Great Plains to the Pacific. These areas contain the only significant grizzly populations south of Canada, and, insofar as is known, provide all biological, physical, and behavioral requirements of those populations. Among the important characteristics of these areas is their relative inaccessibility and lack of the kinds of human developments and activities that tend to result in conflicts between the bears and man. This degree of isolation and freedom from excessive human presence seems critical to the survival of the grizzly. It is true that there are many natural or manmade sites scattered over these areas that are seldom or never utilized by the grizzly bear. It would not be possible, however, to attempt to identify all of these sites and exclude them from the overall designation.

There has been widespread and erroneous belief that a critical habitat designation is something akin to establishment of a wilderness area or wildlife refuge, and automatically closes an area to most human uses. Actually, a critical habitat designation applies only to federal agencies. It is essentially an official notification to the agencies that the Endangered Species Act requires them to ensure that their activities in a critical habitat area do not jeoparendangered or threatened species or result in the destruction or modification of the habitat.

Public comments on the proposal may be sent through February 9, to the Director, U.S. Fish and Wildlife Service, Washington, D.C. 20240.

Annual Seal Slaughter

A massive killing of 23,110 fur seals occurred last summer on United States government land. From June 28 to the end of July, up to 1,000 seals a day were slaughtered under the auspices of the National Marine Fisheries Service of the U.S. Department of Commerce.

These killings were legalized by the Fur Seal Act of 1966, which has provisions calling for the United States to kill the marine mammals on their breeding grounds, the Pribilof Islands, situated in the Bering Sea 800 miles southwest of Alaska. The basis of the Fur Seal Act was an attempt to stop other nations from killing the animals at sea. As a consequence, 15 percent of the U.S. kill goes to Canada and 15 percent to Japan.

The purpose of the annual slaughter is to save the herd; but the result has been to reduce the total fur seal population from an official figure of five million fur seals before the passage of the act to 1.2 million in 1976, as reported by the federal government.

In spite of the rapidly dwindling herd, Mark Keyes, Seattle veterinarian on duty during the slaughter, reported that plans had been made to start in 1977 the slaughter of two- to four-year-old female seals as well as males.

In 1976 the intent was to kill only bachelor male seals, but this is difficult because sexually immature seals of both sexes gather on the same hauling grounds from which they are driven inland for the kill. The kill is done by beating the seals with clubs.

Each fur skin is removed from the seal's body and shipped to Greenville, South Carolina, where it is commercially processed and sold at auction. A single firm holds a processing contract with the federal government. The carcasses are sold (also under contract) to an association of fur-breeders and recycled as food for ranch-raised mink.

The kill takes place in the name of conservation. By keeping the number of seals down, government biologists claim, the seals can thrive. In reality, say opponents, the Pribilof seal herds are thus threatened with annihilation. According to the Committee for Humane Legislation, headquartered in New York City, the number killed is diminishing even though every available seal is herded inland to the killing fields. The number killed in $1976 - 23{,}110 - is$ less than one-quarter the number of skins promised the furriers by the biologists. In 1972 testimony to the Congress concerning marine mammals, official data indicated that the federal management of seals would result in an annual kill of 100,000 seals.

The projected off-shore drilling for oil near seal breeding grounds is also cited by the Committee for Humane Legislation as a serious threat to the animals' survival. Oil slicks and nets, they contend, are extremely hazardous to seals.

Bird Repellent Developed for Use on Fruit Crops

U.S. Fish and Wildlife Service researchers have developed a bird repellent for use on sweet cherry crops that allows growers to raise cherries successfully and still have birds in their orchards. If its use is registered with the Environmental Protection Agency—and scientists think it will be—it would be the first time a chemical has been approved for protection of fruit from bird damage. Its use on other crops also looks promising.

The chemical, methiocarb, is a short-lived carbamate that breaks down rapidly in sunlight. The compound is a potent emetic, and when birds eat a few cherries they soon learn to associate its taste with its effects. The effect is temporary, however, and birds recover completely. In 10 years of field-testing at practical repellent-use levels, no birds have been found whose death was attributed to methiocarb. No chronic effects have been observed and reproduction is normal. The treatment appears to work on every major species of bird which attacks orchards.

