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An Urban Eyrie for Minnesota Peregrines

by Billy Goodman
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Look up into the sky in Minneapolis this summer and, if you're lucky, you may catch sight of a hurtling, brown-backed, streaky-breasted bird causing pigeons to scatter in every direction. The bird in pursuit will be a young peregrine falcon, a crow-sized hunter who includes pigeons among the greatest of delicacies.

This summer six captive-bred peregrines will be released from the roof of the Multifoods Tower at City Center, part of the Minnesota Peregrine Project's efforts to reintroduce the falcon to Minnesota. Peregrines have been missing from the state—and from the entire eastern United States—since 1964, victims of DDT poisoning. Since the early 1970s, ornithologists, mainly at Cornell University, have been raising peregrines and releasing them into the wild in hopes of re-establishing a breeding population in the eastern U.S..

In Minnesota, a group led by Pat Redig of the University of Minnesota Raptor Clinic and ornithologist Bud Tordoff of the Bell Museum of Natural History first released young Cornell-bred peregrines in 1976, along the Mississippi River near Frontenac. After 1977, Cornell stopped supplying birds to the Minnesota Peregrine Project to concentrate releases at a few east-coast sites.

In 1982, Redig and Tordoff contracted with breeders at the University of Saskatchewan for half the peregrines produced there. Since then, the Minnesota Peregrine Project has released 31 birds at two Minnesota sites. The principal one is The Nature Conservancy's Weaver Dunes, southeast of Kellogg. There the birds are released from the tops of two 35-foot tall towers. A second site, first used in 1984, is a cliff north of Tofte overlooking Lake Superior. The five peregrines released on the North Shore clearly enjoyed the updrafts along the cliffs, flying more frequently and for longer periods than the Weaver Dunes birds.

That's hardly surprising since the peregrine is a natural cliff nester. Like other falcons, it can't construct a nest; instead it scrapes out a depression in gravel on a ledge. Further, peregrines like to hunt from high perches looking out over open terrain or water. After spotting prey, which might be any of over 200 species of birds, the peregrine may climb to a great height before dropping in a fast dive, or stoop. Usually the peregrine strikes its prey with its talons, knocking it out of the sky.

Peregrines are more widespread than just about any bird, breeding on every continent except Antarctica. Yet, the original population in the eastern U.S. was only about 275 breeding pairs, due largely to infrequent nest sites.

By the early 1960s, that number had been reduced to zero. The culprit, it is now known, was DDT. Surprisingly, DDT was considered an advance over earlier insecticides because of its relatively low toxicity to birds and mammals. A peregrine would have to ingest a lot of DDT to die directly from poisoning. But DDT possesses more insidious qualities. It takes longer to break down than other, more toxic, insecticides. And it builds up in the fatty tissues of animals that ingest it.

Insects exposed to sublethal amounts of DDT store the insecticide in their bodies. Insectivorous birds eat hundreds of insects a day, again storing the DDT in their fat. At each step of this food chain the concentration of insecticide increases 20 to 50 times. When peregrines feast on contaminated prey, they get a heavy dose of DDT. This process is called biological magnification.

In the 1950s, bird watchers in North America and Europe noticed that breeding peregrines failed to produce young. By the early 60s biologists began to see a link between DDT and nesting failure of peregrines. The insecticide causes a marked thinning of the eggshell, resulting in many eggs breaking before hatching. Even the weight of an incubating bird may break the eggs. Thus, though the level of DDT was rarely high enough to kill adults, it had harmful effects. Biologists demonstrated those effects by using museum collections to compare eggs from pre-DDT days to eggs from the 1950s and 60s.

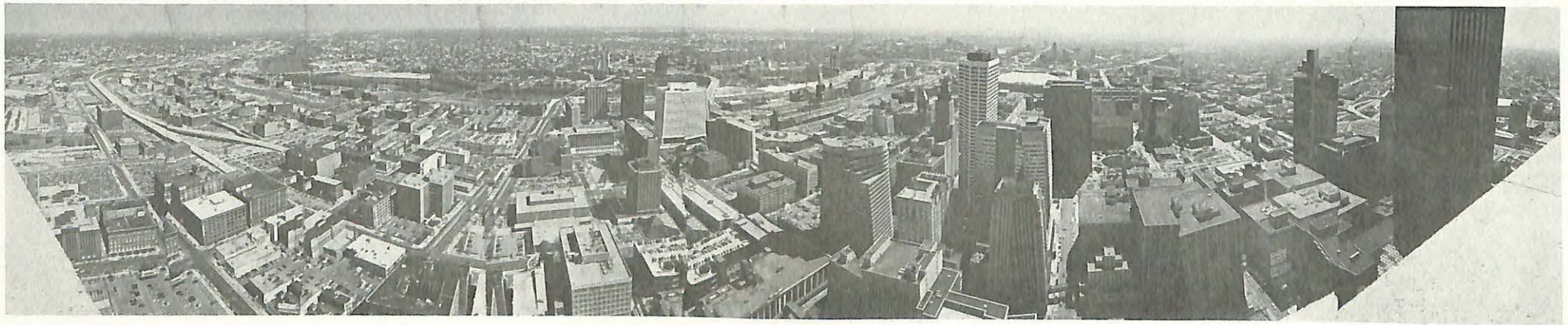
Since 1972, restrictions on the use of DDT in North America and Europe have led to a decline in environmental levels, making it possible for the release of captive-bred birds. Hundreds of peregrines have been released since 1974; in 1980 four pairs nested east of the Mississippi River for the first time in 20 years. In 1985 at least 34 pairs of peregrines are on territories in the East.

