

Appendix C*Shoveler case studies**Case A*

On 10th April 1962 in an area of fresh grazing marshes which had been a nesting ground in previous years a Shoveler drake was seen harrying the female of a pair in a typical high intensity three-bird flight. Afterwards, the pursuing drake planed back and landed on a freshwater fleet. Immediately, another male who had been standing on the bank walked quickly into the water, swam through a screen of reeds and began vigorous head pumping at the male which had just landed. The latter backed away from the displaying drake who continued head pumping for another minute before advancing further. The original pursuer retreated again and then simply "hung about". Previously a female had been glimpsed in the reeds and similar incidents of this type suggested that the displaying male was in fact defending its mate. On "walking the birds up" the original pursuer flew off alone, whilst the female from the reed bed flew off with the drake which had been displaying. The first drake had therefore been a marauder rather than a territorial defender.

Case B

An incident seen on 9th April 1962 further illustrates the behaviour of marauding drakes and the maintenance of "mated-female distance". Two pairs were standing some 50 yards apart near a freshwater fleet. Single, apparently marauding males, were continually flighting in the area and one stood staring at one pair from about fifteen yards distance. Occasionally the paired male nearest the single male would rise to pursue flying males which came too close, but it made no objection to the other pair and the odd male which stood nearby. After about twenty minutes the single male suddenly flew straight at the pair it had been watching and landed between the male and female, practically touching the latter. All three exploded into the air and after vigorous aerobatics the paired drake drove the intruder away. None of the birds returned, the pair and marauder moving off in different directions.

Case C

Another instance of pair-bond defence was observed on 12th April 1962 at 05:50 hrs. when a drake was noted head pumping at another which was swimming towards it on a freshwater fleet. Close observation revealed that the swimming bird was making towards a paired female partly hidden in a reed bed. As the intruder approached, the head pumping of the paired drake became more violent until, when the intruder was two feet distant, he flew at him, rushing over the water calling and stabbing at him. In spite of a further attack from the paired drake the intruder flew at the female, forcing her to take off. The paired male flew after them and not only succeeded in getting between the intruder and his own female, but he forced the intruder away by stabbing at him in flight and then pursuing him over the water surface.

Wild ducks and swans at the New Grounds

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IN the *Ninth Annual Report* (1958) there appeared a survey of the status of ducks on the River Severn at the New Grounds and in the Wildfowl Trust's enclosures based on counts made between 1947-1957.

The object of this present survey is to bring the picture up to date, in fact to the end of the 1962-3 winter. Counting in the winter has been slightly more regular in recent years than in the past, thanks to changes in the behaviour of the wild geese, which have made it possible to count ducks with less disturbance to geese than used to be the case. Monthly counts between September and March have been made both in the Decoy and adjacent pens, an area of 40 acres, and on the River Severn half-a-mile away between Frampton Pill in the north-east and Purton Breakwater and the Royal Drift in the south-west, at low tide an expanse of mud two and a half miles by one mile, bordered by a strip of high saltmarsh some hundreds of yards wide. During the last four years frequent counts have also been made during the summer giving valuable information on the departure and arrival dates of wintering species and confirming unpublished records on summering birds made in the early 1950's.

Many species flight regularly between the Trust enclosures and the river and despite segregation in some instances the two areas will be considered as a unit but with two parts. The counts of each are made as nearly together as possible for an accurate assessment of the total population. To save constant reference to the earlier survey, the main points raised then will be mentioned again under the appropriate species heading.

The status of Bewick's and Whooper Swans is also discussed.

MALLARD *Anas platyrhynchos*

The local breeding population of this species has been subject to much interference. In the summer of 1948 130 hand-reared birds were released to help establish a 'lead' on the Decoy pool. The increase in breeding pairs following this was so great that by 1956 moulting adult birds were being caught each summer and taken away before being released, and in more recent breeding seasons eggs and young have been collected and sent away in considerable numbers. Coupled with this attempted reduction of the summer population, in the last four winters the great majority of the Mallard caught in the Decoy, totalling over 3,600, have been released at distances between 10 and 150 miles from Slimbridge to try and reduce the numbers living in the pens during the winter and save on the food they consume.

