

THE WATERFOWL COLLECTION

The accommodation for the tame waterfowl at the New Grounds consists, at present, of about 17 acres of low-lying rushy fields, which surround the duck decoy and through which runs a sluggish little stream or rhine. Round the perimeter an eight-foot fox-proof fence has been put up and ponds, fed from the rhine, have been dug in the various paddocks, with bulldozer and dragline.

Into the earliest of these enclosures the first birds were released on the 20th September, 1946. These consisted of about 50 geese which were lent to the Trust by Major Gavin Maxwell. The pride of this collection were two pairs of Emperor Geese (*Anser canagicus*). There were also such great rarities now as five Ross's Snow (*Anser rossii*), two Swan Geese (*Anser cygnoides*), a Red-breasted (*Branta ruficollis*), a Lesser Whitefront (*Anser erythropus*), a Magpie Goose (*Anseranas semipalmata*), and an Orinoco Goose (*Neochen jubata*) as well as a number of the commoner kinds—altogether some 18 species and sub-species. From then on the collection has steadily grown until today it consists of 440 birds of over 70 different species and sub-species.

As the enclosures are open to the public and as the objects of the Trust are scientific and educational, a small allocation of coupons for feeding-stuffs has been made but, luckily, the geese live mainly upon grass and the ditches grow a liberal supply of duck-weed, which forms a staple diet for many of the ducks.

Of the Director's fairly large pre-war private collection only a dozen birds survived. These, however, were sent to the New Grounds by those generous people who had been looking after them during the war. In addition a number of wild-caught birds of the commoner species were sent by wildfowlers from various parts of England during the winter.

Such were the beginnings of the collection which was placed under the loving care of the Trust's Curator, Mr. John Yealland.

During the long period of severe weather at the beginning of 1947 feeding was a difficult problem because the grass was snow-covered for so long, but, in spite of that, losses were very small. A Maned Goose (*Chenonetta jubata*) which died on the night of the lowest temperature was the only casualty directly attributable to the hard winter.

The female Magpie Goose and the female Orinoco (both species which feel the English winter) were shut up in a small thatched hut during the worst of the cold, and so well did they come through that the Orinoco made a nest in the hut and the first egg was laid on 1st April—only three weeks after the bird had been given the run of the whole pen. Eight eggs were laid but were infertile, of course, as there is no male of this species in Europe. We had been hoping to obtain a male from America before this breeding season, but meanwhile an accident occurred to her in the autumn when her left leg was dislocated, the bone breaking through the skin. For some weeks it was in plaster but she has made an excellent recovery and now walks with only a slight limp. An interesting feature of the Orinoco's nest was that the female Magpie Goose, who is an inseparable companion, shared the incubation of the eggs. Since the eggs were infertile the two birds were given two Mallard's eggs to hatch. Only one hatched and did not survive very long as it could not keep up with its long-legged foster mother. The bird has nested again in 1948, but she still has no mate.

The Breeding Season (1947)

The following birds nested in 1947 :—

1. Greylag (*Anser anser anser*), 1 pair.
2. Greater Snow (*Anser hyperboreus atlanticus*), 3 pairs (2 pairs, 2 nests each) and 1 unmated female.
3. Blue Snow (*Anser hyperboreus carulescens*), 1 pair and 3 unmated females.
4. Ross's Snow (*Anser rossii*), 2 pairs (1 pair 2 nests) and 2 unmated females.
5. Barhead (*Anser indicus*), 1 pair.
6. Emperor (*Anser canagicus*) 1 pair.
7. Cackling (*Branta canadensis minima*), 1 female mated to Lesser Canada gander (*Branta canadensis leucopareia*).
8. Cereopsis (*Cereopsis novae-hollandiae*), 1 pair.
9. Upland (*Chloephaga picta*), 1 pair (2 nests).
10. Orinoco (*Neochen jubata*), 1 unmated female.

The eggs from these nests were incubated by hens. Fertility was exceptionally bad and many eggs did not hatch. Many, especially among Ross's and Emperor did not get out of the eggshell satisfactorily or died in the first day or two. We had some trouble also with hens which were too heavy and clumsy and with avian tuberculosis which was evidently given to the goslings by their foster mothers. The final results therefore were rather disappointing. The following young geese were reared :—

- 1 Greylag
- 7 Greater Snows
- 2 Blue Snows
- 1 Ross's Snow
- 2 Barheads
- 2 Cereopsis.

