

ery plans for a number of these species are already being carried out. The plans may recommend the acquisition of land, new research, or captive breeding, and also may call for special wildlife and habitat management techniques.

Depending on the particular species involved, some of these plans are harder to carry out than others. It is a complex task, indeed, with a migratory species like the whooping crane, but it does work!

Saving the Whooping Crane

Once flourishing in grassy marshlands and bogs, the whooping crane almost disappeared as people's croplands and cities altered its natural habitat.

In the late 1940's, only one flock of fewer than 20 whooping cranes was left in the world. No one knew where the whooper went to lay its eggs but after a long search, scientists found the whooping crane's nesting grounds in Canada's remote Wood Buffalo Park in 1954. It was a crucial discovery, enabling biologists to begin a comprehensive program to save the great white birds.

Efforts began to protect the crane's habitat, from its Canadian nesting grounds through key stopover points along its migration route to its wintering grounds at Aransas National Wildlife Refuge on the Gulf Coast of Texas, 2600 perilous miles away. An education program was launched to alert farmers and hunters to the bird's endangered status.

Wildlife biologists then set about building up the whooping crane population. They began a program to breed the cranes in captivity. The female crane usually lays two eggs, but generally only one chick survives. Canadian and American wildlife scientists took some of the "extra" eggs from the nests in Wood Buffalo Park and flew them to the Patuxent Wildlife Research Center in Laurel, Maryland, where they were incubated. The whooping cranes hatched at Patuxent make up a captive flock. These birds have now reached maturity and some are producing chicks.

After the success at Patuxent, biologists reasoned that a second wild flock with a different migration route would add to the whooping crane's chances of survival. In 1975, the U.S. Fish and Wildlife Service, the Canadian Wildlife Service, and other agencies began a bold new experiment.

Using a technique known as "foster parenting," the biologists transplanted some of the eggs laid at Wood Buffalo Park and at Patuxent to the nests of greater sandhill cranes—cousins of the endangered whoopers—at Grays Lake National Wildlife Refuge in Idaho. The

- The Department of Agriculture about importing or exporting pets, birds, and Federally regulated plant species.
- Reference books and directories at your local library.

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Endangered Species



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Endangered Species

Since life began eons ago, thousands of creatures have come and gone like the dinosaur—sometimes rendered extinct by naturally changing ecological conditions but more recently by humans and their activities.

If extinction is part of the natural order, some people ask: "Why save endangered species? What makes a relatively few animals and plants so special that effort and money should be expended to preserve them?"

Congress addressed these questions in the preamble to the Endangered Species Act of 1973, holding that endangered and threatened species of fish, wildlife, and plants "are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people." In making this statement, Congress was summarizing a number of convincing arguments advanced by thoughtful scientists, conservationists, and others who are greatly concerned by the disappearance of wildlife.

Sadly, we can no longer attribute the increasing decline in our wild animals and plants to "natural" processes. Many are declining because of exploitation, habitat alteration or destruction, pollution, or the introduction of new species of plants and animals to an area. As mandated by Congress, protecting endangered species and restoring them to the point where their existence is no longer jeopardized is the primary objective of the U.S. Fish and Wildlife Service's Endangered Species Program.

The Federal Law

Passage of the Endangered Species Act of 1973 gave the United States one of the most far-reaching laws ever enacted by any country to prevent the extinction of imperiled animals and plants. The Act created a national program that today involves the Federal Government, the States, conservation organizations, individual citizens, business and industry, and foreign governments in a cooperative effort to conserve endangered wildlife throughout the world. Under the law, the Secretary of the Interior (acting through the U. S. Fish and Wildlife Service) has broad powers to protect and conserve all forms of wildlife and plants he finds in serious jeopardy. The Secretary of Commerce, acting through the National Marine Fisheries Service, has similar authority for protecting and conserving most marine life.

As of September 1988, more than 500 native mammals, birds, reptiles, crustaceans, plants, and other life forms were officially protected on the U.S. List of Endangered and Threatened Wildlife and Plants. In addition, more than 500 foreign species have been listed.

