



Goose & Swan Monitoring Programme: National Whooper and Bewick's Swan age assessments

Introduction

Age assessments provide an indication of breeding success, an important demographic factor affecting population status. This information is vital for understanding population change.

Age assessments of swans comprise two measures of annual breeding success: the proportion of young (first-winter) birds in a flock and the average brood size (derived from counts of the number of young per successful pair). In the UK, these assessments are undertaken at wintering sites during a period when the young birds can be readily distinguished from adults. The key survey periods also correspond to a time when the majority of the population should have arrived on the wintering grounds and, therefore, the differing arrival patterns of adults with and without young will not significantly affect the estimates.

Getting involved

First-winter Whooper and Bewick's Swans are relatively easy to identify in the field due to their obvious plumage differences compared with adult birds. Observers must be confident in their identification of each species, particularly in areas where both species are found together. Observers must have some experience of counting birds.

Age assessments are undertaken annually between October and February. Priority count dates are set in order to better coordinate effort at a local and flyway level. However, age assessments made at any time throughout the survey periods are also welcomed.

Survey periods are as follows:

- Whooper Swan: October to January, focusing on mid-January.
- Bewick's Swan: November to February, focusing on December and mid-January.

During their first winter, young swans can be separated from adult birds by differences in plumage characteristics. They also remain with their parents in family units and these families can be identified through behavioural observations. Hence, observers are able to assess the proportion of young birds in a flock as well as identify family groups in order to record brood sizes.

The Goose & Swan Monitoring Programme (GSMP) reports on the breeding success of the Icelandic Whooper and Northwest European Bewick's Swan populations in the UK. Age assessments are undertaken by a network of professional and volunteer observers, and are organised with the help of partner organisations.

Observers will be made aware of the priority count dates in advance of the surveys and the dates will also be posted on WWT's monitoring website (monitoring.wwt.org.uk/get-involved/).

Anyone interested in helping with the national Whooper and Bewick's Swan age assessments should contact WWT's Monitoring Unit (see Contact). We will check to see if sites of interest are already being covered, and also help with any necessary survey coordination.

A summary of the results from breeding success surveys are presented in the GSMP annual newsletter, which is freely available, and also on the species account pages of WWT's Waterbird Monitoring website along with the results from other GSMP surveys (monitoring.wwt.org.uk).



Whooper Swans © Kane Brides

Methodology and counting techniques

Survey sites

Any sites supporting Whooper or Bewick's Swans can be visited, including inland wetlands, agricultural areas, temporary grassland, temporarily flooded fields and estuaries.

Age assessments are usually undertaken during the day at feeding sites, when the birds are less clumped and family groups tend to be more obvious. However, in some circumstances, counts may be undertaken at roosting sites.

Equipment

Binoculars (useful for quickly scanning a flock but not always suitable for carrying out age assessments), telescope and tripod (or window-clamp if using the scope from a car), notepad and pencil, tally counter(s). A digital voice recorder can also be useful when surveying large flocks.

Recording forms

Preferably, age assessment records should be submitted online at WWT's Waterbird Monitoring Online: monitoring.wwt.org.uk/recording. Instructions explaining how to complete the online form are available on the website.

Paper recording forms are available: please contact WWT's Monitoring Unit (see Contact). Alternatively, a form can be downloaded from the GSMP Network page of WWT's Waterbird Monitoring website (monitoring.wwt.org.uk/our-work/goose-swan-monitoring-programme/gsm-p-network/). Completed forms should be returned to WWT's Monitoring Unit.

Carrying out an age assessment

Before carrying out your age assessment you first need to find a suitable vantage point. Choose a location from which you can see the majority of the flock. Usually you need to be within a few hundred metres of the flock to gain the best view, though this varies with weather conditions. However, be careful not to get too close as this can make it difficult to scan through the flock effectively, plus you may also inadvertently 'spook' the birds causing them to flush. Also, try to position yourself so the sun is behind you to help reduce glare.

Once settled in a suitable location, record the basic information about your visit: date, time, location of the flock (site name and grid reference), habitat type and an estimate of the flock size.

It is not usually possible to assess the proportion of young and brood sizes at the same time. Separate scans of the flock are normally required to obtain these data. Age ratio data should be collected first, then if time and conditions allow, move on to collecting brood size data.

Be aware that if you are able to record some brood sizes during your age count, you need to avoid

Count conditions

In order to gain an accurate age assessment, it is important to carry out the counts in good conditions. Weather can be a constraining factor, with cloud, heavy rain or fog potentially making accurate counts impossible. Windy, rough and wet conditions also tend to cause birds to hunker down which can make ageing more difficult. High levels of disturbance can also reduce count accuracy if the birds are highly unsettled: be careful not to disturb the birds when approaching or leaving the site. If conditions are poor, it is worth considering undertaking the count on another day.

For coordinated assessments, if a survey is not possible on the pre-determined count dates then assessments made two days either side of these dates will be included in the data analysis.

Information required

The following data should be recorded during an age assessment:

- Date and time start/finish
- Location of the flock: site name and grid reference
- Habitat type
- Species
- An estimate of the total number of birds in the flock
- Total number of birds aged (adults plus young)
- Total number of young
- Brood sizes
- Name of observer(s)

recording the same broods more than once when you scan through the flock again: for example, large broods may be easier to detect and are, therefore, more likely to be counted again.

Recording the proportion of young in a flock

Start your scan at one corner edge of the flock and then systematically work your way through the birds. Try to identify the age of as many individuals as possible using the distinguishing characteristics.

Do not spend too long trying to age a bird, as you may lose track of where you have got to in the flock. If a bird is obscured from view, wait just a few seconds to see if it emerges before moving on to the next bird.

