our environment

Illinois Bald Eagles on Increase

Bald eagles were not an uncommon sight in Illinois this winter, and eagle-watchers are sounding notes of optimism in the encouraging ratio of immatures to adults observed. The count by U.S. Fish and Wildlife personnel along the Mississippi from Dubuque, Iowa, to Rock Island, Ill., recently was 135 bald eagles, with a ratio of two adults to each immature bird. The same ratio was seen in the Mississippi River backwater areas from Bellevue, Iowa, five to six miles downstream, where 90 eagles were counted. In Crab Orchard National Wildlife Refuge, in southernmost Illinois, 23 bald eagles were reported in approximately the same ratio.

At Horseshoe Lake 48 were observed, including 18 immatures, and 15 were seen at Union County Conservation Area, with 8 immatures.

At Chautauqua National Wildlife Refuge, in west central Illinois, 34 bald eagles were seen—half of them adults, half immatures. The improved adult:immature ratio of late is attributed to the ban on DDT.

Illinois residents also saw more of the pileated woodpecker this past winter; 51 were seen in Union County during the Audubon Yule bird count and 15 were counted at Horseshoe Lake. Unusual sightings included the snowy owl in Brown County, rock wren (the third reported sighting in the state), black and white warbler (first ever seen in Illinois in winter), vesper and Lincoln's sparrows, pine warbler, and Virginia rail.

Peregrine Falcons Reintroduced

The endangered peregrine falcon, killed off in the wild by DDT east of the Rocky Mountains by the 1960s, will be returned to several Atlantic coast sites this spring by the U.S. Fish and Wildlife Service. A number of falcons bred in captivity at Cornell University by ornithologist Tom Cade will be released in a cooperative venture involving the U. S. Army Material Command, the National Audubon Society, the Peregrine Fund of Cornell University's Laboratory of Ornithology, the U. S. Forest Service, and the U. S. Fish and Wildlife Service.

The experimental reintroductions will first take place in New England, New York State, and in the Chesapeake Bay area. Subsequent releases each spring thereafter are planned for the East Coast now that Cornell University has developed a successful captive breeding program. In 1974, the university's ornithology lab produced 23 young peregrines, 29 prairie falcons, 7 lanners, and 2 gyrfalcons.

A western breeding facility for peregrine falcons has also been established under the direction of Cornell's raptor staff at a research site in Colorado in cooperation with the Colorado Divison of Wildlife. Young peregrines raised there are scheduled to be returned to western wild lands in the near future.

The upcoming trial releases on the East Coast will concentrate on an adaptation of the falconer's technique of "hacking." A week before nestlings reach the flying stage, groups of four to six will be placed in protective enclosures at suitable eyries—either natural cliff sites or on manmade structures. As soon as the birds are capable of sustained flight, they will be released from the enclosure and allowed to fly free. Having learned to associate the hacking station with food, they will return to it for their meals until they are able to sustain themselves by their own hunting efforts, normally three to four weeks after first flying.

Only after a large number of banded and color-marked falcons have been hacked in this way will it be known how successful they will be in surviving to breeding age and whether they will return and breed in the areas where they were originally hacked. The working hypothesis is that these young birds will develop a lasting fixation to the site, or at least to the immediate area where they are hacked, and that survivors will return to the same places to breed at the age of two or three years.

The peregrine falcon resembles a medium-sized hawk with long, pointed wings and long tail. It is known for quick, deep beats. The adult is slate blue-grey above and its wing, tail, and flanks are barred with black. It has a white throat with black streaks on each side of its face.

Currently the bird is wiped out east of the Rocky Mountains in the United States, in Ontario, southern Quebec, and the Maritimes. Local declines have also been reported from the western United States, the Yukon territory and interior Alaska. The bird's status in the eastern Canadian boreal forest is unclear but evidently it is not numerous there.

