

## Bewick's and Whooper Swans *Cygnus columbianus bewickii* and *C. cygnus*: the 1991-92 season



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The 1991-92 swan season followed a fairly typical pattern. A few Whooper Swans arrived at Welney, Caerlaverock and Martin Mere in late September, but the main influx occurred in October and early November, with spring migration taking place during the second half of March. Bewick's Swans were first recorded in mid-October, with numbers increasing steadily throughout November and early December, presumably as the birds moved to Britain from sites in the Netherlands. Bewick's Swan spring migration commenced in late February, as normal, but good numbers were still present at Slimbridge until the second half of March.

There has been a steady increase in the number of both Bewick's and Whooper Swans recorded at Martin Mere and Welney in recent years, and this season was no exception. A total of 4641 Bewick's Swans was recorded at Welney on 13 January and 778 Whooper Swans on 26 February, which were both record figures for the reserve. A count of 848 Bewick's Swans at Martin Mere on 21 January was second only to the phenomenal 1046 recorded at the site during the 1990-91 winter, and 631 Whooper Swans roosting on the Mere on 22 November was a new record for Lancashire.

The proportion of cygnets recorded at Welney and Martin Mere indicated that the 1991 breeding season had been below average for Bewick's Swans, with some 10-12% cygnets recorded in the population. The 22.5% juveniles in the 488 Bewick's Swans recorded at Slimbridge during the course of the winter therefore suggests that there was a bias in the distribution of family parties to different parts of the wintering range. The Whooper Swans generally had a good breeding season with estimates ranging from 22-25% cygnets in the herds at Martin Mere and Welney, whilst

14.6% juveniles were found in 171 Whooper Swans counted at Caerlaverock on 15 December.

### Review of the season at Trust Centres

#### *Slimbridge*

The first three Bewick's Swans to visit the New Grounds arrived on 23 October, an average date, and included "Saturday", a regular visitor to Slimbridge, first recorded at the site in the 1978-79 winter. Numbers rose rapidly to 47 by 28 October, but the swans left the New Grounds during early November with numbers dropping to four by 7 November. The missing birds were identified by bill pattern and ring number at Walmore Common, some 10 km north of Slimbridge on the opposite bank of the River Severn. In November 1991 the British Government designated Walmore Common as a site of international importance under the 1971 Ramsar Convention because of its importance as a feeding and roost site for the Bewick's Swans. In previous years the swans only roosted at Walmore when the fields were flooded but the excavation of a new pond in the centre of the Common last summer enabled the birds to remain at Walmore throughout November, although conditions were generally dry. Numbers at Walmore peaked on 20 November, when 97 were counted at midday. The swans began to return to Slimbridge that afternoon, however, and 76 were seen roosting on the Slimbridge pools at dusk.

A dramatic swan-fall occurred during the last week of November and early December with numbers rising to 182 by 28 November and to 217 by 8 December. There were no further large influxes before the end of the year but numbers rose slowly to reach 235 on 23 December. From mid-

month the swans were provided weekly with a supply of potatoes placed around the edges of the Tack Piece scrapes on the reserve and these proved to be a major attraction for the group of birds roosting on Swan Lake for the rest of the winter.

Results of the long-term study of Bewick's Swans at Slimbridge have shown that these birds can have a long life-span. Sadly our oldest known bird, named "Prongy" failed to return this season, having spent 26 consecutive winters at the site. Her mate, "Porcupine", arrived alone on 21 November and, since Bewick's Swans are generally monogamous, we must sadly conclude that "Prongy" has died. Two other birds present this winter, named "Lyre" and "Flue", are known to be at least 26 years old since they were both first seen as adults during the 1968-69 winter. They stand to break the longevity record set by "Prongy" if they return next season.

With dry conditions prevailing until the New Year the bulk of the birds remained within the New Grounds or on adjacent pastures to feed during the day, and particularly favoured a two-year old re-seeded pasture at the north end of the reserve. With an absence of standing water during December at Walmore Common, this important alternative Gloucestershire site failed to attract birds in any number, the maximum count being 14 on both the 4th and 6th of the month.

Numbers at Slimbridge rose steadily in the New Year reaching 263 by 7 January. Numbers then dropped slightly as a group of 70 birds returned to Walmore, taking advantage of a brief spell of deep flooding. A cold snap mid-month produced a further influx to Slimbridge and resulted in the peak winter count for the site of 322 birds on 22 January. No birds were present at Walmore on this day but they soon returned there as milder conditions prevailed, and a group of 70-80 birds were to remain at Walmore throughout February. This group included only two ringed birds and consisted mostly of birds new to Slimbridge which had made little use of the grain supply in the Rushy Pen.