A peregrine hatches in Bob Anderson's incubator, the first in more than 20 years in Minnesota. Anderson is Minnesota's only peregrine breeder.

Peregrines breed at two or three years of age, so some alumni of Minnesota releases are old enough in 1985 to occupy territories. Meanwhile, six young peregrines will be learning to fly from one of the tallest, steepest cliffs around: the 688 ft. Multifoods Tower at City Center. This urban cliff in Minneapolis comes complete with updrafts, abundant prey, and a view of the river.

City buildings provided eyries for peregrines even before the bird's decline. One female occupied a ledge on Montreal's Sun Life Building every year from 1936 to 1952, producing almost two dozen young with several mates. Scarlett, a bird released from a tower on Chesapeake Bay, nested for seven years on the U.S. Fidelity and Guaranty Building in Baltimore where she raised 18 peregrines provided by ornithologists and four of her own young. When she died in 1984, a new female replaced her at the eyrie within four days. This new female and her mate hatched three eggs in April, 1985.

From the peregrines' viewpoint, preparations for release from the Multifoods Tower are not much



A peregrine's eye-view of Minneapolis.

different than if they were to be released at Weaver Dunes. After hatching in an incubator, the birds are hand fed quail mush for ten days, then given to captive adults for care and feeding. When they're about 30 days old, six birds are placed in a wooden box, 4 ft. by 5 ft. by 3 ft. high, with one barred side, called a hack box. The hack box sits on the southeastern corner of the roof, anchored against high winds and with three inches of pea gravel in the bottom. The birds are fed quail daily, through a trap door in the roof.

When the peregrines are about 42 days old the barred front of the box is removed and the youngsters are free to explore their eyrie and test their wings. They'll be provided with food until they demonstrate that they can hunt on their own.

The first week on the wing is a perilous time for the falcons. At Weaver Dunes they are vulnerable to great horned owls, whose absence gives the Multifoods Tower a big advantage. The birds also need to practice landings, it not being easy to stop on a narrow ledge from a flight of 30 or 40 mph. As the second tallest building in Minneapolis, the Multifoods Tower looks down on many roofs and ledges, so peregrines who have second thoughts after becoming airborne have many potential landing spots before reaching the ground.

By the sixth week on the wing most peregrines can capture their own food. Since they like to hunt from high perches, with updrafts on which to climb before making a stoop at prey, peregines should find the Multifoods Tower just what the veterinarian ordered. Pigeons and starlings will be their prime targets, making grain elevators and railroad tracks over the river likely hunting territory.

But pigeons are also a potential hazard for hungry peregrines. In Minneapolis, as in other cities, poison is used to control the pigeon population. In Baltimore in 1982, Scarlett's mate, Rhett, died from the strychnine used to control that city's pigeons. Plans are being made to minimize the risk of poisoning the Minneapolis peregrines through cooperation with local pest control people.

Why help a bird that was never very abundant to begin with? The peregrine is a sort of environmental alarm, signaling us about the state of our planet. Though peregrines are making a comeback in North America and Europe—where DDT use has declined—they remain threatened by its continued use in other parts of the world. In Minnesota, the goal is a self-sustaining wild population of peregrines on the cliffs and, perhaps, skyscrapers of the state. This summer and, with luck, in summers to come, we'll once again see this spectacular hunter of the open skies.

Billy Goodman and John Slivon are on the exhibits staff of the Bell Museum of Natural History.

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The Bell Museum of Natural History, a department of the University of Minnesota, is located at 17th and University Avenues S.E., Minneapolis. Museum hours are Tuesday through Saturday, 9 a.m. to 5 p.m.; Sunday 1 p.m. to 5 p.m. For more information call 373-2423.