

AN OUTLINE OF THE ORIGINS AND GROWTH OF THE IUCN SURVIVAL SERVICE COMMISSION

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Even before the turn of the present century there were signs of a growing awareness among a few far-seeing persons that the world's natural resources, which, insofar as anybody had given thought to the matter, were generally regarded as "unlimited and inexhaustible," could not indefinitely withstand the thoughtless and unscrupulous exploitation that was occurring on an increasing scale wherever man expanded his frontiers.

This was as true of wildlife as of other renewable natural resources. The need for adequate controls, not least in man's own interests, was unmistakably demonstrated by the well-known example of the catastrophic decline from abundance to near-extinction of the American bison. Within the brief span of thirty years the once-vast herds, which until the 1860's had darkened the prairies of the North American continent, had been almost wiped out. It was no coincidence that the indigenous Amerindian culture was extinguished along with the bison, for theirs was an almost symbiotic relationship.

Ignorance and indifference contributed to the loss of the most valuable representative of America's native fauna, but it is perhaps equally true to suggest that the gigantic scale of this calamity had the fortuitous effect of provoking a determination that never again should similar situations be permitted to develop.

Paradoxically, therefore, the genesis of the conservation ethic can be traced to the death of the bison. It also posed the question of man's

¹In the absence of Mr. Coolidge, this paper was read by Dr. F. Fraser Darling, vice president, IUCN.

proper role in the totality of Nature, particularly his relationship with his own environment, questions which are especially applicable today.

This is not the place, neither is there time, to relate the history of these developments in other parts of the world—interesting as that would be—but, in passing, I cannot refrain from giving one more example as indicating the rapidity with which native stocks of wild fauna can decline. In 1894—that is to say the year before a formal declaration of the East Africa Protectorate was made and several years before the beginning of European settlement—Sir Harry Johnston was already concerned at the apparent decline of certain wild animal species during the previous decade in what is now Kenya: he expressed his belief that special measures would be necessary to safeguard them. His warnings, together with those of a number of other like-minded people, were largely responsible for the establishment, in 1903, of the Society for the Preservation of the Fauna of the British Empire, which exerted an undoubtedly beneficial influence on the British Government. The Society drew attention to the rapid deterioration of the wildlife situation in almost every part of Africa and emphasized the need to establish an adequate system of game reserves together with appropriate supporting regulations to ensure the conservation of native fauna before the opportunity was lost forever.

Although on a less dramatic scale than on the Plains of North America, a somewhat parallel situation had also occurred earlier in Africa with the extermination about the year 1799 of the blaubok and, later, during the 1870's, of the true quagga. Other African species declined at an alarming rate, such as, for example, the white-tailed gnu which at one point survived on only a single farm in the Orange Free State, and the bontebok which would certainly have been added to the list of extinctions had it not been for the almost single-handed efforts of the owner of Bredasdorp at the Cape.

Elsewhere in Africa concern was being expressed at the large numbers of birds of bright and gay plumage being destroyed in compliance with the demands of fashion. France was the principal market, and plume-hunters frequently issued natives guns and dust-shot cartridges and sent them off to shoot birds for the milliners in Paris.

These and other similar developments, too numerous to detail here, led to an awareness of the need for collective action to be taken by the responsible governments. In May 1900 a Conference was held in London, convened by the Governments of Great Britain and Germany and attended by representatives of other Great Powers, with the

express object of endeavoring to protect the fauna of Africa in those territories controlled by the signatories "from the destruction which has overtaken wild animals in Southern Africa and in other parts of the globe." This Conference, while permitting complete freedom of action in precise administrative measures to be applied by the Powers, nevertheless laid down certain guide-lines which aimed to "secure from molestation the rarer and more valuable animals now threatened with extermination."

Although the 1900 Convention appears never to have been actively implemented, it served the important purpose of establishing certain basic principles which were of great value to those countries in Africa which were resolved to take effective measures to conserve their indigenous fauna and flora. This was followed, in 1933 by a further Convention drawn up in London, which became the framework around which conservation in much of Africa was constructed.

Seven years later, in 1940, a similar Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere was signed.

These and other similar activities at the governmental and international levels were paralleled by valuable action by individuals and private agencies. Of particular importance was the work of Dr. Paul Sarasin who, in 1913, was appointed president of an Advisory Commission for the International Protection of Nature established in Bern, Switzerland, by delegates from 17 countries.