The number of *known* eyries with adults present is currently estimated at no more than 50 in the United States south of Canada. A few hundred pairs of the Arctic subspecies peregrine still breed in northern Alaska and the moist subarctic forests of Canada and Greenland principally along major rivers.

The primary reason for the peregrine's decline is DDT. Falcon eggshell thickness has been reduced 15 to 20 percent since 1947. All field and laboratory evidence points conclusively to the cumulative effects of chlorinated pesticides and their breakdown products obtained by the falcons from their prey. The major culprit has been DDT and its derivative DDE, which have increased adult mortality, affected the peregrine's reproductive mechanisms, and caused eggs to become thin-shelled or otherwise nonviable. Habitat destruction and other human disturbances have also been factors in the bird's decline. DDT levels in the East have been declining, thus offering hope that the transplants will work permanently.

Audubon's Declining Bird List Grows Longer

The National Audubon Society's "blue list," its "early warning" indicator of bird species apparently headed for trouble, is growing longer. Newcomers to the list this year include the canvasback duck, a prized game bird on which the hunting season is now completely closed, and the purple martin, an insect-eater which can sometimes be persuaded to move into multi-unit bird houses. In all there are 51 species on the 1975 blue list, five more than last year. Nine new species were added, but four others were dropped.

The blue list, published in Audubon's ornithological journal, *American Birds,* is intended "to give early warning of potentially dangerous, apparently noncyclical population declines," and does not include the 49 U.S. birds already on the endangered species list maintained by the Department of Interior. By the time a bird reaches "endangered status it may be so closed to extinction it may be difficult or even impossible to save it. The idea of the early warning list is to help spot trouble earlier so there will be a better chance of doing something about it.

Besides the canvasback and purple martin, the additions to this year's blue list are: reddish egret, mountain quail, upland plover, common nighthawk, Lewis' woodpecker, hairy woodpecker, and lesser goldfinch. Included in 1974 but deleted this year were the limpkin, Franklin's gull, gray vireo, and common yellowthroat. *American Birds* noted, however, that "de-listing in these instances is more a case of increased information or corrected misinformation than any real population increases in the species."

"One of the important functions of the list," observes the journal, "is to alert observers everywhere to pay special attention to these species and report all observations (or lack or them), so that more accurate evaluations may be made."

About the canvasback, *American Birds* says: "Although far from being a rare bird, this species has suffered serious decline in recent years and should be watched carefully." As to the purple martin, it is noted that declines have been "especially marked" in the Pacific Northwest, the Appalachians, the Middle Pacific, and Southern Pacific regions.

Blue-listing a species does not necessarily mean it is declining throughout its range; trouble in part of its range may indicate more widespread trouble is on the way. The hairy woodpecker was included on the basis of three reporters in Florida and the Central Southern Region. The nighthawk was added on adverse reports from the Hudson-St. Lawrence and two areas in the Middle Atlantic region.

Largest category on the list is the birds of prey, of which 14 species are included: the sharp-shinned, Cooper's, red-shouldered, Swainson's, ferruginous, Harris', and marsh hawks; osprey, caracara, prairie falcon, merlin, kestrel, and the barn and burrowing owls.

Pacific Walrus Hunting to Resume?

A proposal to waive the moratorium and implement regulations on the taking of Pacific walrus in the State of Alaska has been published in the *Federal Register* by the U.S. Fish and Wildlife Service. Under the provisions of the proposed waiver and regulations, management of walrus would be returned to the State of Alaska.

The principal effect of the proposal would be to allow once more the regulated sport hunting of walrus by all citizens, not just Alaska natives. This activity is expected to add fewer than 50 animals a year to the current average annual harvest of about 1,650 walrus, all now taken by Alaska natives for subsistence and their cottage industries. No return to commercial hunting will be allowed.

The primary biological factor behind the proposal is the fact that the Pacific walrus population in and near Alaska is approaching its optimum sustainable level, to maintain a balance with its environment.