At Slimbridge the remaining birds fed mostly in fields on the refuge. Swans from the two separate roost groups largely stayed apart during the day; the Swan Lake birds favouring the potatoes on the Tack Piece whilst those from the Grounds Pens spent most time on the Lathbury Scrape

and around the New South Lake, where they discovered rich grazing that had been fenced off from use by the collection geese.

With the departure of birds to Walmore, numbers at Slimbridge dropped to 299 by 14 February and to 279 by 27 February. However, a simultaneous count on the latter date found 76 birds at Walmore giving a combined total of 355 for the two sites which proved to be the highest count of the winter for Gloucestershire. Numbers at both Slimbridge and Walmore held up well into the first days of March but mild temperatures and tail winds from the southwest caused numbers at Walmore to drop to 46 by 7 March. A clear moonlit night on 10 March resulted in a major departure with birds leaving in groups of up to 20 from 17.30 hrs onwards and by the morning of 11 March just 164 swans remained at Slimbridge while the Walmore flock dropped to five. Departures thereafter were on a smaller scale with numbers at Slimbridge dropping to 125 on 15 March, 75 on 17 March, 34 on 23 March and to 16 by 26 March. Just three Bewick's Swans remained in early April.

A total of 485 Bewick's Swans was recorded at Slimbridge during the course of the winter, including 111 (22.9%) juveniles, both very similar figures to last winter. The mean brood size was 2.37 cygnets per family. The proportion of new birds to the site was again high; just 184 (49.2%) of the 374 adults and yearlings had been recorded at Slimbridge in previous years.

Three Martin Mere ringed birds appeared during the course of the winter; all had been ringed last winter as cygnets. A further 60 swans ringed at Slimbridge, not seen at the site during 1991-92 but reported elsewhere during the winter, included 11 at Martin Mere, 17 at Welney, one elsewhere in Norfolk, three in Ireland, 27 in the Netherlands and one in Germany.

### *Welney*

The Welney swan season started on 28 September with the arrival of a pair of Whooper Swans, including one bird (ringed PST) that had been caught in Iceland during the summer months. A further six Whoopers landed at Welney on 1 October but the build-up in numbers was slow and only 100 were present by the end of the month. The first two Bewick's Swans of

the season appeared on the reserve during late afternoon on 14 October and 1438 were present by 2 November, including several birds that had been ringed at Slimbridge or Martin Mere in previous years. There was an influx of both species to the reserve during early November, and the mid-monthly count on 11 November found 2043 Bewick's and 477 Whooper Swans at the site.

The swans quickly settled into their usual routine of roosting on the reserve, then flying out to feed on arable fields during the day. Initially the birds fed on spilt grain in stubble fields, then moved onto sugar beet and potatoes left after the harvest. Local farmers kindly donated further quantities of waste potatoes, which were put out daily onto the reserve. Further sections of electricity power-lines were marked by the Eastern Electricity Company during the autumn, to make the wires more obvious to the birds. Unfortunately the swans did not feed in fields near the marked wires this season, however, so although the birds did not collide with these particular cables, some 50 swans died due to flying into overhead wires in the Welney area during the winter.

Swans continued to arrive at Welney throughout November and by early December 500 Whoopers and 4029 Bewick's Swans were present at the site. A short spell of very cold weather then caused the birds to disperse to areas of open water elsewhere on the Ouse Washes, however, and the mid-December count found only 410 Whoopers and 2460 Bewick's Swans on the reserve. Milder conditions towards the end of the month brought the swans back to Welney and counts rose again to 606 Whoopers and 4163 Bewick's by the end of the year. Several swans that regularly winter at Welney were recorded during this period, including the Whooper Swan named "Cod", who had been re-ringed in Myvatnsheidi, N. Iceland in August 1991, having lost his darvic ring in 1990. He had originally been ringed at Welney during the 1984-85 winter.