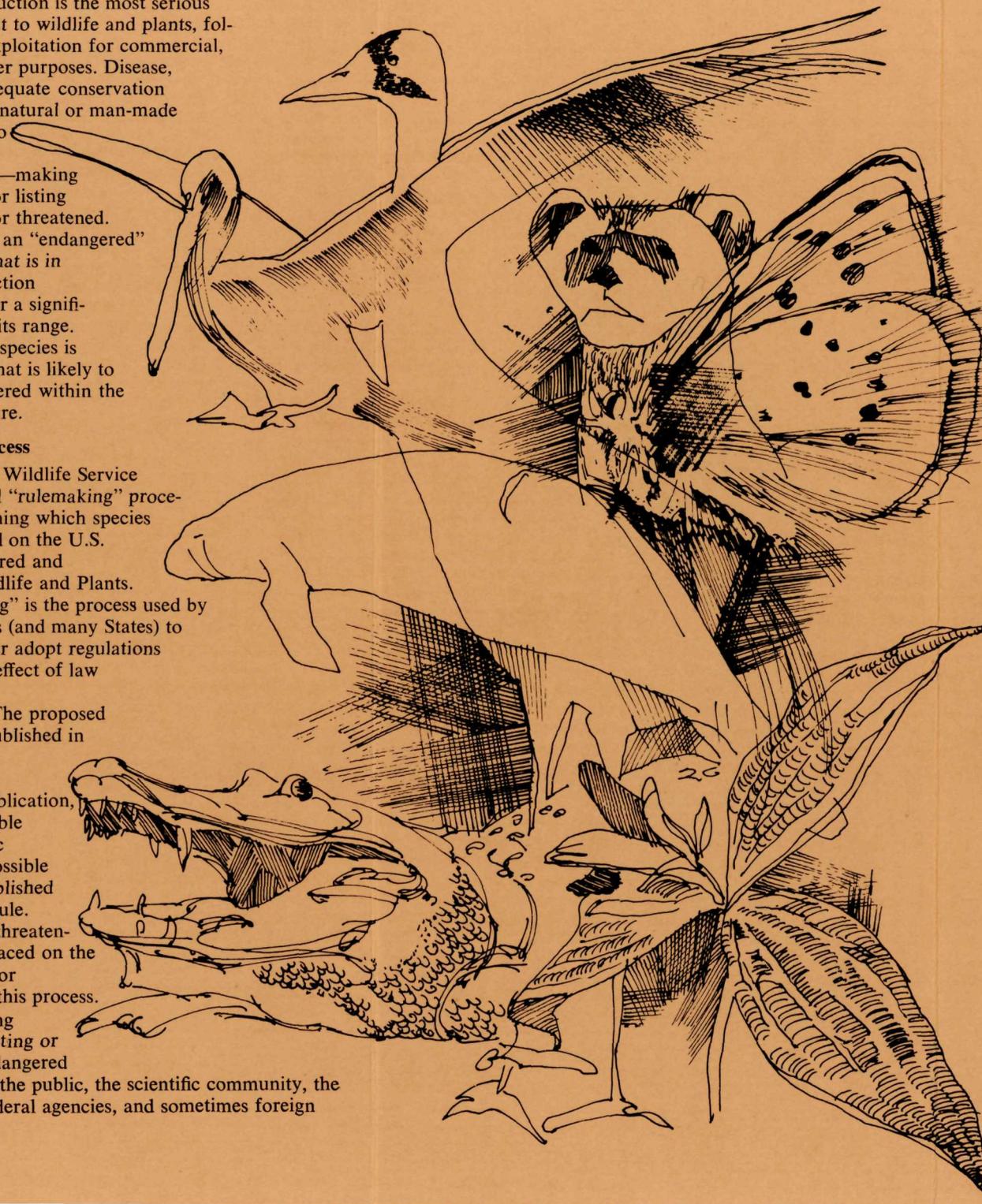
Habitat destruction is the most serious worldwide threat to wildlife and plants, followed by overexploitation for commercial, sporting, or other purposes. Disease, predation, inadequate conservation laws, and other natural or man-made factors may also contribute to a species' decline—making it a candidate for listing as endangered or threatened. The Act defines an "endangered" species as one that is in danger of extinction throughout all or a significant portion of its range. A "threatened" species is defined as one that is likely to become endangered within the foreseeable future.

The Listing Process

The Fish and Wildlife Service follows a formal "rulemaking" procedure in determining which species should be placed on the U.S. List of Endangered and Threatened Wildlife and Plants.

A "rulemaking" is the process used by Federal agencies (and many States) to propose and later adopt regulations which have the effect of law and apply to all U.S. residents. The proposed rulemaking is published in the **Federal Register**, a daily Government publication, and after a suitable period for public comment and possible revision, it is published again as a final rule. Endangered or threatened species are placed on the list, reclassified, or deleted through this process.

The rulemaking procedure for listing or reclassifying endangered species involves the public, the scientific community, the States, other Federal agencies, and sometimes foreign



governments. Fish and Wildlife Service biologists themselves may develop information indicating that a species' continued survival is threatened. Often, however, nominations for listing, delisting, or changing a species' classification come from individuals or organizations, States, or scientists. Indeed, anyone may file such a petition. If a species' status is uncertain, the Service publishes a "notice of review," soliciting additional information on a species from any source anywhere in the world.

When the evidence meets the criteria for Federal protection, the Service publishes a proposal to list the species. At this and every other stage of the process, the public, State authorities, and other interested parties are encouraged to comment and to attend any public meetings held on the proposal. Following a review of the comments and any new information, the Service decides which category of protection a species should receive—or whether it should be listed at all. If the final determination is that protection is warranted, the species is then officially classified as "endangered" or "threatened." Under the law, it then cannot be harmed, pursued, hunted, transported or traded in interstate or foreign commerce without special permission.

Critical Habitat

The 1973 Act also calls for the conservation of what is termed "critical habitat"—the areas of land, water, and air space an endangered or threatened species needs for survival. Such areas, for example, include breeding sites, cover and shelter, and surrounding habitat that give room for normal population growth and behavior. The process of determining critical habitat is similar to the one for listing a species. And the two procedures often parallel each other. The main threat to critical habitat is its destruction and modification by uncontrolled land and water development. The Congress recognized that the Federal Government itself was involved directly or indirectly in a great deal of development. Thus, the law requires all Federal agencies to ensure that their actions (or actions funded or authorized by them) do not threaten the existence of a listed species, or adversely affect its critical habitat.

Recovery

A main aim of the Service's Endangered Species Program is to restore populations of listed species to a point where they are no longer in danger of extinction and are again self-sustaining members of their ecosystem. Recov-