

## PRESENT CONCERN WITH RARE AND ENDANGERED SPECIES

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Abstract: Measures for protecting rare species and their endangered populations and habitats are taking worldwide effect.

Private and supra-governmental organizations are functioning independently for conservation of rare and endangered plants and animals, and cooperate with state and governmental agencies.

The Nature Conservancy natural land acquisition programs include transfer of habitat lands from private market to institution or agency control.

The Survival Service Commission of the International Union for the Conservation of Nature and Natural Resources considers candidate species for endangered status, fosters inquiry on their status, and seeks to institute measures for their restoration.

Local level concern is served in Nevada by a committee representing state and federal agencies and, university and private interests.

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To quote from a nearby exhibit:

"Since the last dodo perished, 162 species or subspecies of birds have been exterminated. One hundred and ten kinds of mammals since 1 A.D. have been eliminated. Seventy percent of those died in this century, forty percent within the last 50 years; or since 1900, one per year."

(poster in exhibit of Foresta Institute).

Wildlife biologists are aware as never before of growing public concern for the

protection and management of rare and endangered species. There is still uncertainty about the criteria for labeling a plant or animal species "endangered." Sometimes a species is rare without any immediate threat of extinction. We know now that the formerly great herds of American buffalo (Bison bison), though now greatly reduced do not leave us with an exterminated species, or for the moment, even a threatened species. The bison are only comparatively "rare," and their very existence today indicates that man can take some measures for protecting an interesting and possibly productive form of the wild biota. But what of the drastically reduced herds of endemic ungulates of Africa? Does their biological existence depend on large numbers? Where are the thresholds we want to avoid if the species is to survive?

Several generations of man have been told that they are living in a world of change. "These are changing times" is a popular expression which has stood for a century or more. Probably one of the first laws of nature is change, perhaps yielding priority only to survival.

Change has been sweeping over our wild populations and wild habitats. But it is this generation today of wildlife specialists, now active in their careers, that is confronted with new assignments for the protection of endangered species. More than ever before the work of the management agencies is responding in services to the general public.

The concept that some species are passing toward the threshold of existence and man can do something about it is not a new concept. But only now is it becoming a popular concept with feeling expressed from many quarters that man can and must do something.

Orientation of society for doing something for protection of endangered species is well past the sentimental stage. As with politics emotions still run high in our regard for fellow organisms and sentimentality gives many a strong bias, but the emerging fact is that people in business and in government and leaders of community thinking have taken positions about the biota as integral to the total environment of man.

Latest evidence of the interest in the survival of species is expressed in the articles of Charles Lindbergh (1967), and Jon Lindbergh (1967), and others in a special issue of Life Magazine (Dec. 22, 1967, Vol. 63, No. 25) on "The Wild World." But, it actually started a good deal longer ago with the concern for saving species and areas of habitat. The modern, more scientific trend seems to have risen with the founding of the Ecological Society in 1915 and two years later its Committee on Natural Areas. This Committee eventually became The Nature Conservancy, a highly financed private, non-profit natural area land acquisition society.

Since World War II the International Union for the Conservation of Nature and

Natural Resources was organized at the recommendation of UNESCO (United Nations Educational, Scientific and Cultural Organization). In the last fifteen years this union has grown rapidly and widely. Its several special commissions in the avenues of conservation include the Survival Service Commission.

If the Survival Service did nothing but document the history of the depletion of the world fauna and flora, it would be doing a commendable service. However, this Commission goes far beyond. It launches field investigations, gathers information from authorities on special subjects, has teams of specialists submitting information on the current status of groups or of species. Its headquarters reaches to national governments and sympathetic groups within other countries for support of its findings and for implementing action in behalf of threshold species. Where funds are needed, it works with World Wildlife Fund and other sources.