Although the count of Mallard in the enclosures fell in 1959-60, the first winter of transporting, the numbers have since climbed above the 1957-1959 average peak of 450-500, providing a new maximum of 718 on 17th November, 1962. These figures are daytime ones; each evening a large flight of Mallard takes place from the river to the pens. In the Decoy alone 3-400 birds was a common evening count in the autumns of 1961 and 1962. (The Decoy is now rarely used as a resting place by more than a few Mallard).

Counts on the river have shown an increase from an average annual peak of 540 in the years 1951 to 1957, to 1240 in the last five winters. Although the Mallard has shown a steady increase in its wintering population in Britain in the last fifteen years (Eltringham & Atkinson-Willes, 1961) the numbers at the New Grounds have grown at a much greater rate than in the country as a whole. During the hard weather of early 1963 a new maximum count of 2550 was made on 14th January 1963, though on this occasion the numbers in the pens, at 250, was about one-half the normal.

Estimates of Mallard numbers in summer have been based on counts of breeding pairs and counts on the river. The breeding population has risen from about 100 pairs in the early 1950's to probably over 200 pairs in the last few summers. The bulk of these nest within the enclosures with not more than 25 pairs in the surrounding area. On the river 2-300 are usually present throughout the spring and summer, building up rapidly to an August peak of over 1000 as the local breeding birds and their young join into flocks.

TEAL *Anas crecca*

As explained in the earlier survey, this is the hardest species to count accurately and the population is subject to rapid fluctuations in numbers as large flocks of birds move through the area. Counts on the river have revealed little change in numbers compared with earlier years, with the peaks over the last six seasons ranging between 390 and 1700. The latter count on 17th December, 1961 equalled the previous highest number of Teal recorded at the New Grounds just ten years before.

Most of the Teal leave in March, but up to ten have summered in recent years and breeding probably took place in the area in 1962. Numbers build up again during early August.

The enclosures are rarely favoured by Teal, which never become tame, the Decoy being the favourite haunt, though less commonly visited now than in the past, 40-50 being the maximum recorded in recent years.

GARGANEY *Anas querquedula*

No change has taken place in the status of this species, still an annual visitor to the enclosures in very small numbers, mostly between March and September. Although most records are of singles or pairs, up to six (five of them males) were present between March and June, 1959. One bird was present from September to December, 1960.

GADWALL *Anas strepera*

The true extent to which wild Gadwall visit the New Grounds has been obscured by the release of full-winged hand-reared birds which have since bred in the area. Before this happened, up to six wild birds had been seen, and ringing has revealed that immigrants from the continent are still regular winter visitors. Birds caught between August and March have been recovered in Sweden, Poland, Germany and southern France in subsequent autumns. However, so few Gadwall have been ringed either in Britain or on the continent that there is no full picture of the distribution or movements of this species into which the Slimbridge results can be fitted.

Apart from occasional excursions to the river, the Gadwall at the New Grounds spend most of their time in the enclosures. Recent maximum counts in winter of 30-35 show a very slight increase in the past decade.

WIGEON *Anas penelope*

This has always been the most numerous winter visitor to the river, with four of the last six seasons producing peaks of over 2000, and a maximum count of 3000 on 17th December, 1961 equalling the previous highest recorded in December, 1954. Though an increase can be detected in the period since 1957 over the average peaks for the previous six years, the fluctuations that took place from year to year obscure any true rise in numbers. This is typical of the picture over the country as a whole (Eltringham & Atkinson-Willes *op. cit.*).

The maximum numbers are present in the area from November to January and the bulk of the Wigeon have departed by mid-March with only small flocks staying into April. Arrivals in autumn are uncommon before the middle of September.

Wigeon occasionally come into the pens and Decoy in some numbers, particularly during rough weather, but counts of over 100 have been made only rarely.

