our environment

Anti-Cowbird Program Aids Kirtland's Warbler

The trapping of brown-headed cowbirds *(Molothrus ater)* may be an important key to ultimate survival for Kirtland's, or the jack pine, warbler *(Dendroica kirtlandii)*. Long a rare species, the warbler nests only in jack pine forests of Michigan's lower peninsula, where it is parasitized by the cowbird. The cowbird lays its eggs in the nest of the warbler (among other species). The cowbird fledglings, larger than those of the warbler, get priority at feeding time; the young warblers starve to death.

A 1971 survey showed a warbler population of only 400—a 60 percent decline from a decade earlier. In an effort to combat this precipitous trend, a three-pronged program was begun in 1972 jointly by the U.S. Forest Service, the U.S. Fish and Wildlife Service, the Michigan Department of Natural Resources, and the National Audubon Society. The program entails management of forest lands to provide young jack pines, establishment of additional forest land for the warbler, and cowbird control.

In spring, 1972, 15 decoy traps baited with sunflower seeds, fresh water, and live cowbirds were set on seven warbler nesting areas. Over 2,200 cowbirds were trapped and warbler egg losses dropped in three of the areas from 65 percent to 6 percent. The number of young warblers reaching the wing that year nearly tripled. In 1973, 19 traps were set in the seven warbler areas. More than 3,000 cowbirds were removed from the warblers' areas last spring, and a nest survey showed that not one warbler nest had been invaded in three of the seven areas. A population increase of eight percent was recorded. This year the number of traps has been increased to 23. An upturn in the warbler population to 432 for 1974 suggests that the warbler restoration program is having its desired effect.

Foster Homes for Young Whoopers

One of the rarest of North American birds, the whooping crane *(Grus americana)*, may well be saved from extinction by a current project of the U.S. Fish and Wildlife Service. Only forty-eight of the species are known to survive in the wild. The birds breed in Canada's Wood Buffalo National Park, in the District of Mackenzie, Northwest Territories, and spend the winter on the Texas coast, mainly in Aransas National Wildlife Refuge.

For five years in a row, whooping crane eggs have been taken from the nests and transplanted to Patuxent Wildlife Research Center in Laurel, Md. Seventeen birds have been successfully raised from eggs taken in previous years. In May, thirteen eggs collected in Canada were also taken to the research center. The eggs were removed only from nests that contained two eggs. (The removal of one of a pair of eggs does not seem to materially affect the number of young cranes arriving at the Texas wintering ground. Few families arrive there with more than one chick even though two eggs had been laid.)

Twelve of the captive flock at Patuxent have been paired off in separate areas because they have themselves shown indications of pairing. In spring of 1975 an artificial lighting situation will be set up to achieve synchrony in the male and female cycles. Continual light at normal breeding time tends to stimulate hormonal activity which leads to breeding.

Crocodile Shoes Confiscated by Feds

About $35,000 worth of imported men's shoes were seized recently by government agents when it was determined that the shoes were made from the hide of an endangered species of crocodile. More than 390 pairs of shoes were confiscated, all made from the hide of the Nile crocodile, *Crocodylus niloticus*, one of six crocodile species that is listed by the U.S. Department of the Interior as endangered. The shipments, intended for two importers in Maine and Massachusetts, were seized by special agents of the U.S. Fish and Wildlife Service; a penalty action was also initiated against the importers.

Identification of the species was determined by zoologists who studied the texture of hide used in the shoes and compared samples with museum specimens for the presence or absence of bony material in the scales, and the number and size of the scales.

The forfeited shoes were destined for retail outlets in the United States, with an average price of $90 a pair. The shoes will be temporarily placed in a government

Adult whooping cranes (Grus americana)

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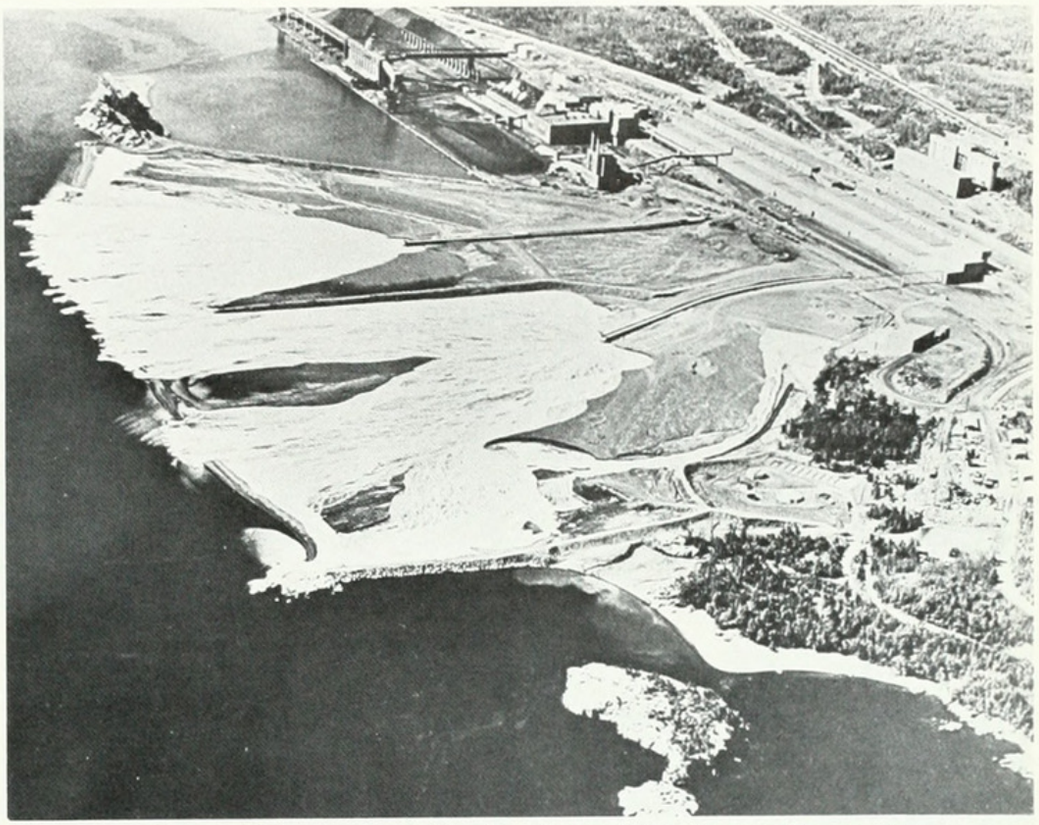
warehouse along with other forfeited wildlife products which have been illegally imported into this country by commercial firms, tourists, and hunters. Most are made from endangered species and cannot be sold.