In the history of extinctions the Survival Service Commission has noted that of all the animals living in year 1600, between .08 and .09 of one per cent only have been exterminated, but now it regards 2.8 per cent in present danger. Of the non-passerine birds (3,531), 1.8 per cent have been wiped out, and some 3.3 per cent are in danger now. Of the passerines (some 5,153) one-half of one per cent of the species have been destroyed, and now 1.3 per cent are presently in danger. (Of all of the birds, then, you could say that one per cent have been destroyed and 2.16 per cent are in danger.) These seemingly low proportions indicate that of the remaining birds we are right now in danger of wiping out twice as many as it took man to do in the last 370 years. The general list of endangered biota presently in use, drawn up in 1964, includes some 204 mammals and 312 birds. The degree of peril for these varies, and categories have been set up in a Classification of Rare Forms (Red Data Book, 1966; International Union for Conservation of Nature and Natural Resources) as follows:

1. Very rare and believed to be decreasing in numbers.
2. Less rare, but believe to be threatened--requires watching.
3. Very rare, but believe to be stable or increasing.
4. Status inadequately known, survey required or data sought.

Mostly these are designated at species level, although admittedly some of the forms of considerable concern, such as the Sonoran antelope (Antilocapra americana sonorensis), are sub-species. Here the taxonomic difference is less important than some subtle physiological adaptation which allows a surviving population on the Arizona-Sonora border.

There are several other symbols used in the I.U.C.N. Red Data Book (op. cit.) in the total annotated list of species in question:

"E" for exotic, introduced or captive populations believed more numerous than their original indigenous stock;

"M" under active management in a national park or other reserve;

"P" legally protected, at least in some parts of its range; and

"S" secrecy still desirable.

Star listings are also another means. A species or subspecies of special importance is given three stars of cause for very grave anxiety. Two stars for considerable anxiety, and one star for some anxiety.

Despite all efforts there are some instances where reliable information about reputedly rare and endangered species remains inadequate. It has been hard to decide whether or not to include them. In many borderline cases an arbitrary position has been taken. The list is intended to be flexible. Additions or deletions are to be made when sufficient firm evidence is obtained to enable a more accurate assessment. The Red Data Book, looseleaf professional version is to be presented shortly in a popular bound edition. For the looseleaf version a replacement is mailed out whenever new information is available.

The International Union for the Conservation of Nature and Natural Resources works with the International Committee on Bird Protection, the Fauna Preservation Society, with United Nations Educational, Scientific and Cultural Organization, and the Food and Agriculture Organization, and with numerous other organizations. It has two classes of membership--one for organizations and one for governments or branches of government.

In 1964, after its General Assembly at Nairobi, the International Union for the Conservation of Nature and Natural Resources was able to induce the United States into membership, both for the Department of Interior and the Smithsonian Institution. One of the consequences of membership has been the promulgation within the Department of Interior of an Office for Rare and Endangered Species (in U.S. Bureau of Sport Fisheries and Wildlife), and the job of organizing the work of this office was given to one of the most senior of career personnel of that Service.

The U.S. Bureau of Sport Fisheries and Wildlife has its own Red Data Book (1966) widely disseminated among the government agencies and familiar to you as "Rare and Endangered Fish and Wildlife of the United States" (Resource Publication 34, 1966).

In defining the terms used in its list of North American rare and endangered forms, the pragmatic attitude of the agencies of the United States is apparent. Here "rare" and "endangered" both "connote a need for protection." (Intro. p. 3.). Arbitrary population limits must remain for those hoofed animals which

must be kept within the carrying capacities of their available range. In some places carnivores may have to be controlled for the protection of livestock.

Such species as the greater prairie chicken (Tympanuchus cupido linnaeus) once widely distributed on the natural grasslands, has been dispossessed through changing land use to the extent that one of the subspecies, the Heath Hen (Tympanuchus cupido cupido (Linnaeus) is extinct, and another, Attwater's prairie chicken (Tympanuchus cupido attwateri (Bendire) is greatly endangered. But there are still sizeable islands of habitat that support enough of the northern greater prairie chicken (Tympanuchus cupidus pinnatus Brewster) to permit an annual gunning season on this subspecies in certain areas.

Defined here are endangered, rare, periferal and species with "status undetermined". These are the first published lists of reptiles and amphibians and fishes of concern. This U.S. Red Data Book is available from the Government Printing Office or possibly from one of the agency offices, and thus more readily available than the Red Data Book of the International Union for the Conservation of Nature and Natural Resources. Professional copies of the International Union for the Conservation of Nature and Natural Resources Red Data Book can be obtained from the International Union for the Conservation of Nature and Natural Resources at Morges, Switzerland at the published price (\$10.00).