After the First World War, in 1925, Mr. P. G. van Tienhoven of Amsterdam was instrumental in founding the Netherlands Committee for International Protection as well as helping to establish a French Committee for the Protection of Colonial Fauna in the same year, and the Belgian Committee for the Protection of Nature a year later. In 1928, these organizations, together with the International Union of Biological Sciences, founded the International Office for the Protection of Nature with headquarters in Brussels, which was subsequently absorbed into the IUPN (now IUCN) when that organization was formed at Fontainebleau in 1948.

The question of endangered species was clearly in the minds of the founders of IUCN, for Art. 1.(2), of the Constitution charges the Union with special responsibility "to the preservation of species threatened with extinction."

The establishment of the American Committee for International Wildlife Protection in 1931 led, within a few years, to the publication in 1942 of Glover N. Allen's volume on the *Extinct and Vanishing Mammals of the New World*: a companion volume covering the *Old World Mammals* by Harper in 1945 and, subsequently, in 1958 of

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Greenway's *Extinct and Vanishing Birds*. These three volumes comprised the basic intelligence without which proper programs for the protection of endangered species could not be drawn up. An indication of the seriousness of the situation was given by Francis Harper who estimated that of the 106 forms (including subspecies) which had become extinct during the Christian Era, no less than 67 percent had been lost during the past century.

This brief and necessarily incomplete account outlines some of the more notable developments from which the Survival Service Commission evolved. Matters were taken a stage further at the International Technical Conference on the Protection of Nature organized jointly by UNESCO and IUPN at Lake Success at the end of August 1949 when I presented a paper entitled *Emergency Action for the Preservation of Vanishing Species* in which I summarized the prevailing situation and drew attention to the continuing uncontrolled decline in fauna and floral resources, and proposed the establishment of an "International Survival Office" to be formed within the broad framework of the IUPN, "to work effectively towards assembling, evaluating, and disseminating information on all living species of fauna and flora that appear to be gravely threatened with extinction."

The paper contained a short preliminary list of species believed to be in imminent danger, including the fauna of the Galapagos Islands. It is interesting to note that this proposal led a few years later to setting up the Charles Darwin Foundation for the Galapagos, with the specific object of taking active measures for conserving what remained of that exceptionally interesting insular fauna.

My paper was intended only to indicate a few pressing examples of endangered animals, to establish the fact that a problem existed and that remedial action was needed. Proposals for action consisted broadly of two methods: firstly, the setting aside of areas as national parks and equivalent reserves in which adequate protection could be accorded and, secondly, the drafting of appropriate game laws and supporting regulations which would effectively control the exploitation of wildlife.

The Lake Success Conference endorsed the recommendations in the paper and appointed me first Chairman of the "Survival Office," which shortly thereafter—at the 1956 Edinburgh General Assembly—was re-named the Survival Service Commission. The activities of the "Survival Office" at that time were primarily to concentrate on the collection of data on endangered species, thereby keeping the Harper/Allen records as up to date as possible. J.-J. Petter, of the Museum of Natural History, Paris, was given responsibility for

building up and maintaining the system of data cards used as the medium for collating this intelligence. Equivalent action over birds was officially referred to the International Committee for Bird Preservation which, since then, has continued to act in close conjunction with IUCN in these matters.

Harper's published work extended only to 1939 and Allen's to 1942; there was therefore an obvious need to bring this material up to date. From 1949 to 1954 the work of the "Survival Office" therefore involved a thorough search of the published literature, as well as correspondence with a growing network of people with specialized knowledge of the animals concerned. The limitations of this method soon became evident, however, when attempting to evaluate the changes which had occurred as a result of the Second World War and its aftermath.

The obvious solution was for a series of field surveys to be undertaken to ascertain the facts. In 1955 Lee Talbot spent six months in the field for IUCN during which time he visited approximately 30 countries, gathering information on a number of species on the SSC list. The results of his highly successful mission were incorporated in his report, *A Look at Threatened Species*.

This was followed in 1957 by a visit to Madagascar by Jean-Jacques Petter to investigate the status of rare lemurs and other prosimians. This field trip marked the commencement of his specialized study of that country's primate fauna which has since earned him an enviable reputation as a pre-eminent authority on the Lemnidae.