Before large-scale exploitation by whalers of European descent which began in about 1868, the Pacific walrus was estimated to number about 200,000 animals. The population may have fallen to a low of 40,000 to 50,000 in the 1950 to 1956 period according to the best data available. Beginning in 1960, aerial surveys of walruses were taken and the total population was estimated to range from 73,000 to 117,000 that year. The 1972 surveys provided a median estimate of 135,000 walruses, and a range of 93,000 to 178,000. More recent studies indicate that the population is still increasing and is approaching its optimum sustainable level.

Federal Study of Endangered Butterflies

Forty-one species of possibly endangered or threatened butterflies are to be the subject of intensive studies by the federal government, twenty-six states, Cuba, Canada, and Mexico. Most of the butterflies under consideration in the study owe their reduced populations to two related problems—dependence on one primary food and land development. One of these insects is the Apache silverspot, a strikingly beautiful butterfly with a cinnamon brown top and silver spots underneath; it occurs in the Owens Valley and Mono Lake areas of California. It thrives on a type of violet which requires moist growing conditions. As the demand for water by nearby Los Angeles grows, drainage of water from Owens Valley will probably dry up the marsh areas where the delicate violet grows, thereby reducing the Apache silverspot population.

A Florida butterfly, the atala, which sports a velvety black and iridescent blue upper portion and orange and gold markings underneath, occurs only in the united States, even though it is a member of a group of tropical butterflies. In its caterpillar stage, the atala depends on the coontie, a primitive plant related to the sego palm. Current land development in Florida has destroyed several areas where coontie was available and now the atala appears only sporadically and unpredictably.

It is believed that butterfly collectors have not contributed to declining populations because collection usually takes place at a time of year after most females have laid their eggs and because males are most frequently the gender caught. Interestingly, the male butterfly is more frequently caught by amateur collectors because of its flamboyant tendency to flit about open meadows and marshes "looking for the action" while the female of the species maintains a somewhat more sedate posture nearer the ground.

This is the first attempt by the federal government to study butterflies that appear to be threatened or endangered. Several states have developed their own endangered species lists—some of which include butterflies—but the newly proposed study may result in the first national list of threatened and endangered butterflies.

Airline Fined for Animal Deaths

A major international airline has been fined more than $2,000 for inhumane transportation of wildlife, which resulted in the deaths of 151 animals in shipments totalling 168. Seizures were made at chicago's O'Hare International Airport by federal agents under the authority of the Lacey Act, which provides for penalties for the importation of birds and animals into the United states under inhumane or unhealthful conditions. Chicago is one of the country's nine designated ports of entry.

The first offense involved 79 tree shrews. of which 67 died from lack of water. For inhumane treatment, the airline was fined $920. In the second offense, lack of heat in a cargo plane caused 14 bushbabies (lemurs), 40 land crabs, and 30 skinks (lizards) to freeze to death. A fine of $1,090 was assessed for inadequate shipping conditions.

World Honeybee Population Drops

The world's honeybee population is dropping, and this could have an effect on man's food supply, says John Harbo, a U. S. Department of Agriculture entomologist.

"Man is at a point right now that anything that gets in his way ought to be sprayed and killed," said Harbo, research leader of the department's bee-breeding and stock center laboratory at Baton Rouge, La.

Harbo says that the bee shortage is not yet critical, even though the bees have been sorely affected by insecticides and herbicides and by physical intrusions into their habitat.

"This isn't something sudden. It's been happening for years," observed Harbo. "We're not going to run out of bees."

Some scientists are concerned about the effect that a drop in the world's bee population could have on food production. The successful growth of many fruits and other crops depends on cross-pollination by bees as they go from one flower to another.

One index of the reduction in bee numbers may be the recent, sharp increase in the price of bees. A queen bee today brings about $5.50—about double the price of a few years ago.

Farmers with crops that need pollination often employ a beekeeper who brings in his own bees. The number of such tended colonies, according to one report, has recently dropped more than 10 percent. The same report estimates that a worldwide decrease of almost 200 million has occurred.