In addition to these a number of eggs were brought to the New Grounds from various sources. Two hundred and fifty duck's eggs of various rare species were sent from Iceland, but unfortunately only 30 of them hatched, owing, no doubt, to the jolting sustained on the journey. A number of Tufted Duck (*Nyroca fuligula*) eggs were sent from Scotland, and a few eggs of various species from other sources.

As a result the following additional young birds were successfully reared :—

- 3 Black Swans (*Cygnus atratus*)
- 2 Common Shelducks (*Tadorna tadorna*)
- 3 Gadwall (*Anas strepera*)
- 4 Pochard (*Nyroca ferina*)
- 11 Tufted Ducks (*Nyroca fuligula*)
- 5 Scaups (*Nyroca marila marila*)
- 5 Barrow's Goldeneye (*Bucephala islandica*)
- 1 Redbreasted Merganser (*Mergus serrator*)

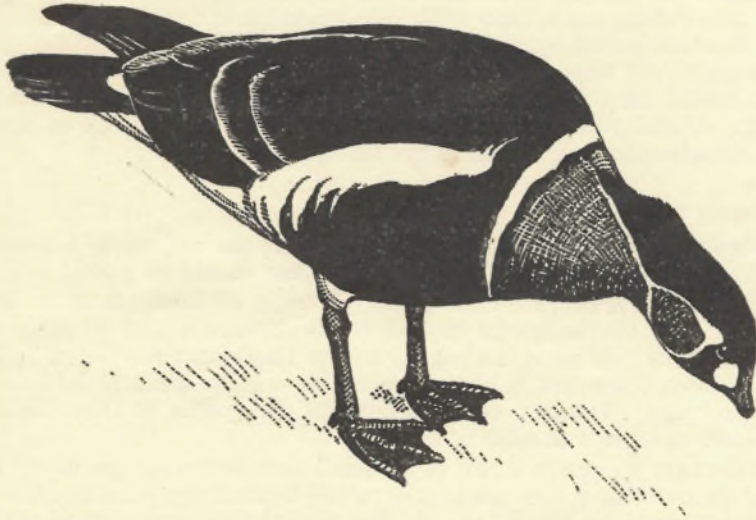
Three little Mergansers were hatched, and required 600 sticklebacks per day from the beginning. This was later augmented by eels. The largest bird died suddenly at about six weeks old, apparently damaged internally by a stickleback's spine. The next largest contracted a staphylococcal infection in the legs when fully feathered, from which it died. The third bird, which had been the runtling from the first, also contracted this infection, but it was treated with penicillin which effected an immediate and miraculous cure. The infection returned twice in less severe form and was similarly treated each time. The bird subsequently grew up perfectly healthy.

Acquisitions and Exchanges

In the course of the year many other species were acquired from various sources. A number of young birds came from Mr. Spedan Lewis's collection at Leckford, Hants, where they had been reared by Mr. Terry Jones; others came from Colonel Lumsden at Sluie in Scotland, from the late Sir Gerald Ryan at Chattisham in Suffolk, from Mr. Alfred Ezra at Foxwarren in Surrey and several others.

A shipment of birds—a pair of Lesser Snow Geese (*Anser hyperboreus hyperboreus*), a Western Canada Goose (*Branta canadensis occidentalis*) (not pure bred) and a Cackling Goose (*Branta canadensis minima*) (the latter two to make up pairs)—came from the U.S.A. on the *Queen Elizabeth*. Four Eastern Greylags (*Anser anser rubrirostris*)—the pale, pink-billed sub-species—and some Ruddy Shelducks arrived from Calcutta, and a pair of Coscoroba Swans (*Coscoroba coscoroba*) from South America, by way of Holland. An Emperor Goose (*Anser canagicus*) came from M. Jean Delacour's collection at Clères in Normandy and a pair of Greenland Whitefronted Geese—the newly described *Anser albifrons flavirostris*—through the good offices of the Zoological Society of London, from Greenland, via Denmark.

In turn the Trust has sent birds to America (including one Redbreasted Goose, which travelled in the *Queen Mary*), to France, to Holland, and to a number of public and private collections in this country, including the London Zoo, Whipsnade, the Bristol Zoo, St. James's Park, and many others.



Full-winged Tame Birds

Most of the birds at the New Grounds are exceptionally tame and a great many will feed from the hand. It is particularly attractive to stand beside one of the newly dug pools surrounded by 100 or more ducks, geese and swans which cluster so closely round one's feet that especial care has to be taken to avoid treading on them.