Lt. Colonel C. L. Boyle, who succeeded me as Chairman in June 1960, continued the work of data collection and of maintaining the survival cards. One of his special interests has long been in the field of conservation legislation, and it is gratifying to be able to recall that as a result of his single-handed initiative and determination the United Kingdom has now enacted the Animals (Restriction of Importation) Act 1964, which is proving an unusually valuable tool in controlling traffic in rare and endangered animals. Indeed, in this respect United Kingdom legislation is in advance of every other country. A similar Bill has recently been introduced into Congress by Senator Dingell, and it is to be hoped that other governments will conform.

Colonel Boyle retired as chairman at the 1963 Nairobi General Assembly; his place being taken by Peter Scott. At the same time Colonel Jack Vincent was appointed secretary of the Commission, based at Morges, Switzerland a function which he combined with that of ICBP Liaison Officer.

These appointments enabled the activities of the Commission to be

substantially broadened, including the establishment of a series of specialist groups designed to bring expert knowledge to bear on the species for which each group was responsible.

The work of data collecting continued to be basic to the work of the Commission. However, it became increasingly evident that the species over which the threat of extinction looms largest are often those which have been studied the least. There are many instances where the collection of this fundamental background information—without which it is of course impossible to introduce proper conservation or rehabilitation programmes—has not been undertaken until a crisis has arisen, by which time the opportunity for effective action may have been lost.

The prior need, therefore, was a concerted effort to acquire the factual information on which action programmes could be based. For the next three years the Commission's activities were largely devoted to this objective and, in 1966, at the time of the Lucerne General Assembly, the Commission was able to announce the publication of the first in the series of volumes known as the *Red Data Book*.

The first two volumes comprising *Mammalia* and *Aves* have already been published in loose-leaf format, the information being presented in the form of short reports not exceeding two sides of a page, under a series of standardized headings. The heads of information include: *Distinguishing characteristics; Present distribution; Former distribution; Status; Estimated numbers; Breeding rate in wild; Reasons for decline; Protective measures already taken; Protective measures proposed; Number in captivity; Breeding potential in captivity; Remarks and References*. Each report is essentially an abstract of available data presented in a way that will enable the reader to refer at once to the particular information he requires. It also serves the equally important purpose of showing at a glance what is not known and the gaps which require to be filled.

In short, the *Red Data Book* is designed to provide in a conveniently classified form the most up to date and reliable information available on all species considered by the SSC, the ICBP and their advisory specialists to be in danger of extinction.

New and replacement sheets are mailed to subscribers at approximately six month intervals. In this way the SSC provides a service not obtainable elsewhere, which ensures that recipients of the *Red Data Book* are kept informed of any significant change of status and other relevant information as it becomes available.

Plans have already been made for the publication of a third volume on *Reptilia* and *Amphibia*, and arrangements have recently been made for the compilation of a fourth volume on *Flora*. Thanks to the

cooperation of the Royal Botanic Gardens, Kew, it is hoped that this work will commence in the near future.

Not only is this collected information of vital concern to the Commission itself; it has also aroused considerable interest elsewhere. While attending the IUCN Nairobi General Assembly at which he gave a forthright and stimulating address, the U.S. Secretary of the Interior, Stewart S. Udall, took a personal interest in this aspect of the Commission's work and on his return to the United States appointed a task force, the Committee on Rare and Endangered wildlife Species, to undertake a thorough study of the situation in the United States. The Bureau of Sport Fisheries and Wildlife has incorporated its findings in its publication *Rare and Endangered Fish and Wildlife of the United States*. It has also established a permanent office. I hope that other countries will follow this commendable example.

The publication of the first two volumes of the *Red Data Book* marks the end of the initial phase of the Red Book project insofar as Mammals and Birds are concerned, although, obviously the collation of data must go forward on a continuing basis: in the strict sense therefore, the preliminary stage will never be completed. Nevertheless, these first two volumes constitute a valuable working tool where previously none existed, and it is clearly necessary to consider the most effective method of extracting the maximum possible use from this newly created instrument.

Here I must stress that the compilation of the *Red Data Book* was never visualized as a purely academic exercise. Its purpose all along has been strictly utilitarian; its aim being to utilize the assembled data in a way that will assist, in a practical manner, to remedy the situations described in the individual data sheets. What one might therefore term the "second phase" of the project involves the translation of the substance of the *Red Data Book* material into a series of action programs.

