

Peregrine Falcon by Jonathan Wilde

# Wisconsin's Peregrine Falcon Recovery Plan

---

*This plan describes ways to restore a population of 20 breeding pairs of Peregrine Falcons in Wisconsin.*

---

*by Charlene M. Gieck*

The Wisconsin Peregrine Falcon Recovery Plan describes actions required to restore a viable breeding population of the Peregrine Falcon (*Falco peregrinus*) in Wisconsin. The Plan was developed in general conformity with, and in several sections taken verbatim from, the U.S. Fish and Wildlife Service (USFWS) Eastern Peregrine Falcon Recovery Plan (Bollengier 1979) and "A Proposal for the Restoration of the Peregrine Falcon to the Upper Mississippi River and other Midwestern Areas" (Redig et al. 1981). Although written to supplement the Federal Plan, the Wisconsin Plan represents the opinion of the Wisconsin Department of Natural Resources (DNR) and has not received official endorsement from the USFWS, the Eastern Peregrine Falcon Recovery Team, or The Peregrine Fund. This article is a condensation of the full recovery plan (Gieck 1987) published by the DNR.

## STATUS AND DISTRIBUTION IN WISCONSIN

The American Peregrine Falcon (*F. p. anatum*) "was never very common in any

part of the state" (Kumlien and Hollister 1903). From 1940 to the early 1960's, at least 24 different peregrine eyries were used by breeding pairs; these eyries were located along the Wisconsin side of the upper Mississippi River, along the lower Wisconsin River, in Door County, and along the St. Croix River in northwestern Wisconsin (White 1969).

This species was also "of regular occurrence during the migrations, both spring and fall, principally along the water courses" (Kumlien and Hollister 1903). Some of these migrating peregrines were probably of the *anatum* subspecies from the boreal-forest area of Canada, but a large portion of these migrants were probably Arctic Peregrine Falcons (*F. p. tundrius*), the highly migratory subspecies that breeds in arctic tundra regions of North America (White 1969).

*F. p. anatum* has been extirpated as a breeding species in Wisconsin (Berger and Mueller 1969, Fyfe et al. 1976). Peregrines were last known to have successfully fledged from a nest in Wisconsin in 1962, the last adult peregrine observed during the breeding season was

in 1964 (Berger and Mueller 1969). All peregrines seen since then have been migrants or nonbreeders until 1986.

In 1955, there was about one pair of peregrines per 64 km along the Wisconsin side of the Mississippi River (Berger and Mueller 1969). In 1986, one pair nested on the Mississippi River, and two additional territories were occupied in the state.

*F. p. tundrius* migrates through Wisconsin on the way to and from arctic breeding sites. These migrants, although few in number, can be seen as they fly along the Lake Michigan shoreline or the upper Mississippi River. In the early 1950's observers at Cedar Grove Ornithological Station near Lake Michigan saw about 30 peregrines per year as these falcons traveled south to their wintering grounds; this observation rate then declined steadily before rebounding in recent years (Figure 1).

The primary factor involved in the decline of Peregrine Falcon populations in Wisconsin and elsewhere is the widespread use of pesticides, especially DDT, from 1946 to 1972 (Peakall 1976, Bollengier 1979). Birds such as the peregrine that are on top of a long food

chain are most susceptible to the harmful effects of these chemicals. Other factors that might have affected peregrine numbers locally include egg-collecting, taking of young by falconers, diseases, environmental contaminants, predation by Great Horned Owls and raccoons, and long-term changes in climate. However, none of these factors can account for the precipitous population crash that overtook this species after 1946 (Hickey and Roelle 1969).

#### PEREGRINE HABITAT IN WISCONSIN

Peregrines usually make their nest scrapes on ledges, holes, or recesses on rock cliffs (Snow 1972). In Wisconsin, most nests have been located on the steep bluffs along the Mississippi and Wisconsin Rivers, or on cliffs in Door County (Berger and Mueller 1969). In other areas, this species has also been known to nest on cutbanks of rivers, in cavities in very large dead trees, on the ground in the arctic, and on tall buildings and bridges (Brown and Amadon 1968). In the Midwest, the major migratory routes of Peregrine Falcons include the shorelines of the Great Lakes and major rivers such as the Mississippi.

