

North American Wildlife: The Vanishing Act

by Lisa J. Shawver

Thousands of species have come and gone throughout the millennia of earth's history as a result of natural selection, a slow process directed by gene mutations, climatic and topographical changes and glacial advances. But the changes have been greatly accelerated by civilized people with their technological means of rapidly altering the environment. Today species are disappearing at the rate of one species or subspecies per year.

Of all the continents, North America has witnessed perhaps the most drastic reductions in abundance and number of wildlife species, largely due to the rapid transition to a highly industrialized society. Among the victims are the great auk, Labrador duck, passenger pigeon, heath hen and Carolina parakeet, among the birds; Merriam's and eastern elk, California, Texas and plains grizzlies, eastern forest bison and giant sea mink, among the mammals; San Geronio trout, pahranagat spinedace, thickettail chub, harelip sucker and Ash Meadows killfish, among the fish. In addition, today the U.S. Department of the Interior's Bureau of Sport Fisheries and Wildlife lists no less than 109 species of American wildlife—ranging from the timber wolf and black-footed ferret to the whooping crane and southern bald eagle—to be in imminent danger of extinction. (An endangered species is one whose prospects of survival and reproduction are slim and in need of assistance.) Direct attack by man, in the form of hunting, poisoning and trapping, has taken a heavy toll, but so have destruction of habitat, pollution and insecticides.

Predator control in the United States began almost immediately upon the arrival of the first European settlers, accelerated after the Revolutionary War and paralleled the growth of the livestock industry. Government participation in predator-control programs began with the placing of bounties on wolves in the early 1600's but it wasn't until the 20th century that the Federal Government took a more active role, becoming the chief funder of predator-control programs.

Certainly the wolf, mountain lion, fox, bobcat and bear preyed on sheep, goats, cattle and poultry, but the settlers also brought their Old World fears and superstitions concerning predators



Photos: U.S. Fish and Wildlife Service

with them to North America. Consequently, whether preying on livestock or not, predators were generally shot on sight. This course of action tends to continue today for coyotes, golden eagles, red foxes, cougars and bobcats and is largely responsible for the placing of the eastern timber wolf, Mexican wolf, red wolf, glacier bear, grizzly bear, southern bald eagle, Florida panther and eastern cougar on the endangered species list.

Every animal has its place and role in nature's grand design, including the predator. Occasional loss of livestock must be weighed against the good these animals perform.

Predators help maintain the health of prey species by culling out the diseased, young, old and injured. Predation intensifies when there is a surplus population in the victim species and decreases when the population of the prey species decreases. In addition, predators serve the vast hordes of scavenger animals that feed on carrion.

Heavy trapping and hunting pressure as well as loss of habitat are the major reasons for the decline in the population of the mountain lion, also known as puma, panther, catamount and cougar. This cat had the widest distribution of any mammal in the Western Hemisphere. Its range extended from northern British Columbia to the southern tip of South America, and from the Atlantic to the Pacific. In the eastern



Bighorn populations have dwindled due to loss of habitat, hunting and disease. The bald eagle is threatened by poisoning and loss of habitat.

United States, with the exception of a few individuals in the Blue Ridge Mountains of Virginia and Florida, the mountain lion was essentially extinct by the turn of the 19th century; in the West the pattern of persecution was similar to that suffered by other predators—as the sheep and cattle empires grew, so did the war on the mountain lion.

The mountain lion's natural prey is the mule deer, antelope, elk, wild sheep, beaver and occasionally the coyote. When its natural prey became less available, it began incorporating livestock into its diet, but studies show that claims of livestock damage have been greatly exaggerated.

Most states—with the exception of Arizona—had removed bounty laws on cougars by the mid-1960's; the animals are now declared game animal in Colorado, British Columbia, Washington,



About 40 sandhill cranes remain today.