Several such action programs have in fact already taken place as for example, the well-known "Operation Oryx" by a team headed by Major Ian Grimwood, former chief game warden, Kenya, and a member of the Survival Service Commission, which successfully captured a small breeding nucleus of the rare Arabian Oryx, believed at that time to be on the brink of extinction. These animals were joined by others kindly donated by a number of zoos all of which were placed in the care of the Phoenix Zoo, Arizona. Breeding has occurred regularly and successfully and there is now a flourishing herd which serves as an insurance against the total loss of wild stocks.

Here I must make the point that the taking of rare animals for

captive breeding purposes is regarded by the Commission as a very last resort to be employed only when all other possibilities have been exhausted. It is absolutely essential that every possible effort must always be taken to conserve a rare species in its native habitat.

In accordance with this cardinal principle the Commission has done and is doing everything in its power to ensure the continued survival of the rare Javan rhinoceros in Indonesia's Ujung Kulon Reserve where the total population does not exceed about two dozen animals. The immediate essential, on which all else impinges, involves a series of ecological studies of the reserve and of the animal itself. These studies were initiated by Lee Talbot and subsequently followed by Jacques Verschuren; they are now in the competent hands of a Swiss ecologist Dr. Rudi Schenkel.¹

In addition to these important scientific studies on which future planning must obviously depend, SSC is doing all it can to arouse a greater degree of interest within the Indonesian Government; for it is clear that the long term survival of a species such as the Javan rhinoceros must ultimately depend on the attitude of the Government concerned. It is therefore encouraging to be able to report that in recent months there has been firm evidence of a considerable interest being taken by President Suharto and other senior members of the Indonesian Government in the wildlife and natural resources of their country.

Farther north, in the Philippines, the Commission has been gravely concerned about the declining status of the monkey-eating eagle and, in close conjunction with ICBP, is endeavouring to convince the Government of the Philippines to take effective action to safeguard the small numbers now remaining. The Commission is making similar approaches to the same Government about the tamarau, which is restricted to the island of Mindoro and has now been reduced to fewer than 200 animals. It is clear that the only hope for the continued survival of this species lies in the establishment of properly constituted and firmly administered national parks or reserves.

These examples may give the impression that the Commission is species oriented, but that would be a wrong assumption. Wherever possible the Commission operates on a regional basis, a good example of this approach being given in the case of Madagascar. The SSC list includes no less than 24 species and races of Malagasy prosimians, that is to say approximately half of all that exist. Generally speaking, the reasons for the decline of one are equally applicable to all: it follows therefore that the solutions will inevitably be roughly similar. The basic problem in Madagascar, as in so many other parts of the world is the widespread reduction of the forested habitat, so much of

¹His project is financed largely by the World Wildlife Fund.

which has been felled, burned, and cleared for agricultural and pastoral purposes.

Early in 1967 the Commission sent a small Mission to Madagascar to investigate the wildlife situation.¹ The report of the Mission contains a number of detailed recommendations which, if put into effect, would undoubtedly bring about a substantial improvement in what—in the zoological and botanical contexts—is a supremely important region. This is not the time nor place to go into detail about the proposals, but I cannot refrain from mentioning what is being done for one particularly notable representative of the Malagasy fauna, the aye-aye *Daubentonia madagascariensis*. This primitive primate is the end product of a distinctive evolutionary line, the sole surviving representative not merely of a species or even a genus but of an entire family. Moreover, it seems probable that no more than about 50 individual animals remain, and they are being slaughtered by the local people whenever opportunity occurs.

In these circumstances it was decided that the only hope for the animal's continued existence lay in catching as many as possible of the survivors and translocating them to a small offshore island. Nossi Mangabe, a few miles off the town of Maroantsetra, in the Bay of Antongil, appeared ideal for this purpose. Its indigenous forest cover had almost miraculously remained untouched for the reason that the local people regarded the island as sacred. The Government agreed to declare it a special reserve, and Andre Peyrieras was given responsibility for capturing aye-ayes and transferring them to the island. This task he has successfully accomplished: to date 9 specimens have been taken and introduced onto the island. Others will follow as and when they can be caught. It is hoped by these means to ensure the survival of a breeding population, for there is no hope elsewhere. In the years to come, when the Malgache people have acquired a greater appreciation of their own superlative wildlife, it may then be possible to re-introduce stocks from Nossi Mangabe back onto the mainland of Madagascar.