Although most of the birds are pinioned, a proportion have been left full winged, including a Barhead, a Barnacle, some Greylags and a small flock of Greater Snow Geese—three adults and four of the young birds reared during last summer at the New Grounds. These birds were kept full winged for use in the film production of *The Snow Goose* by Paul Gallico. This production has been postponed for the time being.

The adults had previously always been feather cut and it was interesting that they are still considerably less expert at flying than their offspring. When their wings first grew they were surprisingly bad at it, and commonly tried to make down-wind landings, with disastrous results.

They did not normally fly far from the New Grounds, but early on, soon after they had learnt to fly, the four adults (as there then were) were blown up to the canal by a wind. One was caught up and brought back, a pair flew back on their own, but the fourth remained absent and was lost. Two days later the bird, which was ringed, was deliberately shot by a village youth who knew well enough where it had come from. He was prosecuted for larceny, pleaded guilty and was fined £5 and costs. He has since joined the Trust. Since then the full-winged Snow Geese have never strayed. They fly round daily looking very beautiful and free but they always settle again in the pen. Often they fly across the pen at feeding time and settle at one's feet.

Four Pinkfeet grew full wings in July and used to fly out to the Dumbles to feed, taking a full-winged Whitefront with them. The origin of this Whitefront was obscure as the register showed eight pinioned Whitefronts, yet this bird was the ninth and unpinioned. We were never able to discover how it got into the Rushy pen, but it had evidently moulted out there. This was the bird which brought a wild male into the pen, as described on page 41.

Three of the four Pinkfeet gradually joined up with the wild flock during October, but the fourth remained paired to a pinioned female and settled down in the pen.

Another full-winged bird was a Greylag (called Mabel) who was tame enough to stand on one's hand while one raised her from the ground. When she had finished feeding from the other hand she would fly down to the ground. Unfortunately she flew into the Egyptian Goose's (*Alopochen aegyptiaca*) pen and before she could go elsewhere she was so badly mauled that she died next day. Mabel was a serious loss to the collection, but with as many as 400 birds such occasional accidents are unavoidable.

The Pens

Before proceeding to a list of the waterfowl in the collection, a description of the pens completed during the Trust's first year should be given.

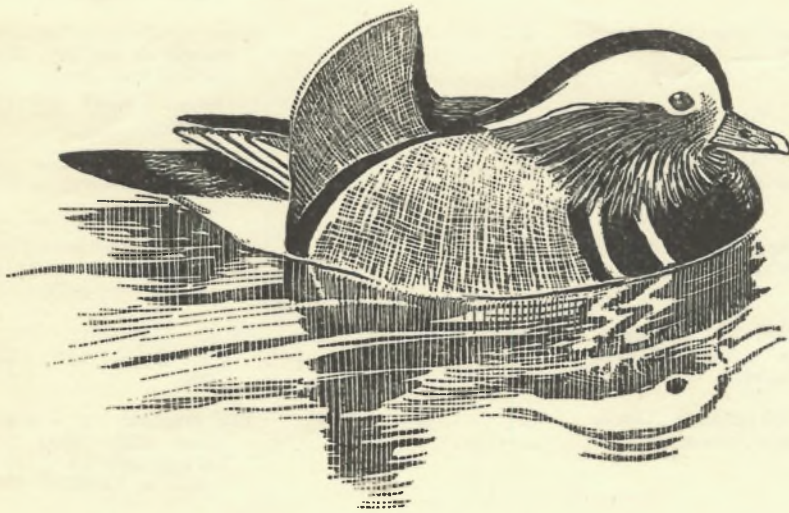
The largest enclosure is a long narrow strip of some ten acres running down the side of the decoy and beyond it. It contains a pool 30 yards across and a "corridor" of grass leading up to the Headquarters. There is also a system of ditches and low banks which enable various areas to be flooded at will by pumping. This pen contains most of the species of Grey Geese and Snow Geese and also a number of ducks.

Within this big pen is a row of six small pens bordering the decoy wood. Here the quarrelsome species are kept in pairs—Upland, Egyptian and Cereopsis Geese and some of the Shelducks. At the corner of the decoy wood and close to the cottages are three pens which have been made more or less rat and stoat resisting. The first of these is the "Orchard Pen" with a newly dug pond. In one corner of it stands the old duck house in which the decoy catch was previously kept, but which now houses food and equipment for the collection. The second pen is called "The Wood"; this also has a new pond and rather thicker cover than the orchard. And the third is "The Jungle" which has very dense cover. In these three pens the smaller ducks are kept—the various Teal, the Mandarins (*Aix galericulata*) and the Carolinas (*Aix sponsa*) and a few of the small geese to keep down the grass.

