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MIDWEST PEREGRINE FALCON RESTORATION, 1999 REPORT

Harrison B. Tordoff,* Mark S. Martell, Patrick T. Redig,**
and Matthew J. Solensky****

*Bell Museum of Natural History
100 Ecology
University of Minnesota
1987 Upper Buford Circle
St. Paul MN 55108
(612)624-6787

**The Raptor Center
University of Minnesota
1920 Fitch Ave.
St. Paul MN 55108
M(612)624-4745,R-4969,S-1229

NOTICE: Most peregrines banded in the U.S. Midwest in 1999 wear a bicolored band, black over green, on the left leg. Some black over red bands were used in Indiana, Missouri, Iowa, and Minnesota. Wild-produced birds have a purple anodized USFWS band on the right leg; hacked birds have a gold anodized USFWS band on the right leg. In Canada, hacked birds receive a red band and wild-produced birds get a black band, in addition to the usual silver USFWS band.

Many of the black/green and black/red bands have the upper or lower character (or both) on its side; these we show by using a star (*) to indicate the tipped-over letter or number, for example, *2/E or H/*4. It is essential to include the star because both combinations are in use (H/4 and H/*4, for example). It is also important to put all bands on right side up, to make them easier to read in the field.

INTRODUCTION

Now officially declared no longer endangered, what are the Peregrine Falcons (*Falco peregrinus*) themselves telling us by their behavior about their status? In the Midwest in 1999, the general message is that all is well. Every measure of productivity and survival looks good. The present Midwestern population of 107 known territorial pairs is higher than ever in the recorded past for this area (best guess for the original population is perhaps 50 pairs) because of the intensive use today of man-made structures. For example, the corn-belt states of Ohio, Indiana, and Illinois currently have about 29 pairs, all on man-made structures. The original population in these states consisted of an unknown but probably small number of tree-nesting pairs in southern Indiana and Illinois, gone by 1900.

The Midwest had a mild winter in 1998-99, but a wet cold spring was probably responsible for a drop in production of young on cliffs around Lake Superior from 52 in 1998 to 43 in 1999. Production per territorial cliff pair was better in 1999 than in 1998 (2.1 vs. 1.9), but four fewer pairs held cliff territories this year (23 vs. 27). However, the apparent loss of four cliff pairs is misleading; these were all in Ontario, where failed early nesting attempts are likely to go undetected. Hence, counts of pairs at banding time there

are likely to be low in years of losses of nests to bad weather, as we know happened this year to Lake Superior pairs in Minnesota. By contrast, pairs nesting with the protection of nest boxes did well. Power plant pairs, in particular had a great season; nine power plant pairs along the Mississippi, for example, fledged 31 young, an excellent 3.4 yg./pair. Region wide, peregrines fledged 2.0 young per territorial pair in 1999 vs. 1.7 yg./pair, 1987-98.

Here is a nesting summary for the past five years by state or province (sequence here and in the main list below is north tier of states first, west to east; second tier, etc., then SE Manitoba and NW Ontario).

Number of territorial pairs/young fledged

	<i>1995</i>	<i>1996</i>	<i>1997</i>	<i>1998</i>	<i>1999</i>
• Minnesota	17/ 41	20/27	22/51	24/52	28/54
• Wisconsin	6/14	8/19	12/16	11/33	13/36
• Michigan	7/4	7/6	7/10	9/10	10/16
• South Dakota	--	--	--	1/0	1/0
• Nebraska	1/0	1/2	1/0	1/5	1/5
• Iowa	2/6	2/5	2/2	2/6	3/6
• Illinois	6/8	7/4	6/7	5/13	8/11
• Indiana	5/8	7/16	8/15	9/15	9/24
• Ohio	5/16	7/18	11/19	11/17	12/13
• Kansas	1/3	1/2	1/0	1/0	1/0
• Missouri	4/3	6/3	3/9	4/11	4/11
• Kentucky	1/1	1/0	1/2	1/1	2/3
• Manitoba	4/6	4/9	3/11	3/4	2/5
• Ontario	6/8	7/16	13/25	17/38	13/30
Totals	67/118	77/127	90/167	99/205	107/214

In the early years of the Midwestern restoration effort, when the whole countryside was open to peregrines searching for nest sites, one-year-olds nested more frequently. In the past few years, with many of the best territories occupied, more first-time breeders and replacement breeders have been adults.

Juvenile peregrines in the breeding population

<i>Years</i>	<i>Nesting pairs</i>	<i>Number of breeders</i>	<i>Number of juveniles</i>	<i>Percent</i>
1987-92	87	174	20	11%
1993-95	123	246	13	5%
1996-97	126	252	6	>2%
1998-99	172	344	6	<2%

Productivity of adults

One fourth of the successful female peregrines in the Midwest have produced almost half of the young. Here is the record of some of the most productive females.