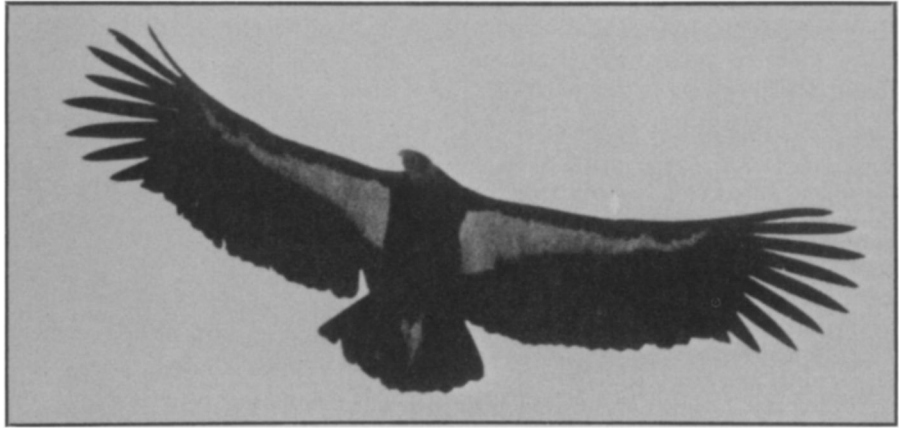
Nevada, Utah and California. This reclassification, however, offers little protection in Utah and California, where the hunting season is year-round. In 1970 hunters shot 300 cats in Washington alone—a toll amounting to one-fourth of the state's estimated mountain lion population. Annual trophy harvest in Arizona exceeds 200 animals. Of the roughly 15 types of mountain lion, two are on the endangered species list—the Florida panther and the eastern cougar.

The former distribution of the Florida panther was from eastern Texas or western Louisiana and the lower Mississippi River Valley, east through southeastern United States. The 150 to 300 remaining individuals live solely in Florida and have been given full protection from hunting and trapping. Its population is believed to be gradually increasing due to an increase in deer in the Everglades since the area became a National Park.

Formerly thought to be extinct, 25 Eastern cougars have been sighted in New Brunswick. Its range is also believed to be gradually increasing due to pulpwood operations that are creating conditions ideal for grouse and deer.

Man has been waging a relentless war on those animals that compete for grazing land with his livestock. The opening of the Great Plains brought the prairie dog into immediate conflict with ranchers and farmers who viewed the creature as an undesirable competitor for prairie grass. Ranchers have supported intensive poisoning programs that have destroyed hundreds of thousands of the animals.

Prairie dogs have developed a high degree of social organization. They live in underground "towns" that extend over a wide area that often consist of several thousand individuals ruled by



North America's largest soaring land bird, the California condor, numbers 50 to 60.

a group of dominant males.

The least common of all species of prairie dogs and listed as endangered is the Utah prairie dog, numbering roughly 6,000 in south-central Utah. Poisoning has been halted for this particular subspecies but continues for all others. The poisoning of prairie dogs has affected many non-target animals, mainly its predators and scavengers. One is the black-footed ferret (SN: 1/19/74, p. 41).

The black-footed ferret may be the rarest mammal in the United States. Its former range coincided with that of the prairie dog. It can be found in the plains country of Montana, North Dakota, south to New Mexico and Texas; but everywhere it is extremely rare. From 1955 through 1964, there have been only 55 sightings, mostly in South Dakota. Apparently, the ferret's best chances of survival is the preservation of the prairie dog.

Direct attack by people on a species is an obvious form of extermination, but there are more subtle processes that often have the same fatal results for wildlife. Short of destroying the organism itself, destruction of its habitat is perhaps the most effective indirect means of bringing about extinction.

The introduction of domesticated sheep and cattle to North America had the effect of limiting the range for such wild foragers as the elk, pronghorn, Dall and bighorn sheep, as well as increasing competition for available grazing land between these species.

Once numbering about 50 million, the pronghorn roamed the American plains along with the herds of bison. Not actually an antelope but a unique American species that developed on the western plains, the animal can run at speeds of 55 miles an hour and make occasional leaps of almost 20 feet. Speed, once its main defense against its natural predators, proved ineffective against the high-powered rifle. Shooting, cattle raising and agriculture have dwindled the pronghorn population to small numbers of fugitives on desert fringes.

The Sonoran pronghorn is in immediate danger of extinction; approximately 1,000 are left in Mexico and 75 in Arizona. The American population is believed to be stable, but those in Mexico are rapidly disappearing.