#### RESTORATION EFFORTS IN THE U.S.

Major efforts are being made to save the Peregrine Falcon by means of captive propagation and restocking to the wild in areas that had previously been part of the bird's range (Cade and Temple 1977, Fyfe et al. 1977). A high proportion of the captive-reared young released to the wild in parts of eastern U.S. have returned to breed near their release sites. In 1980, three pairs of released peregrines established territories at hack towers on the New Jersey coast

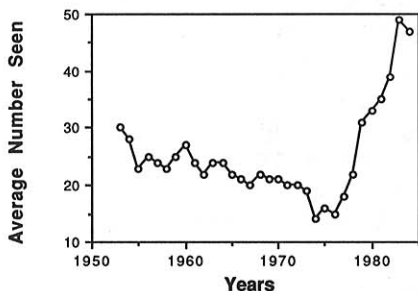


Figure 1. Five-year moving averages of the number of migrant Peregrine Falcons observed each autumn at Cedar Grove Ornithological Station, 1951-86 (D. D. Berger, pers. comm.).

and two nested successfully (Cade and Dague 1980), marking the first time since the 1950's that wild peregrines fledged their own young east of the Mississippi River. Since then, peregrine nesting activity has increased dramatically in the Atlantic Coastal Region.

The State of Minnesota is proceeding with a restoration project, including hacking of captive-reared young. The project began with the release of five falcons along the Mississippi River in 1982 at Weaver Dunes, south of Wabasha, Minnesota. Subsequent releases at Weaver Dunes in 1983 and 1984, as well as an additional site on the North Shore of Lake Superior which became operational in 1984 brought the total number to 31. A total of 25 falcons was released in 1985: 6 in downtown Minneapolis, 7 on the North Shore of Lake Superior and 12 at Weaver Dunes. At this level of release, the release project is equalling the annual production of young by the former wild peregrine population in Minnesota.

#### RECOVERY GOAL FOR WISCONSIN

The ultimate goal of the Wisconsin Peregrine Falcon Recovery Plan is to restore a viable wild population of Peregrine Falcons in Wisconsin. An interim objective is to attain a self-sustaining, wild nesting population at a level of 50-percent of the estimated 20 breeding pairs known to have occurred in the early 1950's. This objective can be accomplished by implementing the following strategies: inventory and protect nesting habitat, restore the peregrine population through introduction of captive-produced birds, provide protection, and develop information and education programs. Assuming that captive-produced birds will be released at a rate of 20 birds

per year until 1995, at that time the Wisconsin population should equal 10 breeding pairs (Table 1). Some breeding birds may repopulate Wisconsin from Minnesota or Michigan releases.

#### NESTING HABITAT

An inventory of nest sites in the U.S. east of Mississippi River was conducted by Hickey in the early forties (1942), repeated in 1964 by Berger, Sindelar and Gamble (1969), and repeated again by the Eastern Peregrine Falcon Recovery Team in 1975. In 1987 the DNR coordinated a survey of the Mississippi River between Prescott and Eastern Dubuque, Illinois, the south central Wisconsin area, Door County, and selected cliffs in northern Wisconsin. It is believed that approximately 20 natural sites are still suitable in Wisconsin.

The results of this survey may be used to determine where populations could be re-established through releases. Beginning in 1988 the DNR will annually monitor traditional and potential nesting sites for breeding activity. The DNR will protect and manage suitable potential nest sites by following site-specific management plans. Where necessary control of habitat will be established through acquisition, easement, lease, or cooperative agreement. This will be coordinated with The Nature Conservancy's Midwest Regional Registry Program. Management needs vary considerably between sites and are dependent upon a variety of factors. An important factor to be considered is protecting released birds from predators. Great Horned Owls can prey heavily upon young birds. Mammals, like raccoons, can prey upon eggs and young. These predators may need to be removed from the vicinity of release sites to protect the Peregrine Fal-

Table 1. Projected growth of Wisconsin's Peregrine Falcon population based on the release of 20 birds per year, 1987-94 (from Tordoff 1986).

