 waders in Ireland, with counts in the Republic under the auspices of iWeBS) are counted in the peak months. The highest totals are in November, December and January

although individual species vary both as to peak month and to which are the most important sites.

The success and growth of these count schemes accurately reflect the enthusiasm and dedication of the several thousands of volunteer ornithologists who participate. It is largely due to their efforts that waterbird monitoring in the UK is held in such international high regard.

The database containing the WeBS counts also holds and collects data from several related surveys, especially some of those which cover waterfowl species not well-covered by the WeBS Core Counts Scheme. These include data from the more or less annual counts or surveys of Whooper *Cygnus cygnus* and Bewick's Swans *C. columbianus*, several of the geese which spend much of their time on fields rather than waterbodies, and of seaduck. Counts resulting from the periodic Non-estuarine Waterbird (NeWS) surveys are included, as are those from the Dispersed Waterbird Survey of 2002/03 and which is likely to be repeated. Counts of waders on farmland are not included.

The database does now include records and counts of escaped, feral and other non-native species although those individuals which are pinioned or are otherwise clearly not in a wild state are excluded. However until recent years records of these species were rather variable.

### **Methods of Data Capture**

WeBS Core Counts are made by an observer, familiar with the species involved, surveying the whole of a predefined area and aiming to count the total of all the waterbirds in this area. Counts are made at all kinds of wetland habitats, including lakes, lochs/loughs, ponds, reservoirs, gravel pits, rivers, freshwater marshes, canals, sections of open coast and estuaries. Numbers of all waterbird species, including divers, grebes, cormorants, herons, Spoonbill *Platalea leucorodia*, swans, geese, ducks, rails, cranes, waders and Kingfisher, are recorded, although counts of gulls and terns are optional. All relevant waterbirds are recorded, including escapes and feral or naturalised individuals.

Most waterbirds are readily visible, and most species and many subspecies are readily identifiable during the counts. However sometimes, such as under poor light conditions, it is necessary and acceptable to use categories such as 'unidentified scoter (*Melanitta* spp) species', where it is not possible to be confident of the specific identification. Also it is well-known that some secretive species, such as snipes, are generally under-recorded. No allowance is made for these habits by the observer and only birds seen or heard are recorded. The species and groups affected by such biases are well known and the problems of interpretation are always highlighted as necessary in reports.

Counts are made once per month, ideally on predetermined 'priority dates'. This enables counts across the whole country to be synchronised, thus reducing the likelihood of birds being double counted or missed. Such synchronisation is imperative within large sites, which are divided into sectors. These sectors are normally smaller parts of sites which are specifically-defined to be practicably counted by a single person in a reasonable amount of time. Local Organisers ensure coordination in these cases due to the high possibility of local movements affecting count totals. The priority dates are pre-selected with a view to

optimising tidal conditions for counters covering coastal sites at high tide on a Sunday, although the dates used for individual sites may vary due to differences in the tidal regime around the country. Coordination within a site takes priority over national synchronisation. Observers always note the conditions in which each count was done. In particular, counts suspected to be gross underestimates of the true number of non-secreting species present are specifically noted, eg a large flock of roosting waders which was only partially counted before being flushed by a predator, or a distant flock of seabirds in heavy swell. These counts may then be treated differently when calculating site totals. Data are input either online directly by the observers or sent in on paper forms which are then input. In both cases any particularly unusual counts are checked by the National Organisers and are confirmed with the counters if necessary.

Some observers count their sites more often than monthly. These are incorporated suitably, as are counts from such as nighttime roosts, goose surveys and some *ad hoc* surveys especially of the more remote sites such as open coasts in Scotland. Also international Whooper and Bewick's Swans and Barnacle Goose *Branta leucopsis* counts are included in reports where compatible.

#### **Purpose of Data Capture**

The three main objectives are: 1) to determine the population sizes of all non-breeding waterbirds; 2) to determine any trends in numbers and changes in distribution; 3) to identify overall important sites and the importance of each for each species -- this partly to aid the requirement of the UK in respect of various European and International Conservation Conventions.

#### **Geographic Coverage**

Waterbodies in Great Britain and Northern Ireland, including estuaries, lakes, canals, rivers, reservoirs and stretches of open coast. (Sites in the Republic of Ireland are counted similarly under the auspices of iWeBS.)

In the winter 2007/08 at least one winter count was received from about 3300 sectors of about 2000 sites with 1100 counted every month through September to March.

#### **Temporal Coverage**

The database contains records of: wildfowl from 1960 - present; of waders from 1969 - present; and of other species from the early 1980s or 1990s. There are some wildfowl data from a few sites back to the 1930s although regular counts at sites did not start systematically until 1954.

Counts are carried out each month where possible and where possible on predetermined dates. These are set each year to coincide with the most suitable tide times -- most estuaries are most easily counted at high tide. The larger sites require multiple observers and it is always stated that synchronising locally is more important than sticking rigidly to the set dates if there is a conflict.