On the other side of the lane leading to the sea-wall and the Dumbles is the "Rushy Pen." This is an enclosure of about five acres with two large ponds, one with two and one with one island. The larger of the two ponds

is seven feet deep and the smaller one five feet at its deepest, so in this pen live the diving ducks and a number of the geese as well. It was here that most of the geese bred last summer. The Rushy pen also contains some smaller enclosures including a range of "new arrival" pens walled with straw thatch.

Finally, at the back of the decoy itself the supply rhine has been divided into a series of long narrow enclosures suitable for a few geese. The accommodation of the birds in these separate paddocks is a complicated affair. Quarrelsome or rough birds must be segregated; brothers and sisters must be divided to ensure unrelated pairs, and so, too, must nearly related species; birds which have mated with the wrong species must be separated, and moved far enough to prevent the affair continuing through the wire netting from the next pen. Geese must, on occasion, be moved out of earshot. To satisfy all these requirements is often as complicated as a jig-saw puzzle.



List of Waterfowl

The following birds made up the Trust's collection in February, 1948 :—

<i>Species</i>	<i>Male</i>	<i>Sex Unknown</i>	<i>Female</i>	<i>Remarks</i>
Whooper Swan (<i>Cygnus cygnus</i>)	—	1	—	Reared at Leckford, 1947.
Mute Swan (<i>Cygnus olor</i>)	—	1	—	Rather a backward cygnet, sent by a Member in whose garden it had suddenly turned up.
Black Swan (<i>Cygnus atratus</i>)	1	—	1	Reared at New Grounds from eggs laid at Kew Gardens, 1947. Feed from hand.
Coscoroba Swan (<i>Coscoroba coscoroba</i>)	1	—	1	From South America via Holland. Quite tame but will not yet feed from hand.
Greylag Goose (<i>Anser anser anser</i>)	3	—	3	Four hand-reared and 2 wild-caught on the Tay. One of latter is full-winged. Hand-reared females too young to breed.
Eastern Greylag Goose (<i>Anser anser rubrirostris</i>)	2	—	2	From Calcutta Zoo. Early origin unknown. Rather tame.
Whitefronted Goose (<i>Anser albifrons albifrons</i>)	4	—	4	Two hand-reared but too young to breed. Six wild-caught, some on New Grounds.
Greenland Whitefronted Goose (<i>Anser albifrons flavirostris</i>)	1	—	1	From Greenland, via the Copenhagen and London Zoos.
Lesser Whitefronted Goose (<i>Anser erythropus</i>)	2	—	1	Pair originally at Lighthouse before war. Have nested, but eggs infertile. Odd male reared in Lapland, 1939.
Bean Goose (<i>Anser fabalis fabalis</i>)	2	—	2	Pair hand-reared, but brother and sister. Other male originally at Lighthouse before war.
Pinkfooted Goose (<i>Anser fabalis brachyrhynchus</i>)	32	17	31	All wild-caught on the Wash. One full-winged. Some 15 will be full-winged after summer moult.
Greater Snow Goose (<i>Anser hyperboreus atlanticus</i>)	2	6	4	Six adult and 6 young—all hand-reared. Three adults and 4 young fly round frequently. All 6 young reared at New Grounds, 1947.
Lesser Snow Goose (<i>Anser hyperboreus hyperboreus</i>)	—	2	—	Reared in U.S., 1947, and sent over in <i>Queen Elizabeth</i> .
Blue Snow Goose (<i>Anser hyperboreus caerulescens</i>)	1	2	5	Two young reared at New Grounds, 1947.