Nationwide, more than \$70 million worth of sweet cherries are grown annually and orchards are easy targets for birds which can and do inflict considerable damage on the ripening fruit. Damage in some orchards is now kept in food crops. Experiments conducted by FWS biologists over the last several years led to a registration of methiocarb in 1976 for use as a corn seed protectant against blackbirds. In many Eastern and Midwestern states blackbirds cause heavy damage to newly planted cornfields by eating the seeds shortly after they sprout. Methiocarb seems to be an effective solution to this problem, Methiocarb was also registered for use in 1976 as an insecticide on cherry and peach crops with a distinctly high permissible residue tolerance of 25 parts per million on cherries and 15 parts per million on peaches. Methiocarb also looks promising as a bird repellent on blueberries, grapes, grain sorghum, and sprouting rice.

Critical Habitat for Four Endangered Species

The critical habitat, or living space animals need to survive, has been officially listed for four endangered species—the American crocodile (Crocodylus acutus), California condor (Gymnogyps californianus), Indiana bat (Myotis sodalis), and Florida manatee (Trichechus manatus).

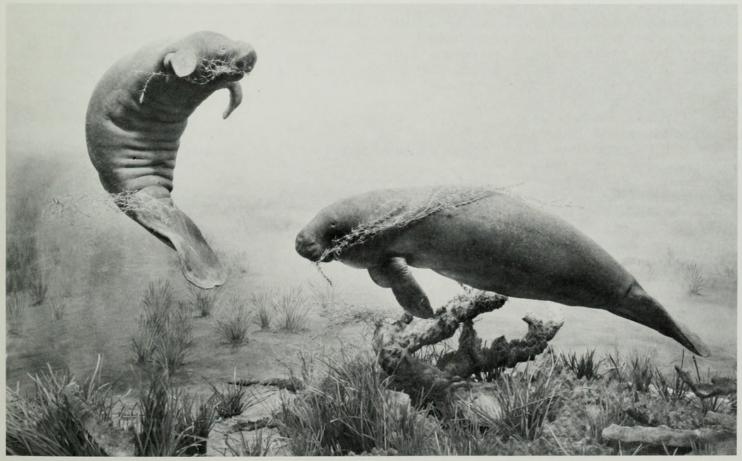
The Fish and Wildlife Service published a final rulemaking September 21 listing the areas which ought to remain unruined if the species are to have a decent chance to be saved. The rule went into effect October 22. It is by no means a guarantee, however, that man will be prevented from destroying the species.

Critical habitat for these four species, as well as for the snail darter (*Percina tanasi*) and the whooping crane (*Grus americana*), was proposed on Dec. 16, 1975. A final rule-making designating critical habitat for the snail darter was issued on April 1, 1976. As for the whooping crane, so much information was received in response to the December 16 proposal that more time will be required for evaluation.

This determination is being made in accordance with Section 7 of the Endangered Species Act of 1973, which requires all federal agencies to ensure that actions authorized, funded, or carried out by them do not adversely affect the critical habitat of endangered and threatened species. The specific delineations of critical habitat in this rulemaking will assist federal agencies in knowing the areas where their responsibilities may apply. The designations, however, are not comparable to establishment of wilderness areas

or wildlife refuges. No legal jurisdiction is assumed, and no prohibition of particular activity is made. The only specific effect of the rulemaking is that federal agencies will have to evaluate their actions with regard to the requirements of Section 7. The Fish and Wildlife Service emphasizes that the determinations apply only to federal agencies and only to their actions that may adversely affect the species involved. It is thought that many kinds of actions in the designated areas would not be detrimental.

The critical habitat being designated for the American crocodile covers the area inhabited by nearly all of these huge reptiles that survive in the United States. The area is located in extreme southern Florida, mostly in Everglades National Park and the northern Florida Keys. The 200 to 300 crocodiles here are dependent upon the waters of Florida Bay and the associated marshes, swamps, creeks, and canals. All known breeding females, of which there are less than 10 in Florida, inhabit and nest in the delineated area.



Manatee diorama, Hall N



1977. "Bird Repellent Developed for Use on Fruit Crops." *Field Museum of Natural History bulletin* 48(1), 4–5.

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