Loss of former habitat, indiscriminate hunting and increased susceptibility to diseases, due to a lack of natural predators, are among the reasons for the low population of the bighorn sheep in North America. In 1800, an estimated 2 million roamed the grassy foothills and valleys from Alaska to Mexico. Today, they number between 15,000 and 18,000 in the United States and can be found in only small mountain pockets, generally inaccessible to man. Since the arrival of the first Europeans, their history has been one of fluctuations—building up to fair numbers and suddenly dying from diseases.

The bighorns were once particularly abundant in the eastern foothills of the Rockies, but unrestricted shooting and scabies, contracted from domesticated sheep, brought a drastic decline in their population in the late 19th century. The California bighorn can be found roaming eastern Oregon and the Sierra Nevada of California. In Canada, there are herds in southern British Columbia, some of which may migrate into Washington during the summer. Listed as endangered, the California bighorn numbers less than 200 in California, 1,200 in British Columbia, 250 in Oregon and 18 in Nevada.

The peninsula bighorn is a small desert-inhabiting sheep living in the Santa Rosa Mountains and other parts of extreme southern California, south to northern Baja California in Mexico. The California Department of Fish and Games estimated its population in 1971 to be 971. Drought and heavy hunting pressure, despite the fact that there has been a total closed hunting season in Baja California for 40 years, are responsible for this bighorn's decline.

The prairie chicken, which requires tall grass, is being slowly eliminated as their habitats are used for grazing and farming. Already its close relative, the

heath hen, is extinct. Three subspecies are endangered—the northern greater prairie chicken, the Attwater's greater prairie chicken and the lesser prairie chicken.

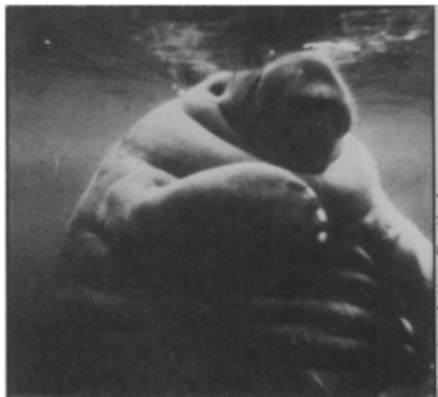
Drainage, filling and development in general are destroying many animal and plant habitats, as is the case of the Everglades National Park, the largest subtropical wilderness and last refuge for many species. Levees and canals are diverting water out of the park for commercial use. Swampland and water holes, so important for wildlife, are evaporating. Wintering and spring-nesting birds are having difficulty finding enough food. Alligators are finding fewer places to swim, and fish are dying by the thousands.

The Everglades National Park is the largest sanctuary for the manatee (*Trichechus manatus latirostris*) in the United States. Also known as a sea cow, this large (1,200 pounds) aquatic mammal has no hindlimbs and flippers for forelimbs. It can eat up to 100 pounds of aquatic plants a day. Its population has been greatly reduced by hunting (for its flesh, oil and skin) and by silting of coastal feeding grounds. There are no reliable estimates of how many exist because they are one of the most difficult of all aquatic mammals to observe in the wild. At last count, only five manatees have been sighted in the 29,000-acre Chassachowitzka National Wildlife Refuge near Tampa.

The Florida Key deer, smallest of the white-tail deer, has never been known to exist outside the keys off the southern tip of Florida. They lived on most of the islands, readily swimming from one to another. Today they are largely confined to an area from Little Pine Key to Cudjae Key. Their decline resulted from a combination of factors—development and occupation of islands by people, overhunting with dogs and spotlights and the disastrous effects of hurricanes and fires. In 1949 the deer population was down to about 30 deer. But their survival looks promising. Thanks to protective legislation, the establishment of Key Deer National Refuge in 1953, acquisition of land through the Land and Water Conservation Fund and favorable publicity, their population rose to 300 in 1964 and 600 in 1972.

The Florida Everglade kite's (*Ros-thramus sociabilis plumbeus*) specialized food habit is affecting its survival. A marsh hawk, it feeds upon a single species of freshwater snail known as the apple snail. Extensive drainage of the marshes in which the apple snail is found, as well as shooting and egg collecting, have brought this bird to near extinction. There are an estimated 120 remaining in the Everglades.