<i>Species</i>	<i>Male</i>	<i>Sex Unknown</i>	<i>Female</i>	<i>Remarks</i>
Ross's Snow Goose (<i>Anser rossii</i>)	2	1	4	One young reared at New Grounds, 1947. Only 9 of this species in captivity in Europe.
Barheaded Goose (<i>Anser indicus</i>)	3	—	3	Hand-reared. One full-winged but does not fly much.
Emperor Goose (<i>Anser canagicus</i>)	4	—	3	All hand-reared. Most take food from hand. Only 1 female old enough to breed.
Swan Goose (<i>Anser cygnoides</i>)	2	—	—	These are the only two of the species in Europe. Since they are the wild form of the domestic Chinese Goose it is proposed to mate them with 2 domestic females and try to breed back. One male is blind in his right eye.
Canada Goose (<i>Branta canadensis canadensis</i>)	1	—	1	Hand-reared at Whipnade, 1946. Very tame; feed from hand.
Western Canada Goose (<i>Branta canadensis occidentalis</i>)	1	—	1	The male of this very dark race is a pre-war bird and very quarrelsome. The female, who came from U.S. recently in the <i>Queen Elizabeth</i> , is not pure, being too pale for a true <i>B. c. occidentalis</i> .
Lesser Canada Goose (<i>Branta canadensis leucopareia</i>)	1	—	4	Hand-reared, all one brood. Bred at Foxwarren by Mr. Ezra in 1941. Male mated with Cackling, 1947, but eggs infertile.
Cackling Goose (<i>Branta canadensis minima</i>)	1	—	1	Female laid, 1947, at New Grounds but eggs infertile. Male arrived recently from U.S. in <i>Queen Elizabeth</i> .
Barnacle Goose (<i>Branta leucopsis</i>)	4	2	3	Four hand-reared by Mr. May at Halstead, Essex. Remainder wild-caught. One male caught in flight nets on Wash, 1946, and feather cut. Now full-winged but does not stray.
Dark-bellied Brent Goose (<i>Branta bernicla bernicla</i>)	8	—	12	Caught in flight nets on Wash, 1946 and 1947. Delightfully tame.
Redbreasted Goose (<i>Branta ruficollis</i>)	4	—	4	One pair from Lighthouse before the war. These were wild-caught and sent from Moscow via Belgium. Remainder hand-reared at Woburn and at Leckford. One pair should breed 1948.
Upland or Magellan Goose (<i>Chloephaga picta picta</i>)	1	—	2	Female which bred at New Grounds, 1947, now mated to son (bred 1945).

Species	Male	Sex Unknown	Female	Remarks
Barred Upland Goose (<i>Chloephaga picta dispar</i>)	1	—	2	All young birds reared by the Duke of Bedford at Woburn.
Ashy-headed Goose (<i>Chloephaga poliocephala</i>)	2	—	1	The female is too young to breed.
Ruddyheaded Goose (<i>Chloephaga rubidiceps</i>)	2	—	2	Hand-reared but too young to breed. One pair reared at Leckford and one at Fox-warren.
Abyssinian Bluewinged Goose (<i>Cyanochen cyanoptera</i>)	3	—	3	All too young to breed. All hand-reared at Leckford.
Egyptian Goose (<i>Alopochen aegyptiaca</i>)	1	—	1	Hand-reared. A good breeding female which should nest now that she is well mated. ¹
Orinoco Goose (<i>Neochen jubata</i>)	—	—	1	The only bird of her species in Europe. A male is urgently needed. One may be obtainable from California.
Cereopsis or Cape Barren Goose (<i>Cereopsis novaehollandiae</i>)	3	—	4	Two adult pairs, one of which laid in April, 1947, and in February, 1948. Two 1947 young were reared at New Grounds.
Common Shelduck (<i>Tadorna tadorna</i>)	1	—	1	Reared at New Grounds, 1947, from eggs taken locally.
Ruddy Shelduck (<i>Casarca ferruginea</i>)	3	—	3	Three wild-caught from Calcutta Zoo and rest hand-reared (1 from Whipsnade, 1 from Bristol Zoo).
Paradise or New Zealand Shelduck (<i>Casarca variegata</i>)	2	—	2	One female ("Maud") with marked fixation for human beings, and therefore unlikely to breed. Other female from Whipsnade reared 1945, but male age unknown, may be too young to breed.
Australian Shelduck (<i>Casarca tadornoides</i>)	1	—	1	Male on loan from Leckford. Female from Whipsnade.
Spurwinged Goose (<i>Plectropterus gambensis</i>)	1	—	1	Male said to be 30 years old. Female reared Whipsnade 1933. War widow, mate killed by direct hit from bomb. Both feed from the hand by clumsy grabbing.
Magpie Goose (<i>Anseranas semipalmata</i>)	—	—	1	Wild-caught before war. Has lost several toes from frost-bite.
Maned Goose (<i>Chenonetta jubata</i>)	1	—	1	A hand-reared pre-war pair from whom much is expected. There is only one other—a gander—in Europe. They are quite tame but the female is blind in one eye.

¹ Nested twice in March, 1948.