This brings to mind that the work of the SSC, is of course, closely interlinked with that of the other IUCN Commissions, which embrace the fields of national parks, ecology, education, legislation, and landscape planning. This was well illustrated during the recent Aldabra controversy. The SSC was chiefly concerned with the survival of the Aldabra tortoise, the green turtle, and some of the endemic birds and plants. The Commission on Ecology was deeply involved with the broader issue of retaining inviolate what is recognized as a unique biotic community. The National Parks Commission was implicated since the long-term solution to this problem appears to

¹Through a grant from the World Wildlife Fund.

include turning the Atoll into a national park. The Commission on Legislation was brought in because of the somewhat intricate legal issues involved. Each Commission therefore had its particular part to play and all of course worked in conjunction with The Royal Society and the National Academy of Sciences, which together with IUCN, had taken such a strong interest in the matter since the proposal to establish a military base was first announced.

So much for the past. What of the future? IUCN fully recognizes the cardinal principle that problems of rare and endangered species cannot—except in very unusual circumstances—be resolved in isolation; they must be regarded as an integral part—but are only one facet—of the much broader issue of the conservation of ecological entities, which includes the total wildlife spectrum as well as the natural habitat on which survival inevitably impinges. "Look after the habitat and animals are perfectly capable of looking after themselves," may be a truism, but it is also a fundamental principle which one neglects at the species' peril. Solutions to the problems of rare species must therefore be viewed in this wider perspective.

Easy enough to state the principle, but how to translate it into practical reality? Primarily, I believe, by ensuring that the Governments and other authorities in whose hands the ultimate decisions rest, are left in no doubt of their responsibilities, not only in the parochial sense but also to the world at large. They have to be convinced that such responsibility involves a great deal more than a ministerial signature on an international convention. It means setting aside suitable tracts as inviolate sanctuaries, and not merely as paper parks and reserves which can be modified or even annulled at the whim of transient political or economic interests, but adequately staffed and financed and maintained in a climate of sure support from the administration, the judiciary and public opinion.

It involves the marshalling of biological and ecological facts to obtain a better understanding of the biota. If scientific personnel are not available locally, overseas scientists must be accorded facilities to undertake such studies. This implies a need for much more active participation by both local and foreign universities than hitherto, which, in turn, requires that more money should be made available for purposes of scientific conservation by foundations and other fund-giving organizations. Furthermore, University research programs should be more closely integrated and coordinated with practical field work.

It means a much greater understanding of the ecological facts of life both by Governments and by the great international agencies to ensure that ecological considerations are taken fully into account

during the formulation and implementation of agricultural and other development programs.

Above all, perhaps, it calls for a greater awareness among the general public of the issues at stake, and this can be achieved only by well-informed publicity and propaganda through all available means.

The SSC can and will continue its basic work of assembling factual information and drawing up recommended programs of action, but it would be idle to pretend that we can hope to resolve these complicated issues unaided. Worthwhile solutions can be achieved only with the wholehearted support and active cooperation of the governments, for in the final analysis the responsibility is theirs and theirs alone. The vital question which is posed on every page of the *Red Data Book* is whether the governments will accept the challenge and act decisively before the opportunity is lost for ever.

ACKNOWLEDGMENT

I wish to acknowledge the valuable assistance of Noel Simon of IUCN in preparing this paper.

DISCUSSION

DISCUSSION LEADER JANTZEN: Thank you very much, Dr. Darling, for a very interesting and well-presented program on the objectives of the IUCN.

MR. JOHN CAROLL (Long Island, New York): I have long thought that the flora and fauna has been too long neglected in this country, and I think it is a shame that any species, as well as others, actually has to be classed as endangered before they really begin to give attention to it.

Is any serious attempt being made, either by the International Union or some governmental agency, to seriously plan the exact distribution of these endangered species; and, secondly, in your opinion, do you think that the field of biology will be upgraded in this country to the position it holds in many of the European countries?

DR. DARLING: The IUCN staff is doing its best to plan the distribution of endangered species. Perhaps it isn't a very great task because with each species it is just a spot on the map. For example, in some of these areas, as in connection with warblers in the West Indies, 500 acres may be the total distribution. Now, this kind of mapping is certainly very difficult but there are other more widely spread but seriously endangered species that are being mapped insofar as they tend to reward our future concerns. That is an essential part of ecology. However, as you say, it is worthy of its own position. Also, you have a very considerable contributor in this country in Darlington's work, and it should certainly go forward, especially under the pressure of these endangered species.