Year	Breeding pairs	Young produced	Total population
1990	2	4	45
1991	4	8	56
1992	5	10	68
1993	7	14	75
1994	8	16	85
1995	10	20	77
1996	11	22	76
1997	12	24	79

cons. Wisconsin will work closely with Minnesota to obtain a supply of captive-produced Peregrine Falcons that can be used for reintroductions. Depending on availability, 10-20 birds will be released in Wisconsin each year after 1987. Birds will be released from selected sites annually, and it is anticipated that survivors will return to breed in about 2-3 years.

Birds will be released using the well-established technique of hacking which allows a small number of people to release a large number of falcons each year. The hacking process has been described in detail by Cade and Temple (1977). Wisconsin's hacking program would follow the guidelines established by the Minnesota program (Redig et al. 1981).

#### REINTRODUCTION PROGRAM

The two 1987 release areas were along the Mississippi River and in downtown Milwaukee. Future release sites will be chosen from the inventory of suitable habitat.

**Mississippi River.**—Releases at the Minnesota Weaver Dunes site were aborted in 1986 due to aggressive defense behavior by a territorial Peregrine Falcon occupying a cliff site across the Mississippi River. A new release site along the Mississippi River will be chosen in

the southwest corner of Wisconsin or the southeast corner of Minnesota.

**Milwaukee.**—Peregrines have adapted to man-made sites in the past and raised young on buildings in large cities. The close proximity to people in downtown Milwaukee will enable extensive public education. The building owners will be actively involved in the project.

#### PROTECTING PEREGRINE FALCONS

The Peregrine Falcon is listed as an endangered species in Wisconsin (Chapter NR 27, Wis. Adm. Code) and, thereby, is protected by state law (Chap. 29.415, Wis. Stats.) from taking (this includes shooting, shooting at, pursuing, hunting, catching, or killing). This protection is in addition to that provided by Federal regulations which prohibits any form of harassment of Peregrine Falcons. During a hacking release, site attendants will contact law enforcement officials and wildlife management staff to report possible violations or threats to the released birds.

When possible, the DNR will sample and analyze peregrine prey at selected release and breeding locations to determine levels of toxic chemicals and their sources. Recovered peregrine carcasses and addled eggs will also be analyzed.

The DNR will also provide and implement recommendations, when possible, to prevent pesticides and other toxic chemicals from adversely affecting Peregrine Falcons in the state.

### COORDINATION, INFORMATION AND EDUCATION

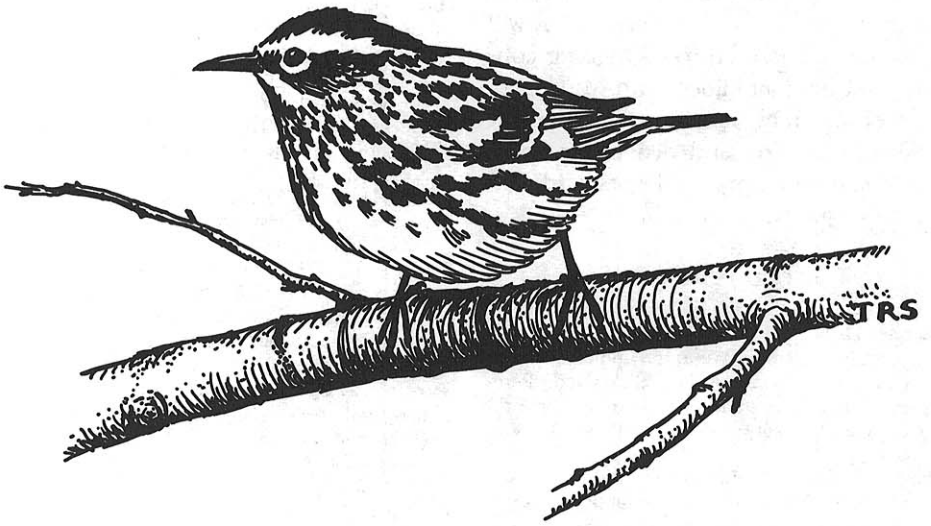
The ultimate success of this program can be insured only through public acceptance and support. Protection of release and nesting sites can probably be achieved by a combination of local publicity and on-site wardens. The DNR will coordinate these efforts. Ongoing contact will be maintained with Minnesota and other midwestern states. The DNR will also develop and disseminate brochures, posters, press releases, audio-visual programs, and magazine articles.