January saw a further rise in swan numbers; a total of 716 Whooper Swans was recorded at Welney on 8 January and 724 Whoopers were counted over the whole of the Ouse Washes on the same day. Of 535 Whoopers whose age was recorded, 121 (22.6%) were cygnets, indicating that 1991 was a good breeding year for the popula-

tion. Bewick's Swan figures also rose to 4641 birds roosting at Welney on 13 January, which was the maximum count of the season and a record number for the reserve. Some 5542 Bewick's Swans were counted throughout the Ouse Washes during the day. The age of 1180 Bewick's Swans was ascertained on 4-5 January and 150 (12.7%) were found to be cygnets. Heavy rainfall in mid-January resulted in extensive flooding and the loss of suitable roost sites at Welney, so the swans spread further afield across the washes. The flood levels dropped in late January, however, and the birds recommenced roosting on the main lagoon; some 733 Whoopers and 3412 Bewick's Swans were again present by the end of the month. At this time two Bewick's Swans that had been marked with neck-collars in the Netherlands were sighted, and also one bird that had been fitted with a satellite transmitter.

Numbers fell slightly in early February since the swans started roosting on the section of the washes closest to their daytime feeding sites, rather than returning to the main lagoon, but the mid-month count on 17 February yielded 677 Whoopers and 2192 Bewick's Swans at Welney. During the count a Bewick's Swan that had been marked with a leg-ring and neck-collar (S17) on the Pechora Delta, Russia, on 4 August 1991 was sighted on the main lagoon, together with its unringed mate. The Bewick's Swans started to leave Welney on spring migration from 20 February but the arrival of some new birds, presumably from sites further west, pushed the numbers back up to 2355 on 28 February. A phenomenal 778 Whooper Swans were seen on 26 February, which was the highest count of the winter and also a new record for England and Wales.

Good numbers of swans stayed into March, with 592 Bewick's Swans still present on 7 March, and 483 on 16 March. Whooper Swan counts found 750 birds still present at Welney on 5 March and 624 on 16 March. Around 100 Bewick's Swans and 400 Whooper Swans were still in the area on 22 March, but just three Bewick's and c.60 Whoopers remained on 30 March.

A total of 74 Bewick's Swans and 39 Whooper Swans were identified by ring number at Welney during the winter. Of the ringed Bewick's observed, 18 had been ringed at Welney, 29 at Slimbridge, 20 at Martin Mere, one at Caerlaverock, five in

the Netherlands and one in Russia. Eleven of the ringed Whooper Swans observed had originally been ringed at Welney in previous winters. Of the remainder eight had been ringed at Caerlaverock, one at Martin Mere and 19 at various sites in Iceland. One Bewick's Swan was ringed for the first time, on 8 February, and a further six Bewick's Swans were recaptured, including one that was re-ringed.

#### *Caerlaverock*

A group of eight adult Whooper Swans arrived at Caerlaverock at 9.30 am on 27 September, the same date that the first birds arrived at Martin Mere. The Caerlaverock group included three ringed birds that had been caught at the site in previous winters and they headed immediately for the Folly Pond. Thereafter numbers crept up slowly to reach 36 on 15 October and 90 on 27 October. Further arrivals pushed the total up to 141 by 18 November which included only 14 cygnets (9.9%), indicating a fairly low breeding success. However the proportion of cygnets increased as the winter progressed with successful breeding pairs arriving later in the season. By December it was clear that the breeding season had been better than at first feared with 25 (14.6%) cygnets present on 15 December out of a total of 171 birds. This proved to be the maximum count of the winter, a little down on the 1990-91 season. Numbers remained fairly constant, however, with 140-170 birds present on the refuge throughout the winter, reaching 171 again on 19 January.

The Whooper Swans at Caerlaverock generally exhibit a high level of winter site fidelity and this season was no exception. Of the 153 birds identified by the end of the year, some 139 had originally been ringed at Caerlaverock, one had been ringed at Welney, three at Martin Mere and just 11 at sites in Iceland including two birds ringed as cygnets of Caerlaverock-ringed birds. The Icelandic-ringed birds came from a variety of sites: seven from Skagafjörður, N. Iceland, three from the Myvatn area and one from Jokuldalsheidi, E. Iceland. In addition, 46 birds were newly ringed at the site during the course of the winter. A further 27 swans ringed at Caerlaverock in previous years but not seen at the site during 1991-92 were reported elsewhere during the winter. These

included two birds in flocks nearby in Dumfries, two on Orkney, two elsewhere in Scotland, six at Martin Mere, seven at Welney, one in Yorkshire and seven in Ireland.

Bewick's Swans no longer visit Caerlaverock in the numbers that they did in the early 1980s, when up to 77 birds regularly spent the winter at the site. It was pleasing, therefore, that following the arrival of the first Bewick's Swan on 28 October, increasing numbers of birds visited the reserve during November and December, with a peak count of 23 birds on 15 December. Numbers then dropped, but up to nine birds remained in the area and were seen on the reserve on a regular basis throughout January and February. These included one of the only two birds that had been ringed last winter at Caerlaverock during a catch of the Whooper Swans. The other Bewick's Swan ringed at Caerlaverock in 1990-91 was also recorded this winter, but at a site on the Eden Valley in Cumbria.