PINTAIL *Anas acuta*

The increase of this species at the New Grounds in the first ten years after the war has apparently levelled out, with an annual peak between 200 and 300. There is considerable movement between the river and the pens, and the whole population may at any time be in one or other of the areas. The tendency in recent years has been for the birds to spend the day on the river, coming in to feed at night in the pens. Some days, however, as many as 200 may sit out on the Big Pen lawn taking little or no notice of people near them. The maximum count of 500 was made on the river in late December, 1954.

Pintail arrive at the New Grounds later than the other winter visitors and there are rarely more than 40 before the middle of November. Departure is usually in early March.

SHOVELER *Anas clypeata*

The increase in wintering numbers of this species has continued with between 50 and 100 now regularly present compared with a range of 30-70 six years ago. Like Pintail, Shoveler move a great deal between the river and the pens, though preferring the latter. A maximum figure of 400, considerably above the next highest count, was recorded on the river on 8th February, 1959. This influx was short-lived and the count a week later at 110 was only slightly above average. The reasons for it remain obscure.

Ringling has shown that our native birds together with early immigrants from western Europe move south during September and October mostly to France and the Iberian Peninsula. Later arrivals reaching Britain from November onwards have come from Scandinavia and Russia. Peak numbers at the New Grounds are reached in the winter months though on many waters in Britain the maximum counts are made in March and April.

TUFTED DUCK *Aythya fuligula*

Before 1960, Tufted Ducks were recorded as occasionally occurring in the pens in some numbers, though this was nearly always during a spell of hard weather, maximum 110 in February, 1956, and the resident winter population was very small. During the winter of 1960-61 a late evening flight, taking place usually about one hour after sunset, was noticed coming into the pens. Counts of between 150 and 200 were made and the probable origin of these birds traced to the gravel pits some two miles to the north-east where winter counts of 200-250 are made. The flight has been noticed in each of the succeeding winters with maximum figures around 150, starting in late October and ceasing in early March. The birds show distinct preferences in the pens they go to, choosing those in the south-east part of the enclosures, particularly the rather deep "African" pen.

Small numbers are occasionally seen on the river; an exceptional figure of 70 in January, 1963 was in very severe weather when the local gravel pits were frozen and the population of 100-150 from there was living in the enclosures and sometimes flying out to the river.

POCHARD *Aythya ferina*

Although an isolated figure of 150 Pochard was recorded in November, 1947, this species is a rarer visitor to the area than the Tufted Duck. Up to ten flighted in regularly with the Tufted Duck in 1960-61, though not noticed in subsequent winters. Small numbers occur at times on the river and in the enclosures, with a maximum of 60-70 during hard weather early in 1963. A possible resident winter population of 10-25 that seemed to be forming between 1956 and 1960 has now disappeared.

SHELDUCK *Tadorna tadorna*

Shelduck have been counted for longer and more regularly, summer and winter, than any other ducks at the New Grounds. The number of pairs that nest on the New Grounds side of the estuary is very small in proportion to the adults present in the spring and summer. The greatest number of ducklings seen in the area in any year was 87 during July, 1951, the progeny of about a dozen pairs. The total of apparently non-breeding birds present at this time

was about 100. The number of young hatched each year varies between 30 and 70 with no apparent signs of change in the numbers of pairs nesting.

All or nearly all of the adults leave the area to moult in early August but before this day-to-day fluctuations of considerable size take place in the numbers of adults present, particularly in late July. These are attributed to local movements and to passage through the area of birds from further afield, the latter being more important. On 17th July, 1962, a maximum count of 276 was made, yet just one week later only 20 birds remained. Support for these fluctuations being attributable to a moult migration comes from the recovery of a Shelduck caught in the Decoy in May, 1955 and found on the Wash on 20th August, 1959, having been dead at least a month. Shelducks on passage in late summer have been seen leaving eastwards, presumably *en route* for the Heligoland Bight. They do not appear to go to Bridgwater Bay, the only known English moulting area (Eltringham & Boyd, 1963).