The Relationship Between International Union for the Conservation of Nature and Natrual Resources and the World Wildlife Fund:

Possibly you are familiar with the efforts to obtain Attwater prairie chicken habitat in Texas. Upon determining through inquiries where native birds were still to be found, the World Wildlife Fund began to recruit money to buy these lands. The World Wildlife Fund enlisted the efforts of several other groups including The Nature Conservancy of Washington, and several foundations. Habitats for numerous other species have been sought and purchased or otherwise obtained for management and protection. World Wildlife Fund has groups ("National Appeals") in countries throughout Europe and has its own entity in the United States. When a project needs implementation and funding the World Wildlife Fund steps in to materialize these results. In this way much work has been done in the private sector. With the methods of "Action Treatment" the International Union for the Conservation of Nature and Natural Resources Survival Service Commission has been able to reach governments and responsible people throughout the world for effective cooperation.

For the wildlife specialists the work for protection of endangered species opens new areas of concern and new fields of opportunity. Any non-game and non-productive, non-commercial species is now more pragmatically within the realm of man's interest. The conventional training and service in which your work developed held rather unbending game values. Now there is opportunity for those with an added special interest in the rare and endangered forms and there is a growing mandate for all wildlife expertise to devote a greater portion of its

technical skill toward measures for a perpetuation of otherwise endangered species.

The work of one of the specialist groups might be of interest to you here. This is the specialist group of Freshwater Fishes headed by Dr. Robert Rush Miller of the University of Michigan whom many of you know as an expert on the Western North American fish fauna. Miller made a special report (Ms.) on the conservation of fishes of Death Valley System, California-Nevada for the Survival Service Commission. He has been aided in this work by Clark Hubbs of the University of Texas and James Deacon of Nevada Southern University, Las Vegas, Nevada. Through the careful documentation of these men and their application to the Nevada Fish and Game Commission, they were able to get adopted a policy statement (Commission Policy No. 16, of January 14, 1967 (processed), Nevada Fish and Game Commission, Valley Road, Reno, Nevada) by the Fish and Game Commissioners of Nevada giving protection to the rare fishes of the desert hot springs.

On the strength of this policy statement enforceable habitat protection began. The owner of a hot spring in southern Nevada was apprehended who was endangering a population of small endemic fishes by introducing exotic aquarium fishes into the warm spring for breeding purposes. Sentence was suspended on condition that he remove all his exotics from the spring. When he did not comply and failed to meet requirements, a permit to occupy the spring was denied him.

The Bureau of Land Management is also working with this group and with the State of Nevada for the protection of those springs and fish populations that occur on public land.

Other private actions in the public interest include the intercession on short notice from the office of Survival Service Commission in Switzerland that brought about a prompt wish to alter "some strange open shooting season decisions on the Kaibab Squirrel." Survival Service Commission has undertaken and asked the Department of Interior to assist in a study of the present trade in Latin American primates and other animals coming through the port of Miami. While some of its members (Foresta Institute, The Conservation Foundation, the U.S. Department of Interior) are activating projects for study of the vicuna (Vicugna vicugna) population in Peru and the development of management criteria for the Pampa Galeras Vicuna Reserve, the Survival Service Commission is proceeding through the concerned Latin American governments to prohibit the dealings in or export of vicuna products to markets. The vicuna has been included on the list of "Wild Furs" (Ms., Survival Service Commission).

At the request of the Survival Service Commission, the United States has asked all ambassadors in the countries where spotted cats are native to obtain data on their transport and capture.

We have seen measures at the international level take effect throughout the world. We have seen national representation in the United States take an active concern in numerous ways--the tightening up of the Lacey Act which controls the import of animals from countries where their harvesting is illegal, the appointment of rare and endangered species specialists on some assignments in federal agencies.

In Oregon and in Washington there are local committees that have been effective for developing information for the protection of rare and endangered species. Aided somewhat by their actions, we have in Nevada an ad hoc committee on rare and endangered species. Representation includes men from federal agencies, state agencies, the universities, and from private organizations. In a committee of this sort the nominations of species known or believed to be in danger can be disseminated, much local cooperation can be elicited, and man can make a grassroots approach to keeping a healthy and total environment.

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