

Research

The Wildfowl Trust's contribution in 1972

Early in the year our monograph '*The Swans*' was published. This team venture, aimed at presenting scientifically based facts in a readable and attractively illustrated form, appears to have been successful, to judge by initial sales. Other publications by staff, or using Trust material and facilities, are listed on p. 176. Since 1953, when our research effort began to bear fruit, there have been 283 papers by staff and 131 assisted by us, together with six books and three booklets. We believe that research without communication is largely wasted.

The long-term monitoring services of the Trust, based on the counting and ringing of wildfowl, were continued and are summarized in the following pages. The duck counts entered their 25th year. Following the decision to place the Third London Airport at Foulness, the Department of the Environment made funds available for connected research. Some of this came to the Trust to enable aerial surveys to be made of the Brent Geese and to develop techniques of catching and marking them.

Research on the feeding ecology of geese at Slimbridge and Caerlaverock continued to make good progress and is already paying dividends in improving the management of our refuges (p. 123).

The individuation and behaviour studies

on the Bewick's Swans at Slimbridge were maintained, and extended to Welney. Some alarming facts on the hunting pressure exerted on these protected birds were brought to light (p. 56). An important new comparative study on the flamingos at Slimbridge was begun by Dr P. Kahl, from Florida. The Bristol Ph.D. study on the orientation of birds was completed by A. Whiten, giving definite proof of their measurement of the sun's position in the sky to estimate their displacement in latitude. A Cardiff M.Sc. study by I. McAlpine-Leny was brought to a successful conclusion with the development of a telemetry system for recording heart-rate of free-swimming and diving ducks.

Investigations of the nutrition and growth of young birds led to improved methods of husbandry. Similarly, the post-mortem examinations continually monitored the health of the captive birds and suggested methods for their better care. Much preserved material was made available to our museum and to outside workers. A Cardiff Ph.D. study on avian sperm structure and fertility by P.N. Humphreys was completed.

Towards the end of the year we were heartened by a magnificent gift of £30,000 from Mr Jack Haywood. This will enable the building of the Research and Education Centre to be continued into Phase II.

Wildfowl censuses and counts in Britain, 1972-73

Goose censuses

Pink-footed Goose *Anser brachyrhynchus*. 73,000 Pinkfeet were counted during the annual autumn census held over the weekend 4-5 November 1972. This is 8,000 more than the previous year but only 1,000 more than in 1970. The breeding season was rather poor with 11.4% young birds and mean brood size of 1.6.

European White-fronted Goose *Anser albifrons albifrons*. There was a peak count of 9,000 in mid-January 1973. The mild winter undoubtedly contributed to this figure being lower than might have been expected from the excellent breeding season

experienced (42.2% young, mean brood size 2.7).

Greenland White-fronted Goose *Anser albifrons flavirostris*. The second poor breeding season in succession (12% young birds) led to a reduction in numbers at the main haunts covered during the winter.

Greylag Goose *Anser anser*. The annual autumn census on 4-5 November 1972 produced a total of 68,000 Greylags, about 4,000 more than the previous year. Breeding success was below average with 15.1% young birds and mean brood size 1.8.

Barnacle Goose *Branta leucopsis*. The Svalbard population reached a record peak of 4,400 on its Solway wintering grounds following a good breeding season (28.9% young, brood size 1.8). The Greenland population had a less good breeding season (12.1% young, mean brood size 2.1). The first complete census of this population to be carried out since 1966 took place between 25 March and 8 April 1973. The total of 23,600 compared with 20,000 in 1966.

Duck Counts

Shelduck *Tadorna tadorna*. Few birds had returned before the turn of the year, but thereafter numbers soared to the second highest monthly index recorded.

Teal *Anas crecca*. The drying out of the latest polder in the IJsselmeer was expected to produce an influx of Teal. November saw the highest count since the hard winter of 1963. By December the wave appeared to have moved through and there were unusually high numbers in the Camargue and in the Marismas.

Mallard *Anas platyrhynchos*. Over the whole season Mallard were substantially lower than for several years. Not only had the British production been poor, but immigrants did not move into the country on account of the mild winter.

Wigeon *Anas penelope*. Large numbers were again present on the Ouse Washes,

Light-bellied Brent Goose *Branta bernicla hrota*. The maximum count at Lindisfarne, Northumberland, was only 400. In Ireland an early November census revealed about 12,000 which is similar to the total counted in the previous census in November 1970.

Dark-bellied Brent Goose *Branta bernicla bernicla*. An excellent breeding season (44% young birds) helped the total to a new record of 28,000 in mid-January.