Whilst scanning through the flock, we suggest using a tally counter to record either the number of birds aged or the number of adults whilst keeping a tally of the number of young in your head. Alternatively, you may prefer to use a digital voice recorder or a combination of the two. Either of these methods is particularly useful if you are a lone observer; if there are two of you, you may find it easier if one of you scans the flock whilst the other records the data.

Recording brood sizes

To undertake a count of brood sizes *i.e.* the number of young in a family unit you will first need to identify the individual families. Whilst some families may be obvious, you may need to watch other potential groups for a while to be certain that they are indeed a family.

The following behaviours will help you identify a family unit:

- Families tend to stick close together, with the cygnets following the adults around.
- Often a family acts as a unit, altering their behaviour at the same or similar time; for example, the family stops feeding and sits down or they all walk to a puddle to drink. Watching for such changes in behaviour may reveal families within a flock.

Access and safety reminders

Always ensure you have all the necessary permissions for access to sites. Please remember to carefully follow any subsequent instructions from the site owner.

Counters should not put themselves in a position that could place them, or others, in danger. Please take appropriate precautions if visiting remote sites. WWT does not take any responsibility or liability for any actions and subsequent consequences from the activities of counters.

Contact

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- W: monitoring.wwt.org.uk/

- There are usually two adults accompanying a brood; although a brood can be recorded if only one adult is present.
- One of the adults may be 'on guard' (*i.e.* alert).
- Family units tend to defend territories as a group.

When watching a family, be aware that young birds may have wandered away from the rest of the group, particularly in the case of larger broods. You may need to watch a family for several minutes before you are certain that you have noted all the young birds. Once you are confident that you have identified a family unit, record the number of young in the brood.

It is important that brood sizes are recorded in a systematic way so that certain brood sizes are not over recorded *e.g.* it is more likely that you will detect large broods and miss the smaller ones.

Useful references

For further details about GSMP national goose & swan age assessments, please see the 'Breeding success' page on WWT's Waterbird Monitoring website: monitoring.wwt.org.uk/our-work/goose-swan-monitoring-programme/breeding-success/

Gilbert, G, D.W. Gibbons & J. Evans. 1998. *Bird Monitoring Methods*. RSPB. Sandy.

Mullarney, K., L. Svensson, D. Zetterstrom & P.J. Grant. *Collins Bird Guide: the most complete field guide to the birds of Britain and Europe*. HarperCollins, London.

Ageing guide

Cygnets (first-winter birds) of both Whooper and Bewick's Swan have grey plumage and pink or white bills, rather than yellow. First-winter birds will retain much of their grey plumage throughout the winter; however, the bills of some individuals may start to show yellow towards the end of the season.

In both species second-winter (yearling) individuals may retain juvenile plumage, particularly in Bewick's Swan. However, their bills will have changed to be yellow and black, though some Bewick's Swans may still show spots of pink. Second-winter birds should be classed as adults during an age assessment.

Bewick's Swan

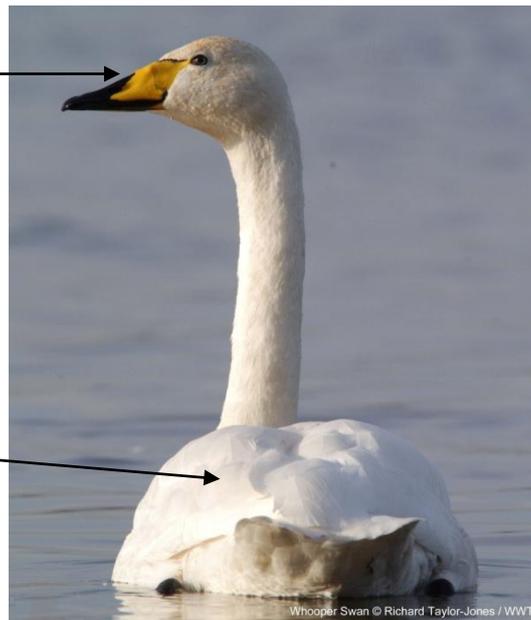
Adult



Yellow and black bill

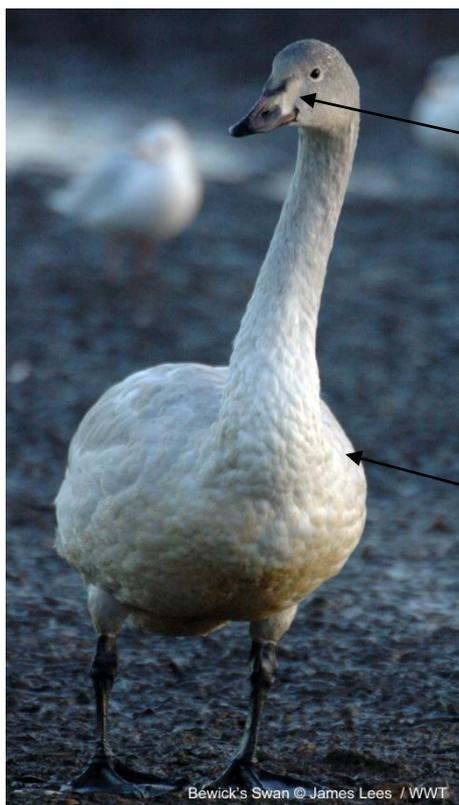
White plumage

Whooper Swan



Whooper Swan © Richard Taylor-Jones / WWT

First-winter



White or pink, and black bill

Grey plumage



Whooper Swans © Kane Brides / WWT



Bewick's Swan



Whooper Swan

The Goose & Swan Monitoring Programme (GSMP) monitors numbers and breeding success of native geese and migratory swans in the UK during the non-breeding season. GSMP is organised by WWT in partnership with JNCC (on behalf of CNCC, NE and NRW) and SNH.



Goose & Swan Monitoring