Species	Male	Sex Unknown	Female	Remarks
Mandarin Duck (<i>Aix galericulata</i>)	6	—	6	Mostly hand-reared young birds of 1947 which should breed in 1948.
Carolina Duck (<i>Aix sponsa</i>)	9	—	6	All hand-reared 1947 birds which should breed in 1948.
South African Yellowbill (<i>Anas undulata undulata</i>)	4	—	3	Two adult drakes and remainder hand-reared at Chattis-ham, 1947.
Abyssinian Yellowbill (<i>Anas undulata rupelli</i>)	2	—	—	Presented to the Trust. The only two in Britain.
Gadwall (<i>Anas strepera</i>)	2	—	1	One drake reared at New Grounds from egg from St. James's Park. One pair reared at New Grounds from Iceland eggs.
Falcated Duck (<i>Anas falcata</i>)	1	—	—	Presented to the Trust.
Common Wigeon (<i>Anas penelope</i>)	18	—	16	Six hand-reared birds from Colonel Lumsden at Sluic. The rest wild-caught from Borough Fen and Orwell Park decoys. One very fine drake with green eye-stripe and buff on cheeks as well as crown was caught in the decoy at New Grounds.
American Wigeon (<i>Anas americana</i>)	3	—	2	Two pairs were reared at Leckford in 1947. They feed from the hand. Will not breed in first year.
Chiloe Wigeon (<i>Anas sibilatrix</i>)	1	—	2	The drake is a young bird reared at Leckford in 1947. For some time it was thought to be a third female. There seems to be some chance of breeding in 1948 although the drakes only breed occasionally in the first year.
Common Shoveler (<i>Anas clypeata</i>)	2	—	5	These were wild-caught at Borough Fen decoy.
Garganey Teal (<i>Anas querquedula</i>)	—	—	1	A wild-caught juvenile female taken in the decoy at New Grounds in August. She has become amazingly tame and will feed regularly at one's feet.
Cinnamon Teal (<i>Anas cyanoptera cyanoptera</i>)	2	—	—	Both pre-war birds.
Common Teal (<i>Anas crecca</i>)	5	—	3	All wild-caught from Borough Fen and Boarstall decoys and one drake caught at same time as female Garganey.

<i>Species</i>	<i>Male</i>	<i>Sex Unknown</i>	<i>Female</i>	<i>Remarks</i>
Chilean Teal (<i>Anas flavirostris</i>)	2	—	2	All hand-reared at Leckford, 1947. Should breed 1948.
Common Pintail (<i>Anas acuta acuta</i>)	7	—	8	We were lucky enough to be given by a Member a whole brood of 8 hand-reared Pintails all of which turned out to be females. These have been mated with wild-caught males from Borough Fen and Abbotsbury decoys, and should breed 1948.
Bahama Pintail (<i>Anas bahamensis</i>)	3	—	3	Five of these were reared at Leckford in 1947 and 1 drake at Boston the year before, which feeds from the hand. Should breed 1948.
Puna Teal (<i>Anas versicolor puna</i>)	1	—	2	Reared at Leckford in 1947. Very tame. Should breed 1948.
Cape Teal (<i>Anas capensis</i>)	2	—	2	Reared at Leckford in 1947. Very tame. Will feed from the hand. Should breed 1948.
Red Crested Pochard (<i>Netta rufina</i>)	5	—	13	Hand-reared at various places. Steps are being taken to even up the sexes by exchange. Some should breed 1948.
Rosy-billed Duck (<i>Metopiana peposaca</i>)	1	—	1	Hand-reared at Leckford, 1947. Probably will not breed in first year.
Common Pochard (<i>Nyroca ferina</i>)	5	—	—	Four of these were reared at the New Grounds in 1947 from eggs from St. James's Park.
Tufted Duck (<i>Nyroca fuligula</i>)	2	—	5	Reared at New Grounds in 1947 from eggs from Loch Leven, St. James's Park and Iceland.
Scaup. (<i>Nyroca marila marila</i>)	2	—	3	Reared at New Grounds from eggs from Iceland.
Common Eider (<i>Somateria mollissima</i>)	3	—	1	Reared by Colonel Lumsden at Sluie in 1947. Very tame. Feed greedily from hand.
Barrow's Goldeneye (<i>Bucephala islandica</i>)	3	—	2	Reared at New Grounds in 1947 from eggs from Iceland. Feed from hand.
Goosander (<i>Mergus merganser</i>)	1	—	—	Wild-caught at Walton Reservoir. Very tame. A female was kept for almost a year but recently died of pneumonia quite unexpectedly.
Redbreasted Merganser (<i>Mergus serrator</i>)	—	—	1	Reared at New Grounds in 1947 from an egg from Iceland. Feeds from hand.