M. A. O.

but overall the index was not exceptional, again presumably because of restricted immigration.

Pochard *Aythya ferina*. The very high level of last year was maintained, the index being the same.

Tufted Duck *Aythya fuligula*. Overall there was little change in levels reached in recent years. In Scotland, however, numbers were down and may reflect poor breeding in this segment of the population which is largely home-bred or from Iceland.

Seasonal indices 1972-73 (1959/60 = 100)			
Shelduck	121	Wigeon	124
Teal	75	Pochard	193
Mallard	87	Tufted Duck	134

International Wildfowl Census 1972-73

The seventh census was held in mid-November 1972 and mid-January 1973. The full computer analysis of the international counts is under way.

G. L. Atkinson-Willes
Jennifer M. Coldrey

Wildfowl ringing in Britain, 1972

Trapping at the main stations was hampered by the mild weather, both early and late in the year. Not only did this mean fewer immigrants from the mainland of Europe, but those that did arrive found a wide range of abundant food sources. Furthermore, the British-breeding Mallard had a poor production year due to inclement spring weather. Thus there was not the usual abundance of naive, easily trapable youngsters in the early autumn. The overall total of duck ringed, 5,304, was, however, almost exactly the same as in the previous year.

The cage traps at Abberton were once

more by far the most successful and provided the richest variety of species (see Table 1). Mr King again acted as warden for the 1,240-acre reservoir on behalf of the Essex Water Company and helped materially to improve their public-access site and observation hide. Borough Fen had the poorest take since the present operator, Mr Cook, took over in 1958. The 'lead' on the decoy pond just did not build up. However, intensive efforts with the cage traps operated on the ballast pits of Deeping Lake a mile away nearly doubled the catch there. The combined total was not very different to last year's. Mr Cook carried out

Table 1. Ducks ringed by the Wildfowl Trust, 1972

	Abberton	Nacton	Borough Fen	Deeping Lake	Slimbridge	Others	Totals
Shelduck	6	.	.	.	.	.	6
Pintail	36	207	.	9	2	14	268
Teal	698	103	199	19	.	3	1,022
Mallard	1,043	651	566	522	222	28	3,032
Gadwall	13	1	1	1	1	.	17
Wigeon	59	133	.	9	1	1	203
Garganey	12	.	.	.	.	.	12
Shoveler	22	11	.	3	2	.	38
Pochard	105	.	.	4	.	.	109
Tufted Duck	534	1	.	54	.	.	589
Scaup	4	.	.	.	.	.	4
Goldeneye	2	.	.	.	.	.	2
Smew	2	.	.	.	.	.	2
Totals	2,536	1,107	766	621	228	46	5,304

a number of orientation releases, and also served on committees concerned with the effects on wildfowl of the proposed Empingham Reservoir and the Wash Barrage schemes. Mr Revett in his first full year at Nacton kept level pegging with the previous year which had seen the retirement of his illustrious father-in-law decoyman. He also began orientation releases and was able to break new ground with Wigeon and Pintail, as well as Mallard.

At Slimbridge the small catch in the decoy is now normal because of the greatly increased counter-attractions of the surrounding grounds housing the captive collections. Bewick's Swans were caught in useful numbers, 91, and were dye-marked as well as being ringed, weighed, measured

and X-rayed (p. 56). The more numerous recaptures and repeats were particularly important in this study, as in that at Abbotsbury and Radipole, South Dorset, on the colonially-breeding Mute Swans—44 ringed.

At Caerlaverock, cage-trapping began on a small scale and useful knowledge was gained on the siting of traps. A lot of effort went into attempting to rocket net Barnacle Geese, but without success because the birds persisted in feeding on the sanctuary merse rather than on the farm fields. A new venture, cannon netting Brent Geese in the Foulness area, began in October by Mr St. Joseph, but had not been fruitful by the year's end.

M.A.O.

Education

The Wildfowl Trust's contribution in 1972

The demand for the Trust's educational facilities continued to increase and some 25,000 children from 712 schools took advantage of the facilities for day visits. The Youth Hostels Association Field Study Centre is now operating smoothly and twenty-two courses concentrating mainly on wildfowl and their environment were supervised by Trust staff. Two one-day courses for in-service teachers were held at Slimbridge. Eight final year students from Redland College of Education assisted with

the schools programme from May to July. Professor Matthews and Dr Kear again provided a series of lectures for the psychology and zoology departments at Bristol and Cardiff Universities. External lectures were given to thirty-six societies.

A new display in the form of twelve double-sided wall book panels was prepared for the New Observatory at Caerlaverock.

E. E. Jackson