The autumn and winter figures show wide variations from year to year, the counts in some years remaining below 50 until February, in others rising to over 100 in mid-September.

Only one nest of wild Shelduck has ever been found at the New Grounds when a pair bred successfully in the Decoy wood in 1957. This pair was ringed at the time and have been recaptured together in the Decoy in June, 1959 and May, 1960, though breeding has not been proved again. Intensive searching in the whole area has failed to discover any more nests.

BEWICK'S SWAN *Cygnus columbianus bewickii*

This species is now established as a regular winter visitor to the New Grounds. Prior to 1955, there were two or three reports, the most recorded being seven birds. Since then Bewick's Swans have appeared each year in steadily increasing numbers staying for longer periods and have simultaneously shown a growing tendency to come down in the enclosures for food. Until 1959, the swans did not usually arrive before late December or January and departed again in February, but in the last four winters the first birds have come at the beginning of November and some have stayed until early April.

The maximum recorded is 39 which were present briefly on 13th March 1962, before most of them flew off towards the north-east already on migration. The most here for any period is 24 during January and February, 1963, all of them roosting by the river during the day and flighting into the pens in the evening to feed.

Four birds have been caught and ringed, one fewer than the total in the whole of Britain, and though none have been recovered one bird, first ringed in the spring of 1961, has since returned to spend each of the two succeeding winters at the New Grounds.

WHOOPEE SWAN *Cygnus cygnus*

There have been five occurrences of singles or pairs of this species at the New Grounds. On only one occasion has a bird stayed more than a few days, in 1961 when one was here most of January to March, coming frequently into the pens.

Vagrants

There has been no change in status of any of the duck species to visit the New Grounds as vagrants. The only new species to have been recorded here since 1957 is Red-breasted Merganser. The list is as follows:

BLUE-WINGED TEAL *Anas discors*

Single drake in the pens in December, 1956.

AMERICAN WIGEON *Anas americana*

Single drake on the river on 9th March, 1946.

RING-NECKED DUCK *Aythya collaris*

Adult male in the pens, 12th-14th March, 1955.

SCAUP *Aythya marila*

Two on the canal, February, 1956, and individuals in the pens January-March and November-December, 1960.

GOLDENEYE *Bucephala clangula*

Six occurrences in winter and spring from the river and pens involving thirteen birds.

LONG-TAILED DUCK *Clangula hyemalis*

Three winter records on the canal totalling four birds.

COMMON SCOTER *Melanitta nigra*

Several winter records on the river or canal, maximum five birds. A single male on the river, June, 1957.

RED-BREASTED MERGANSER *Mergus serrator*

One 'red-head' on the river April-May, 1960.

GOOSANDER *Mergus merganser*

Five winter records from the river involving one or two birds on each occasion.

SMEW *Mergus albellus*

Four winter records from river and pens. Singles except for 14 in early February, 1956.

References

- (H. BOYD). 1958. Wild ducks at the New Grounds 1947-57. *Wildfowl Trust Ninth Ann. Report* : 26-32.
 ELTRINGHAM, S. K. & G. L. ATKINSON-WILLES. 1961. Population changes of British ducks, 1948 to 1960. *Wildfowl Trust Twelfth Ann. Report* : 40-57.
 ELTRINGHAM, S. K. & H. BOYD. 1963. The moult migration of the Shelduck *Tadorna tadorna* (L.) to Bridgwater Bay, Somerset. *British Birds* :

Additional voice recordings of the Anatidae

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In the *Twelfth Annual Report* a list was published of all the forms of Anatidae whose voices were known to have been sound recorded (Boswall, 1961a). Since then a number of new gramophone records have appeared (Boswall, 1961b and in press) and other recordings have been made, which considerably increase the number of forms recorded—hence this supplementary contribution.

Available recordings

Scott (1957) lists 247 living forms of 147 species of Anatidae 61 forms of 55 species appeared in the earlier list (*op. cit.*) as having their voices available on either commercial or BBC gramophone records. All the new recordings are