### LITERATURE CITED

- Berger, D. D., and H. C. Mueller. 1969. Nesting peregrine falcon in Wisconsin and adjacent areas, page 115-122. In J. J. Hickey (ed.) Peregrine falcon populations: their biology and decline. University of Wisconsin Press, Madison. 596 pp.
- Berger, D. D., C. R. Sindelar, Jr., and K. E. Gamble. 1969. The status of breeding peregrines in the eastern United States, pages 165-173. In J. J. Hickey (ed.) Peregrine falcon populations: their biology and decline. University of Wisconsin Press, Madison. 596 pp.
- Bollengier, R. M., Jr. 1979. Eastern Peregrine Falcon Recovery Plan. U.S. Fish and Wildlife Service, Washington, D.C. 147 pp.
- Brown, L., and D. Amadon. 1968. Eagles, hawks and falcons of the world. Hamlyn House, Feltham, Middlesex, Great Britain. 414 pp.
- Cade, T. J. and P. R. Dague (eds.) 1980. *The Peregrine Fund Newsletter*. No. 8. 16 pp.
- Cade, T. J., and S. A. Temple. 1977. The Cornell University falcon program, pages 353-369. In R. D. Chancellor (ed.). Proc. of world conference on birds of prey. International Council for Bird Preservation, Vienna, Austria. 442 pp.
- Fyfe, R. W., S. A. Temple, and T. J. Cade. 1976. The North American Peregrine Survey. *Canadian Field-Naturalist* 90:228-273.
- Fyfe, R. W., H. Armbruster, U. Banasch, and L. J. Beaver. 1977. Fostering and cross-fostering of birds of prey, pages 183-193. In S. A. Temple (ed.). Endangered birds: management techniques for preserving threatened species. University of Wisconsin Press, Madison. 466 pp.
- Gieck, C. M. 1987. Wisconsin Peregrine Falcon Recovery Plan. Wisconsin Department of Natural Resources, Wisconsin Endangered Resources Report, No. 27.
- Hickey, J. J. 1942. Eastern populations of the duck hawk. *Auk* 59(2):176-204.
- Hickey, J. J., and J. E. Roelle. 1969. Conference summary and conclusions, pages 553-567. In J. J. Hickey (ed.). Peregrine falcon populations: their biology and decline. University of Wisconsin Press, Madison. 596 pp.
- Kumlien, L., and N. Hollister. 1903. The birds of Wisconsin. Bulletin Wisconsin Natural History Society 2:1-143.
- Peakall, D. B. 1976. The peregrine falcon (*Falco peregrinus*) and pesticides. *Canadian Field-Naturalist* 90(3):301-307.
- Redig, P. T., C. Henderson, J. Engel, H. B. Tordoff, G. Barnard, G. E. Duke, and M. R. Fuller. 1981. A proposal for the restoration of the peregrine falcon to the Upper Mississippi River and other Midwestern Areas. 21 pp.
- Snow, C. 1972. Habitat management series for endangered species: American peregrine falcon (*Falco peregrinus anatum*) and arctic peregrine falcon (*Falco peregrinus tundrius*). U.S. Bureau of Land Management. Technical Note No. 1. 35 pp.
- Tordoff, H. B. 1986. A Peregrine Falcon Life Table. *Bell Museum of Natural History Natural History Leaflet* No. 3.
- White, C. M. 1969. Diagnosis and relationships of the North American tundra-inhabiting peregrine falcons. *Auk* 85(2):179-191.

Charlene M. Gieck  
Bureau of Endangered Resources  
Wisconsin Department of Natural  
Resources  
Madison, WI 53707





Black-and-white Warbler by *Thomas R. Schultz*