### **Other Interested parties**

WeBS is now run as a joint survey with the Royal Society for the Protection of Birds (RSPB) and the Joint Nature Conservation Committee (JNCC), who along with BTO are also the main funders, in association with the Wildfowl & Wetlands Trust.

From the start, the government in the form of the, successively, Nature Conservancy, Nature Conservancy Council and Joint Nature Conservation Committee have provided major funding to both National Wildfowl Counts and Birds of Estuaries Enquiry. The RSPB have part funded the National Wildfowl Counts since the late 1970s and the Birds of Estuaries Enquiry since its inception. The Wildfowl & Wetlands Trust organised and ran the Wildfowl Counts for many years and became co-sponsors of the Birds of Estuaries Enquiry in 1972. Several organisations have contributed to the Birds of Estuaries Enquiry as part of an advisory committee. These include the main parties noted above, the International Wildfowl Research Bureau (IWRB), and the Wildfowlers' Association of Great Britain and Ireland (WAGBI) (now known as British Association for Shooting and Conservation). The Irish Wetland Bird Survey (iWeBS) in the Republic of Ireland run by Birdwatch Ireland is a closely related survey and is modelled on WeBS. Its results are included in the annual report of WeBS.

### **Organiser(s)**

Chas Holt (on behalf of the WeBS Secretariat).

The National Wildfowl Counts (NWC) were initially organised by Phyllis Barclay-Smith and Christopher Dalgety of the International Wildfowl Research Institute (IWRI), based at the British Museum (Natural History). In 1954, organisation passed to the Wildfowl & Wetlands Trust (then the Wildfowl Trust) along with the then central organiser, George Atkinson-Willes. Later the reins were taken by David Salmon.

The Birds of Estuaries Enquiry (BoEE) was organised and run by Tony Prater almost single-handedly from the start in 1969 until 1979 when John Marchant took over and the BoEE extended coverage to the few remaining UK estuaries not already covered by the National Wildfowl Counts (NWC). In 1982 Mike Moser took over and expanded it again, especially to include areas of non-estuarine coast, with the organisation of the "*The Winter Shorebird Count*" in 1984/85. In 1986, Robert Prys-Jones and Jeff Kirby took over running the project. Jeff Kirby was replaced by Ray Waters in 1989 and Robert Prys-Jones by John Cayford in 1992 and then Mark Rehfisch in 1994.

In 1998, running of the whole scheme was handed over to WWT and run by Peter Cranswick, Mark Pollitt and Colette Hall, although the BTO retained the organisation of the Low Tide Scheme. In 2004, the scheme was handed back to the BTO to be coordinated by Andy Musgrove who was joined by Mark Collier until 2008 when Chas Holt took over as organiser of the Core Count Scheme.

## **Current Staff Contact**

webs@bto.org

## **Publications**

The annual report is now produced on the website:

<http://www.bto.org/volunteer-surveys/webs/publications/webs-annual-report/waterbirds-in-the-uk/wituk-2011-12>

A paper annual report is also produced summarising all the counts from WeBS and iWeBS (including Core Counts and Low Tide Counts). This is published under a title such as "Waterbirds in the UK 2007/08: The Wetland Bird Survey" by the WeBS Secretariat (BTO, RSPB, JNCC in association with WWT).

There is also at least one article each year published in *BTO News* following this publication. The main results of the first few years of the Birds of Estuaries Enquiry were published in a book:

Prater, A.J. 1981. *Estuary Birds of Britain & Ireland*. T. & A.D. Poyser, Calton.

Similarly the results from the National Wildfowl Counts:

Owen, M., Atkinson-Willes, G.L. & Salmon, D.G. 1986. *Wildfowl in Great Britain*. Cambridge University Press, Cambridge.

Each year there are several research papers and reports based wholly or partly on the results of the survey.

## **Available from NBN?**

No.

## **Computer data -- location**

The Oracle database holds the definitive WeBS data at any one time. The online Oracle database to which many observers submit data directly is synchronised at least annually with all the data submitted on paper forms.

## **Computer data -- outline contents**

The counts of each species at each site on each date are stored. All current data are stored at the sector level and increasingly all previous data are being input to this level. However some of the earlier data were only input originally at the site level.

## **Computer data -- description of contents**

### **Information held in BTO Archives**

All original cards from BoEE, all WeBS paper forms and all previous paper forms, from the Wildfowl & Wetlands Trust, of National Wildfowl Counts are stored in the BTO Archive area in many archive boxes. They have had a primary sort so that they are broadly in year boxes but much more work needs to be done.

Since 2004, and the advent of WeBS Online some of the data are input directly by the observers and no paper records exist.

All Birds of Estuaries Enquiry cards have been scanned.

### **Notes on Access and Use**

The database is run by the BTO but the data are stored on behalf of the WeBS Secretariat which is a consortium of BTO, RSPB, JNCC in association with WWT. Requests for access to the data are dealt with by the Secretariat rather than BTO per se.

### **Other information needed**

#### **Notes on Survey Design**

#### **Specific Issues for Analysis**