The Officers concerned are:-

D. WRIGHT

E. BARKER

G. CLIFFORD

P. WOOD

D. MUNRO

P. RUMKORF.

Each is to be congratulated on his initiative in undertaking this course in his own time.

All have already returned excellent results in tests being conducted as preliminaries to the final examinations.

We wish them every success both in this year's examinations and in the course which starts in 1968.

Information concerning the course and syllabus was published in the July, 1967, issue of this Bulletin.

THE ROLE OF AVICULTURE

IN HELPING TO SAVE THREATENED SPECIES

by PHILIP WAYRE

In the face of the current human population explosion throughout the world little of the earth's surface will for long remain undisturbed by man. The constant and mounting need to provide more food can only lead to an ever increasing rate of destruction of natural habitat and with it, all forms of wildlife.

If nothing can be done to curb the present rate of man's reproduction all over the world, the cause of nature conservation is already lost and its supporters are only fighting a rearguard action.

In such a situation every means of saving those species of birds threatened by man's activities should be fully exploited and modern aviculture provides a tool which should surely be used whenever necessary. Of the 179 bird families covering all species existing since 1600 A.D. representatives of more than 75 families have been bred in captivity and this number could no doubt be increased. This should not be taken to imply that all the species of those 75 families breed freely under captive conditions but it does mean that given suitable conditions the majority can be bred.

Certain families especially the Anatidae and the Phasianidae have long been successfully propagated by aviculturists and the saving of the wild population of the Ne-ne Goose Branta sandvicensis by birds bred at the Wildfowl Trust and in America, is well-known. Similar success seems likely with the Laysan Duck, Anas laysanensis which is being bred in a number of collections in Britain and America. The wild population of Laysan island is believed to fluctuate between 400 and 600 individuals but disaster in one form or another could easily overtake such a small and concentrated group, so the gene bank provided by the captive stock is of considerable importance as an insurance.

Although adequate numbers of Swinhoe's Pheasant Lophura swinhoei remain in collections this species is known to be extremely rare in its native range in the island of Taiwan and is threatened with extinction. Over 150 individuals have been bred at the Ornamental Pheasant Trust at Great Witchingham since 1959 and an initial consignment of 30 birds is being presented by the Trust to the Taiwan authorities for release on Mount Alishan to reinforce the depleted wild population. The birds will be sent by air from Britain in the spring of 1967 and it is hoped that further consignments will follow. The Trust is carrying out similar work with the rare and decreasing Mikado Pheasant, Syrmaticus mikado, also confined to Taiwan.

Of the fifteen species of pheasant in the I.C.B.P. Red Data Book list of endangered birds, six are being regularly propagated at the Trust and it is planned to build up their numbers to a point where captive birds can be used to augment or re-establish the wild populations in their native lands or, where this is impracticable due to the destruction of the habitat, to re-establish the species in a suitable alternative environment.

The release of birds bred in captivity presents fresh problems if they are to have a reasonable chance of survival in the wild. In the case of pheasants work is being carried out by the Trust to discover the most satisfactory methods. It seems to be essential for the birds to be conditioned before release either by being turned down, full winged in a predator free environment, such as a small island, where they can be fed artificially until they have learned to find their own food, or by being brailed or wing clipped and kept in a really large enclosure for several months. Whichever method is employed they must be penned again in the place of their ultimate release for several weeks and in the case of wing clipped birds it is best to confine them in an open enclosure until their feathers have moulted and they are able to fly out over the top. Even then hand feeding in the immediate vicinity may have to continue for some time depending on the local food supply.

Work carried out by the Eley Game Advisory Station at Fordingbridge with pheasants reared for sporting purposes would seem to confirm these methods.

The serious decline of birds of prey and owls throughout the world is causing widespread concern and while they are not amongst the easiest birds to breed in captivity, success has already been achieved with some of the owls. The excellent work of Dr. Kai Curry-Lindahl and his colleagues in re-establishing the European Eagle Owl, Bubo b. bubo in Swedish forests, using birds bred in captivity, has shown what aviculture can do in this field. Dr. Curry-Lindahl and his team have evolved a method which overcomes many of the problems associated with the release

of these birds. All owls seem to be dependent upon their parents for a long time after leaving the next, in some cases for several months, and it is during this period that they learn how to hunt and catch their quarry. Owls reared in captivity and set free when fully fledged, by well meaning people, almost invariably die of starvation long before they have learned to hunt.

