



World Conference III on Breeding Endangered Species in Captivity

by Cory Laughlin

Some of the world's most accomplished scientists and naturalists gathered together in San Diego on November 12, 1979, to present their proposed solutions to the steady decline of many animal species. The Conference, which ran from November 12 to 15, was sponsored by the Zoological Society of San Diego and the Fauna Preservation Society.

The main theme of the conference was the propagation of endangered animals in captivity with the hope of reintroducing select groups back to the wild. Thirty speakers addressed over 350 delegates and the following report outlines some of the valuable research being done.

One of the most successful and progressive people in this field is D. J. Brand, Director of the National Zoological Gardens of South Africa. His lecture and slide presentation included his work being done with the cheetah. Nineteen wild-caught cheetahs have been kept in a one hundred acre enclosure. They are kept as wild as possible and visitors are not allowed to view the animals. This program begun in 1969, has been so effective that twenty-three cubs were raised in 1975. The major question which arose before reintroduction was whether these animals could survive a life in the wild after a captive bred existence. It was with great relief that the first group released was observed to bring down a giraffe within three days. Mr. Brand's work is invaluable as it may well ensure the survival for one of the most fascinating of all cats.

Up until only a few years ago, many people believed that the breeding of birds of prey in captivity was a next to impossible endeavor. Thomas J. Cade, Professor of Ornithology, Cornell University, has been involved in a program which has proven beyond a doubt that this is a viable undertaking. He told conference delegates that each year the rare peregrine falcon, the prairie falcon and the gyrfalcon are among the fifteen falcon species being bred in captivity. Over one thousand birds of prey have been bred in North America

over the past five years. In 1970 the Peregrine Fund began a research program on propagation of peregrines in captivity with the intention to introduce the offspring back to the wild. The first twenty peregrines were produced in 1973. Since then, four hundred and thirty-four young have been raised from forty-six laying females. Three hundred and forty-one have been released since 1974. Dr. Cade stated that the three methods of reintroduction used are fostering to wild peregrines, cross-fostering to prairie falcons and the use of hacking stations. Out of these methods, the largest percentage of birds that survived were released at hacking stations. At this sites, young are placed one week before they can fly. They are fed by human attendants until they are self sufficient, usually six to eight weeks after they begin flying. Twenty-five to thirty percent are lost or killed each season, approximately the same ratio that perish in the wild. One of the main factors contributing to their demise is predation by the great horned owl. Others are shot, lost in storms, and attacked by other raptors. Each year a greater number of peregrines are being successfully released back into the wild, painting a brighter picture for the continued existence of this species.

Another success story presented to the conference was from Major Iain Grahame, Secretary, World Pheasant Association, Burres, Great Britain. The cheer pheasant has disappeared from its native Pakistan due to habitat destruction and illicit hunting. It was last sighted in 1976 and is regarded as extinct in the wild. Fortunately, this species is well represented in captive collections. Major Grahame stated the five elements that are the keys to a successful release program. First, the area selected must be in the former range of the species in question. Secondly, the habitat must be capable of supporting birds when released. The third requirement is that the area must be free as possible of human and other disturbances. Fourth, the birds themselves must be

capable of survival and reproduction under such circumstances. Finally, the progress must be monitored at the time of release and for a number of years thereafter, i.e., long-term program. Previous release efforts with various pheasant species have met with limited success. The main problem being that the birds were accustomed to an easy life in captivity and unable to adapt to harsh conditions in the wild. The World Pheasant Association had concentrated their efforts on adapting the bird to its area of release immediately upon hatching. In 1978, extensive field research was done by an American and Pakistani representative of the W.P.A. and by mid-May of last year an ideal release site was selected — the same area, in fact, where the last wild cheer pheasant was sighted. There is an abundance of dense cover for the birds and no human interference such as agriculture or hunting now exists. In the spring of 1978, one hundred and seventy-four eggs were flown to Pakistan. Only twelve birds survived and these few were wing-tagged and released. In the spring of this year, over two hundred eggs were sent to their native land. In July, eighty-nine pullets were reported to be alive and well. Thirty of them had moved voluntarily from their enclosure into the wild. They have frequently been heard and seen and have ventured seven hundred feet higher up into the mountains. There are few predators present in this area and Major Grahame feels they have a fighting chance for survival. Fifty birds have been withheld for a captive breeding nucleus. Major Grahame concluded his presentation with a plea to zoo directors to consider future loan agreements with private aviculturists. He stated that so-called "backyard" collections may be less sophisticated than zoo exhibits but have continually produced startling results in the past.

Gerald Durrell, Honorary Director of the Jersey Wildlife Preservation Trust, has spent most of his life collecting all types of wild creatures from across the globe. At



