PCB-Article

—Nelson Wadsworth

Ornithologist White: 'No creature is safe, not even in the remotest spot. . . .'

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Researchers' Aim: Repopulation

Can the Peregrine Falcon Return?

The most perfect flying machine, the best-constructed bird, the fiercest (yet, to its trainer, the most gentle), and the fastest bird—all of these superlatives have been claimed for the peregrine falcon.

—ROGER TORY PETERSON
in *Birds Over America.*

By Nelson Wadsworth
FROM PROVO, UTAH

You can't hear his ominous, rasping "cack-cack-cack" anymore above cliffside eyries along the New England Coast. The old nest atop the St. Regis Hotel in New York City is abandoned. Travelers in northeastern Louisiana are no longer treated to his high-flying antics. He is gone from the Rocky Mountains. His nests are empty in the Pacific Northwest. And no one may ever see again one of his nests precariously perched on a discarded barrel in marshes near San Francisco Bay.

The majestic peregrine falcon, called the "prince of the world's predators," is nearly extinct in the United States—apparently the victim of pesticides—and is an endangered species everywhere in the world. But it may not yet be time for mourning. Four pairs of peregrines now inhabiting specially built eyries on the roof of the Brigham Young University zoology building here, like peregrines being raised in a few other places, may save the species and re-establish it in former haunts.

Dr. Clayton M. White, 36, an ornithologist at the university, and a handful of his colleagues around the world are attempting to breed peregrines in captivity and create a reservoir of the birds. The plan is bold because the breeding habits of the peregrine are quite delicate and difficult to co-ordinate in captivity, and there is still widespread use of persistent insecticides.

No Place to Hide

The threatened disappearance of the peregrine is regarded by many as an ecological tragedy. Ornithologists contend that indiscriminate uses of insecticides such as DDT and other persistent chemicals since 1946 have eliminated the bird from everywhere in the United States except Alaska, and threaten its existence in nearly all other environments around the globe.

"Our goal is to establish a captive peregrine population to supply birds for research—so they won't have to be taken from the wild—and, in the long range, to reintroduce them into the environment," White explains. "It would be senseless to try to build up the native populations until the DDT problem has been resolved once and for all and the environment made clean again."

Insecticides Still Threaten

The Environmental Protection Agency (EPA) has issued an order curtailing the use of DDT in the United States after Dec. 31, 1972, but White and his colleagues maintain that production of the chemical continues without restraint for export overseas. Some 28 million pounds of DDT are shipped every year from U.S. producers to buyers abroad. "The EPA ban does not affect these overseas sales, and DDT continues to be a threat, particularly in Latin America," White argues. "Migratory birds do not know international boundaries."

—Dr. Clayton White

The end product, a young falcon.

Companies that use DDT to make pesticide products have challenged the EPA ban in Federal court, contending that the decision "did not correctly weigh the evidence . . . on the benefits compared to the risks."

"What scares me more than anything else is that there are some people who look at DDT as an 'either-or' proposition," says White. "They say the benefits to man outweigh its damaging effects to the bird populations. What they don't realize is that man, too, stands at the top of a food chain, and he could be next. What is bad for the peregrine falcon is also bad for man." Whether DDT is harmful to humans isn't established, however.

How Falcons Suffer

It is argued by some that DDT and its breakdown product, dichloroethylene (DDE), as well as polychlorinated biphenyls (PCBs) used in manufacturing plastics and resins, are wiping out whole species of bird populations, particularly those whose food chains are involved with insecticide and PCB-contaminated birds, fish, and various animals.

"The peregrine falcon relies heavily on smaller migratory birds for his diet," says White. "Many of these smaller birds pick up high levels of DDT as they travel through areas where man has been spraying. The persistent nature of such chemicals allows it to concentrate in creatures at the top of the food chain."

Research has shown that DDT, DDE, the PCBs, and other chlorinated hydrocarbon pesticides upset the calcium balance in the female bird's blood supply, causing her to lay eggs with thinner shells. Such eggs easily break under the weight of the brooding parents. Peregrine falcons have laid clutches of eggs, but not enough young have been hatched to perpetuate the species. In 1947 there were 300 known nest sites of the peregrine in the Eastern states. Today there is none. In Utah there were 40 known sites. Today there is none.

An Aerial Ram

The peregrine—or "duck hawk," as it is known in the United States—is an extremely efficient hunter, a factor that has led to its downfall. It takes its prey on the wing with high-flying acrobatics and seemingly jetlike speed. White estimates that the vertical dive of the peregrine attacking another bird reaches speeds in excess of 200 m.p.h. Unique nostril tubercles baffle the air during the dive to permit breathing at high speed. Impact kills the prey instantly, and it falls to earth. The falcon then returns to pluck and devour its quarry on the spot.

"I have seen these beautiful falcons in the Aleutian Islands skimming a few feet over the ocean waves like an incoming formation of dive bombers," says White. "Small sukiets feeding on the surface of the water scatter in all directions, but the peregrines grab them right out of the air and eat them in flight."

'No Creature Is Safe'

Other falconers and ornithologists in many lands also are attempting to raise peregrines to add to the world's captive reservoir. White says he is confident hatchable eggs will be produced next spring, but he adds that the big problem will be to get the male and female to synchronize their complicated sex cycles. Only a few peregrines have been raised in captivity, though White believes he can overcome the difficulties and raise them on a large scale. His confidence is based on years of study of the bird in the United States and elsewhere. He spends much time on the Alaskan tundra working closely with peregrines. His work has been financed by the Atomic Energy Commission, the National Science Foundation, and the Arctic Institute of North America.

Although the peregrine falcon in the Aleutians appears to be surviving, says White, he notes that in wildlife research near Amchitka in 1971, "We found startlingly high levels of PCBs in the peregrines, proving that no creature is safe, not even in the remotest spot in all the world."

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