The Swedish method is to built a large aviary in a part of the forest where they wish to re-establish Eagle Owls. In it they put a breeding pair of adult owls and when their youngsters are fully fledged they are released while their parents are retained within the aviary. The young owls are fed daily for at least a month and longer if they continue to return to the vicinity of the aviary. At present they do not wander far but eventually they learn to hunt and their visits to the parental home become irregular; finally they become completely wild and independent. For an operation of this kind to work it is essential that the surrounding territory is ecologically suitable for the birds and that the local human population is sympathetic towards the scheme.

Two pairs of young Eagle Owls bred in Norfolk Wildlife at Great Witchingham have been presented to the Swedish authorities to help their reintroduction plan and a further two pairs are being sent this autumn (1966) seven young having been bred in the Wildlife Park this summer.

The Barn Owl, Tyto a alba has decreased over much of its British range within the past decade and efforts are being made to breed it at the Wildlife Park. Three were bred this summer and once a number of breeding pairs has been established their young will be released to build up the wild population employing the same methods as the Swedes with their Eagle Owls.

While owls seem to be reasonably amenable to captive conditions the same cannot be said for most species of hawks and falcons. However, an attempt is being made at the Wildlife Park to breed Goshawks (Accipiter g. gentilis) in captivity with the view to providing a nucleus of young birds for reintroduction purposes.

In 1964 a large aviary was built round mature hazel trees in the middle of a spinney. It is 20 metres long 5 metres wide and 4 metres high and is in the shape of a figure 8 with a removable partition across the narrow part. One section is considerably larger than the other. In February 1965, a pair of Goshawks which had been trained for falconry and were kindly loaned for the experiment by their owners Messrs. K. Nicholas and J. Bamber, were put into the aviary. Fearing that the much larger female might kill the male, as so often happens with birds of prey in captivity, each was put in a separate section. It was intended that the centre partition should be removed as soon as signs of courtship display had been noticed. Nothing was observed until the female was discovered incubating a clutch of four eggs on April 25. The eggs were removed and two days later the partition was taken out, a watch being kept for the remainder of the day from a hide nearby, but the birds took little notice of each other.

On May 16 the female began to incubate her second clutch and the male carried food to her every day. After sitting for 25 days the female left the nest and both eggs of the clutch were found to be clear, presumably because the birds had not been united early enough in the season. This year the female lined two nests and appeared to be about to lay when an exceptionally cold spell stopped her and no further breeding took place. This project has been largely financed by Dr. G. F. Foley, a keen falconer.

Of the falcons both Kestrel Falco. t. tinnunculus and Lesser Kestrel Falco n. naumanni have laid eggs in the Wildlife Park but so far young have not been reared.

Many members of the Passeriformes have for long been successfully bred by aviculturists all over the world and it is in this order that aviculture has the largest scope as a tool of the conservationist. Not only can a species be propagated under captive conditions but scientific study of a kind quite impossible in the wild can be made. There is still much to be learnt about the requirements of many species and the best methods of re-establishing aviary bred specimens in the wild. In the light of our present knowledge it seems likely that once again the best way is to release the young birds soon after they are able to feed themselves and to continue to provide food for them in the vicinity of their parents' aviary for some time.

We are grateful to the editor of the Fourteenth Annual Report of the International Council for Bird Preservation for permission to reproduce this paper.

(Ornamental Pheasant Trust Annual Report 1966. Norfolk)

EDITORS NOTE

The author of this article, Mr. Philip Wayre, is the Director of the Norfolk Wildlife Park at Great Witchingham and of Norwich in Norfolk, England.

The Fauna Officer, Mr. Shugg, who spent two days as Mr. Wayre's guest at the Park during his study tour in 1966, described it as an outstanding example of what a private zoo should be in terms of design, management and policy.

As this article reveals, Mr. Wayre has a conservational approach to aviculture that lifts it from the hobby level to the heady altruism of saving rare species from extinction. The Park is also a very successful economic venture.