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this conference he spoke of his recent work, breeding wild animals found in the Mascarenes Islands. In 1976 the government of Mauritius asked the Trust to capture and breed a unique species of fruit bat, two species of lizard and a snake. Later, they were also asked to commence a breeding program for the pink pigeon. At one time, the islands were teeming with various varieties of animals including forty species of birds and nine species of giant land tortoises. Devastation occurred when alien animals such as monkeys, goats, pigs, cats and mongooses were introduced. The monkeys proved to be the most destructive element in the decimation of the bird populations due to their nest-robbing habits. Today, only eleven birds species, three lizard species and five bat species survive. Over half of these are rare and endangered. In April, 1977, five pink pigeons arrived in Jersey. Only one pair has successfully raised young due to various problems including broken or deserted eggs and difficulties in hand rearing. The breeding program of Mauritius exchanged some pigeons with the Trust in 1978 and at this time there are thirty-two birds now in the two breeding programs combined. There are probably no more than twenty pigeons left in the wild and negotiations are underway for reintroduction of select captive individuals. Round Island, off the coast of Mauritius, harbors eight species of rare reptiles found nowhere else in the world. One is a nocturnal, arboreal gecko, which numbers between two and three hundred in the wild. The Trust collected eighteen adults in 1976. Great success has been met with the breeding of this delicate reptile. Sixty-five have been reared since the first breeding in 1977. The Round Island boa, an arboreal species which feeds on the island's lizards, is also in an extensive breeding program at the Trust. The position of this animal is precarious indeed as only seventy-five survive in the wild. A small brown, golden-headed fruit bat, also unique to the islands, is on the brink of extinction as well. In 1976, three males and seven females were caught in mist nets and sent to Jersey. Three were born at Jersey not long after their arrival. It is fairly certain that conception took place after capture. To date, thirteen have been born, a valuable step in the right direction considering this numbers more than the original wild caught group. All have been reared and weaned successfully. These are just some of the rare animals the Trust is endeavoring to save from perishing. Mr. Durrell made a special point of praising the hard working and competent keepers working at the Trust whose dedication is making it all possible.

Ray C. Erickson, Assistant Director for Endangered Wildlife Research, U.S. Department of Interior, Patuxent Wildlife Research Center, is administering research programs on over sixty endangered and threatened species among which are the following: Aleutian Canada goose, bald eagle, everglade kite, Mississippi sandhill crane, whooping crane, Puerto Rican parrot, northern swift fox and the black-footed ferret.

The Aleutian Canada goose was once abundant but was unable to cope with the fur industry's introduction of arctic foxes and their numbers dwindled to only eight hundred in 1975. Eighteen goslings were captured in 1963 to form a captive breeding unit at the Patuxent Breeding Center. In the following years, additional wild birds were added to this group and breeding operations were in full swing. At five months of age goslings were shipped to Alaska for further acclimation and eventual release. The releasing of birds one to three years old has, so far, met with limited success. Of two hundred and seventy-seven geese released in the Aleutians since 1971, only three geese have reached wintering grounds. The main obstacles were predation by bald eagles and lack of guidance by experienced geese in respect to migration. Wild geese were introduced to the captive bred birds but were not tolerant of them and formed their own groups. Efforts will be made to gradually introduce the two groups so that pair bonds may develop.

An important consideration in building up the numbers of whooping cranes is the need to discourage concentration of the remaining populations during part or all of the year. To achieve a wider distribution of this crane, efforts are underway to form other breeding nucleuses. A single whooping crane egg is substituted for an entire clutch of sandhill eggs and the sandhill is allowed to hatch and rear the chick. Eggs from the Wood Buffalo National Park and the Patuxent Center have been used for these experiments. Mortality for the captive chicks and the migrating juveniles during the first migration has been 75% or more for most of the years the cross-fostering has been in progress. Research is now being conducted to alleviate these obstacles where and when possible, including predation, harsh weather and accidental death. Experiments with the sandhill crane show that if released at an older age, one or two years, the birds do not have as many problems surviving as the younger birds — hopefully, this information will aid in the outcome of the released whooping cranes.

Perhaps the most endangered bird in the world today is the Japanese crested ibis.



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Dr. George Archibald, Director and founder of the International Crane Foundation at Baraboo, Wisconsin, reported on the last desperate attempts to save this species from extinction. Outside of Japan, Dr. Archibald could locate only four individuals in 1974 which were living in the Korean demilitarized zone. The same year, there were twelve ibis on Sado Island, Japan, but they were apparently not breeding. By 1977, this population had dropped to eight. During that same year, Archibald returned to Korea and travelled with the Korean Army throughout the winter searching for the four birds he had previously seen in 1974. He found only two, presumably a pair. Subsequent searches yielded but a single bird, though to be a male. Dr. Archibald attempted the capture of the lone Korean male to pair with the sole surviving captive female in Japan. However, the attempt failed.

It is now believed that unless all eight known survivors are introduced into a controlled breeding environment, this species will suffer the same fate as that of the passenger pigeon and the great auk. In the late 1960's, the Japanese attempted a captive breeding program. Typically, parasite infestation and an improper diet of whale meat killed all the birds save one female. As a result of this failure, the local people on Sado Island were soured against any further attempts of captive propagation. They are totally against any attempts to capture the remaining birds.

The I.C.F. has prepared a telegram, supported by Japanese biologists, to the Environmental Agency of the Japanese Government, which urges that the situation concerning the crested ibis on Sado Island be re-evaluated and a captive breeding program be initiated immediately. Experiences with captive breeding of other ibis species has proved to be quite successful, even with the endangered waldrop ibis. In other words, Dr. Archibald strongly believes that without a comprehensive controlled environment propagation program, the Japanese crested ibis cannot survive.

The aforementioned only touches on some of the dedicated research programs being done to save endangered and threatened animals from becoming extinct. Without the help and knowledge of people who are really concerned and willing to spend part of their lives conserving wildlife, species such as the whooping crane, cheer pheasant and nene goose would have perished long ago. A conference such as this paves the way for a great understanding among countries of immediate conservation steps that must be taken to save the world's endangered wildlife.