The Kirtland's warbler (*Dendroica kirtlandii*) will nest only under jack



Manatees can grow to 12 ft. and 1,200 lbs. eating up to 100 lbs. of plants a day.

pinus no taller than six feet because it needs the trees' lower branches to conceal its entering and departure from the nest located on the ground—thus the reason its nesting range is confined to an area of Michigan 100 miles east-west and 85 miles north-south.

Jack pines are among a few plants that survive and even thrive in burned barrens. Fires are therefore necessary for keeping the jack pines at nesting height requirements. When fires were eliminated or restricted, jack pines began exceeding six feet and the Kirtland's warbler's population began falling. Today there are approximately 300 pairs in Michigan. The U.S. Forest Service has set aside 4,000 acres of national forest for the bird and practices a program of rotational-controlled burning to provide an optimum nesting habitat.

In 1947 agriculture began taking advantage of a new tool offered by technology—pesticides. DDT and a series of organic compounds known to ecologists as the "deadly seven" proved effective in controlling such pests as the bark beetle, potato beetle, the boll weevil, spruce budworm and diseases such as malaria. The compounds DDT, aldrin, chlordane, dieldrin, endrin, heptachlor and lindane are residual poisons, which means they resist ordinary processes of organic decomposition and can thus persist in an area long after initial spraying and will accumulate inside and outside animal bodies. Not only do these insecticides kill wildlife by attacking the nervous system, and causing tumors, they also interfere with the calcium metabolism of most birds that feed on pesticide-infected food and cause them to lay eggs with extremely thin shells or no shells at all. Pressure from ecologically minded persons and organizations resulted in an almost complete ban on the use of DDT, but exceptions have been made. This summer the U.S. Park Service will use DDT in Washington, Oregon and Idaho to control tussock-moth infestations (SN: 3/30/74, p. 209).

Top predator birds and animal are

the most vulnerable to the chemicals since they specialize in eating the sick, dying or dead. Some 40 species of birds are known to be plagued with the consequences of ingesting pesticide-contaminated food. A bird census in Connecticut taken in 1938 showed the population of ospreys (a fish-eating bird) to be about 200 pairs. By 1965, only 12 pairs existed. Productivity had dropped from an average of 2.5 young per nest to 0.5 young per nest. Eggs were found to have DDT in them.

The national symbol of the United States, the bald eagle, and 12 species of hawks are declining in number because of thinning eggs. The California brown and the eastern brown pelican are also being wiped out by DDT buildup and collapse of thin-shelled eggs and other impairments of reproduction that have been largely attributed to dieldrin.

The California condor is North America's largest soaring land bird, weighing 20 to 25 pounds and having a wing span of 9 to 10 feet. Its former distribution was from the Columbia River in Oregon, south to northern Baja California and east to southwest Utah and Arizona. But disturbance by man, including habitat modification and shooting, as well as poisoning, has dwindled the population to a mere 50 to 60 birds.

The condor is extremely susceptible to catastrophes because of its low reproduction rate of one egg every two years. The birds also need complete privacy; loud noises can alarm them from a mile away, and people moving within a half mile of the nest can disturb them. Measures taken to protect these birds include stiff fines or jail sentences for taking or possessing a condor, the establishment of two sanctuaries, refusal of oil drilling rights in condor breeding areas and the restriction of air traffic above sanctuaries.

Why is there so much fuss being made over the extinction of the condor or any other species in a similar predicament? Every species that becomes extinct is forever gone, and with each departure a small part of the diversity of nature that makes life so interesting is gone. But aside from the inspirational, social and aesthetic dimensions, of "what practical use" is the black-footed ferret or the timber wolf to man?

As botanist Richard H. Wagner of Pennsylvania State University so cogently states in his book *Environment and Man*: "Until we know exactly the role of every organism in an ecosystem, how it controls or is controlled by others, we cannot abandon any species as superfluous, not even the pitiful flock of whooping cranes. If we do, we run the risk of having to cope with future population explosions of fungi, insects, rodents or whatever, that might well dwarf any problem seen to date." □