With a shorter flight back to their Icelandic breeding grounds than the Bewick's Swans from Siberia, Whooper Swans tend to stay later in their winter quarters and often remain at Caerlaverock well into April, albeit in diminishing numbers. Counts at the site remained high into March with 166 present on 8 March and 148 on 23 March. There were no major departures until 24 March when large groups of swans were observed leaving the reserve during the afternoon and by the next morning just 41 birds remained on the Folly Pond. However numbers then increased to 62 on 26 March suggesting a through-put of birds from wintering sites further south. On 1 April, 38 Whoopers (including 17 juveniles) and one Bewick's Swan were still present at the site.

#### *Martin Mere*

The first two Whooper Swans of the season arrived at Martin Mere on 27 September but numbers rose only slowly to 18 on 10 October, 41 on 17 October and 90 on 20 October. Roost counts fluctuated between 250-300 Whoopers during the last week of the month following a Whooper "Swanfall" on 22 October. The Bewick's Swans did not reach Martin Mere until 22 October, when two birds were seen at dusk. The following morning one was identified as a swan that had been ringed at Martin Mere during the 1990-91 winter. "Fibre" was also sighted at

Welney on 21 October 1991, whilst *en route* to Martin Mere. The first major influx of Bewick's Swans occurred during the afternoon of 27 October, with 139 birds present by the end of the day. These included 11 ringed birds that had all been caught in the Martin Mere swan pipe, which was used for the first time last winter. The new arrivals also included a yellow-legged swan with its mate and four black-legged cygnets. The dawn count on 31 October found 529 Bewick's and 254 Whooper Swans on the reserve. Half of the Whoopers and three-quarters of the Bewick's Swans were roosting on the Mere with the remainder on Vinsons and Sunleys. One of the 20 Bewick's Swans marked with leg-rings and neck-collars in the Russian arctic last summer (Swan S15) was also seen at Martin Mere on 31 October and immediately came up to feed in front of the Gladstone Hide, indicating that it had been to Martin Mere in previous years. It was subsequently reported at several sites in the Midlands and NW England, including Kingsbury Water Park near Birmingham on 23 November, Maesbrook near Oswestry on 31 December and at Heswall, Merseyside on 4 January.

Bewick's Swan numbers dropped slightly in early November to 400-450 present each evening, and only 250 came in to roost during the third week of the month. Over 300 Whooper Swans were seen from 5 November, rising to 479 on 15 November, and a count of 631 on 22 November was a new record for both Martin Mere and Lancashire. Bewick's Swan counts also improved in late November, with 706 seen at dawn on 22 November, and over 700 continued coming in to roost for the rest of the month. During the day first the Bewick's Swans, and then both species, were to be found feeding on waste potatoes in a field adjacent to the reserve, and on a nearby field of winter wheat. Potatoes put out on the Top Mere also held good numbers of swans on the reserve throughout the day. A survey of the surrounding area indicated that virtually all the birds were concentrated at Martin Mere, with none to be found at other swan sites such as Banks Marsh, Longton Marsh and Hoscarr Moss.

Most of the swans remained at Martin Mere during December, although a period of very cold weather from 7 to 12 December caused all the swans to roost on the Mere, since the water on Sunleys and Vin-

sons was completely frozen. During the second week of December the swans transferred from the winter wheat and potatoes to feed mainly on shooting barley, which the farmer had left after the harvest last summer for the specific purpose of diverting the birds from his newly sown fields. Some 200 swans also moved to improved pasture about 500 m from the reserve in mid- to late December. A dawn count on 13 December found 844 Bewick's and 510 Whooper Swans at Martin Mere, with 500-600 Bewick's and over 500 Whoopers present to the end of the year. A Whistling Swan with an asymmetrical bill pattern was seen on Outer Vinsons on 17 December, which could be the same bird seen at the Wexford Slobs, Eire, two days later. Sadly the Bewick's Swan named "Flossie" died at Martin Mere on 21 December, at an age of at least 22 years. She was first recorded at Slimbridge as an adult bird during the 1971-72 winter but transferred her allegiance to Martin Mere in 1982-83.