Twenty-seven species and subspecies of crocodiles are generally recognized by herpetologists. Six are now on the Secretary of the Interior's endangered species list, which also includes the American alligator *(Alligator mississipiensis).*

A profitable world trade in crocodile hides flourishes in Latin America, Asia, and Africa. A large percentage of these hides funnel from hunters on these three continents through wholesale export firms to tanning firms in such countries as France, which process, dye, and burnish the hides. The hides are then shipped to Italian manufacturers for the world shoe, belt, handbag, watchband, golf bag, briefcase, and luggage market. Commercial processing of these hides is legal in Europe. Some countries in Latin America, Africa, and Asia have recently outlawed or limited commercial harvest of crocodilians. Others are investigating regulating the harvest.

The Nile crocodile, which grows up to eighteen feet long, has been hunted to the brink of extinction in Africa because its hide is particularly suited to the manufacture of shoes and other accessories. It has less bony material in its belly scales than most other crocodilians of that area. Those are the only parts used for manufacturing. Hunters have concentrated on taking younger Nile crocodiles of six to nine feet in length before the scales grow too large.

The crocodile fills an ecological niche as the major predator of the waters it inhabits. Its removal from an area greatly disturbs the balance of life. In areas of Africa where the Nile crocodile no longer ranges, for example, the yield of food fish for human consumption has gone down dramatically because the slower-swimming, rough, or bottom-feeding fish that were the main diet of the crocodile have multiplied to the point of forcing more desirable fish out of those waters. The Nile crocodile once ranged over the southern two-thirds of Africa, including Madagascar. Today it is restricted primarily to the Nile River drainage system because man has moved into much of its former range.



Aerial photo of Reserve Mining Company's Silver Bay (Minnesota) plant on Lake Superior. During a normal day's operation, some 67,000 tons of taconite tailings—which contain asbestos fibers—are dumped into the lake.

Asbestos-loaded Residues Dumped in Lake Superior

In 1947 the Reserve Mining Company filed for permission to dump residue from its processing of taconite, a low-grade iron ore, into Lake Superior. The proposed mining of taconite was generally hailed as a godsend to northeastern Minnesota, where the depletion of higher-grade iron ores was threatening the region's economy. A few dissenters, however, warned that dumping taconite tailings into Lake Superior would threaten fish life as well as contaminate the water supply of Duluth, Minnesota, and other nearby communities.

In time, Reserve was permitted to operate its taconite processing plant at Silver Bay, and in the mid-1950s it began to dump 67,000 tons of tailings into the lake each day.

Environmentalists grew more concerned about the possible hazard to human life, pointing out that fibers of asbestos, a known carcinogen, were present in the taconite residue, and that these were carried by lake currents many miles from the dumping site. What was to become the longest environmental trial in history began in August 1973 and ended the following April, with U.S. District Court Judge Miles Lord closing the Silver Bay plant on April 20. The guiding force behind the court's decision was its determination that the asbestos fibers are indeed a "serious health hazard."

In a memorandum, Judge Lord stated that while the extent of the hazard could not be immediately evaluated—and perhaps not for ten or twenty more years—thousands of persons were being daily exposed to a known carcinogen.

Three days following the court-ordered shutdown, the eighth U. S. District Court of Appeals stayed Lord's closing for seventy days. Meanwhile Reserve was ordered to find an alternate dumping site on land. The company proposed a dumping site in the Palisades Creek area 3½ miles from its Silver Bay plant. This plan, however, was rejected by Minnesota state officials, arguing that the Palisades area was one of unsurpassed beauty and not to be desecrated as a dumping ground.

In July, Reserve stated that it could halt the dumping of tailings into the lake within 28 months. In the meantime, if company operations continue, some 200,000 Lake Superior area residents will continue drinking the asbestos-contaminated lake water.