The tendency for both Bewick's and Whooper Swans to remain at Martin Mere, or in nearby fields, continued into the New Year, although 155 Bewick's Swans were seen on the Ribble Estuary (mostly on Longton Marsh) on 19 January. Some 749 Bewick's and 549 Whooper Swans were seen at Martin Mere at dawn on the same day. Heavy overnight frost and freezing fog in mid-January encouraged the birds to remain on the reserve, rather than flying to the fields to feed. A total of 848 Bewick's Swans on 24 January was the maximum count of the season for the site; over 750 Bewick's and 500 Whoopers were seen regularly during the first half of February.

The Bewick's Swans apparently started on their spring migration towards the end of February, as normal, although some birds transferred to Longton Marsh. Some 743 Bewick's Swans were still at Martin Mere on 13 February, but only 485 Bewick's were present with 488 Whooper Swans during the dawn count on 25 February. The group of 214 swans at Hutton and Longton Marsh on 23 February probably did not return to Martin Mere to roost. Over 400 Bewick's were seen at Martin Mere on 26 February but just 37 remained on 3 March. The Whooper Swans left later, as usual, but numbers declined to 397 on 2 March, 376 on 4 March, 259 on 17 March, and just 27 birds remained on 26 March, together with one Bewick's Swan.

*Arundel*

The first Bewick's Swan arrived at Arundel on 31 October and up to three birds roosted in the wild area during the first week of November. Numbers increased to around 30 by 8 December with birds feeding on the nearby levels and arriving at dusk to roost on the reserve. A lone cygnet spent two days on Swan Lake before rejoining the flock.

In the New Year the Arun valley flock moved to their usual haunts around Amberley and Pullborough with up to 90 birds present, leaving Arundel deserted except for a single bird briefly on 9 January. However the birds returned to the Arundel roost at the end of the month with numbers increasing from 23 on 31 January to 86 on 1 February. This represented the bulk of the flock although a small group also roosted nearby at Knepp Lake, Horsham. Mild weather at the end of February caused a rapid departure with all swans vacating the valley by the end of the month.

**Russia**

Following the International Swan Symposium held at Oxford in December 1989, Dafila Scott and ECR received an invitation from the Research Institute of Nature Conservation and Reserves to study the breeding biology of Bewick's Swans on the Russki Zavarot Peninsula, north of Nar'Yan Mar, in collaboration with Russian scientists. In all, two to three weeks were spent on the tundra, together with Dr Y. Shchadilov (from the Research Institute), Dr Y. Mineyev (Academy of Sciences, Ural Department) and Dr Y. Morozov (Institute of Endocrinology). Aerial and ground surveys were made to estimate the breeding density of birds in the area and the proportion of breeding birds in the population. The results will be compared with the results of previous surveys of the same area made in the early 1980s (Shchadilov & Orlov 1987).

A total of 26 nests was inspected during

the ground surveys, in an area of 5 km<sup>2</sup> around the camp at Khabuika, some as little as 200 m apart. Mean clutch size was 3.9 (SD  $\pm$  0.9) eggs, which is reputedly higher than usual perhaps due to the unusually mild weather during the spring. Egg size and nest dimensions, the composition of the nest and surrounding vegetation, and also the nest-site coordinates, were recorded in each case. Samples of the nest material were collected for C-14 analysis at the Institute of Ecology to determine whether the birds used the same nest mounds over several seasons. The nesting birds were checked for rings and their bill patterns drawn for identification in future years. The identification of particular birds is important for studies of site fidelity and of factors affecting the breeding success of individual pairs. Droppings were collected for faecal analysis, to determine the food selected by the birds. A brief look at the broken swards in the swans' feeding areas indicated that the birds had been feeding on a range of *Carex*, *Ereophorum* and grass species. Continuous behavioural observations were made of three of the Bewick's Swan pairs.

Three ringed swans that had been marked in Britain were seen in some 100 territorial or breeding birds near the camp, but no ringed birds were found among 602 non-breeding birds seen north of Khabuika on 24-25 June. One of the three ringed birds was identified as a swan named "Ieuan" that had been ringed at Martin Mere on 13 December 1990. He was seen incubating four eggs on the tundra on 26 June 1991 and returned safely to Martin Mere on 1 December 1991.

Following our visit, a team from the local Hunting Inspectorate caught 20 Bewick's Swans in the study area, and fitted them with blue leg-rings and neck-collars. Sixteen of these birds have now been recorded at wintering sites in NW Europe, including one bird (S15) seen at Martin Mere and one (S17) at Welney. Plans for developing the study and for making two further expeditions to the tundra in 1992 are now well under way.

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