- *Meg 12R* (North Central Life, St. Paul MN), 36 young, 12 seasons (hacked = h)
- *Sibella 20V* (Firststar, Milwaukee WI), 32 young, 11 seasons (h)
- *^Comet 11V* (Montgomery Ward, Ford Bridge, Minneapolis MN), 26 young, 9 seasons (h)
- *Zenith 23W* (Terminal Tower, Cleveland OH), 24 yg., 7 seasons (wild produced = w)
- *Mae 31V* (NSP King, Bayport MN), 23 young, 10 seasons (w)
- *Suzy Q 52P* (U.S. Steel, Gary IN), 23 young, 10 seasons (h)
- *^Marla 81V* (Colonnade and Multifoods, Minneapolis MN), 21 young, 6 seasons (h)
- *^Fridge 43R* (Palisade Head MN), 21 young, 9 seasons (h)
- *^Egore 57V* (Cline Avenue, East Chicago IN), 20 young, 6 seasons (h)
- *^MF-1* (Multifoods Tower, Minneapolis MN), 20 young, 8 seasons (h)
- *36R* (NSP Sherco, Becker MN), 20 young, 8 seasons (h)
- *^Aurora red4R0* (Rhodes Tower, Columbus OH), 19 young, 6 seasons (h)
- *Alice U/K* (Landmark, Milwaukee WI), 19 young, 6 seasons (w)
- *blO/B* (McKenzie Seed, Brandon MB), 21 young, 6 seasons (w)
- *Scout 28W* (Market Tower, Indianapolis IN), 18 young, 5 seasons (h)
- *^Harriet* (125 S. Wacker, Chicago IL), 18 young, 9 seasons (h)
- *49R* (Firststar Bank, Cedar Rapids IA), 17 young, 7 seasons (h)
- *52V* (Winnipeg MB), 19 young, 9 seasons (h)
- *Baltimore 7/D* (Lazarus, Dayton OH), 16 young, 5 seasons (w)
- *2/3* (Park Plaza, St. Louis MO), 16 young, 7 seasons (h)
- *^Nellie McClung red3C7* (Commodore Perry, Toledo OH), 16 yg., 8 seasons (h)
- *Algoma 77V* (Finn Church cliff MN), 15 young, 7 seasons (h)
- *Eleanor 2/8* (5821 N. Broadway, Chicago IL), 14 young, 6 seasons.(w)
- *13R* (American Republic, Des Moines IA), 14 young, 7 seasons (h)
- *^Judy redA/D* (Detroit MI), 14 young, 7 seasons (h)
- *^redX/H.*(MPL Boswell, Cohasset MN) 13 young, 5 seasons (h)
- *^Minonsoar/Ariel 75V* (Mayo Clinic, Rochester MN), 13 young, 5 seasons (w)
- *^Silverstreak 42V* (WPL Edgewater, Sheboygan WI), 12 young, 5 seasons (h)

^ = known or presumed dead

Here are the most productive males.

- *Will 04Y* (Multifoods Tower, Minneapolis MN), 30 young, 19 seasons (h)
- *Bill 74T* (Firststar, Milwaukee WI), 27 young, 9 seasons (h)
- *Kato 31T* (Colonnade, Minneapolis MN), 24 young, 8 seasons (w)
- *Spanky 04T* (Control Data, NCL and High Bridge, St. Paul MN), 24 young, 9 seasons (h)
- *Pop* (Detroit MI), 20 young, 8 seasons (w)
- *Jingles* (125 S. Wacker, Chicago IL), 20 young, 11 seasons (h)
- *Omni 76T* (Landmark, Milwaukee WI), 19 young, 6 seasons (h)
- *red*7/3* (McKenzie Seed, Brandon MB), 21 young, 6 seasons (h)
- *Kinney 7/*3* (Market Tower, Indianapolis IN), 18 young, 5 seasons (h)

- *Mercury 21X* (Lazarus, Dayton OH), 18 young, 6 seasons (h)
- *64T* (Firstar Bank, Cedar Rapids IA), 18 young, 7 seasons (h)
- *Vulcan 79T* (U.S. Steel, Gary IN), 18 young, 7 seasons (h)
- *Marty 53Z* (Cline Avenue, East Chicago IN), 17 young, 6 seasons (w)
- *^Szell 67Z* (Terminal Tower, Cleveland OH), 16 young, 5 seasons (w)
- *^Maverick 05T* (NCL and Montgomery Ward, St. Paul MN), 16 young, 5 seasons (h)
- *Lindee 1/*A* (M Ward, Ford Bridge, Mendota Bridge MN), 16 young, 6 seasons (w)
- *^red5P9* (Delta Winnipeg, Winnipeg MB), 15 young, 6 seasons (h)
- *Franklin 95T* (5821 N. Broadway, Chicago IL), 14 young, 6 seasons (h)
- *^b11/X* (Winnipeg MB), 14 young, 7 seasons (w)
- *C/U* (Commodore Perry, Toledo OH), 13 young, 4 seasons (w)
- *55X* (NSP Black Dog, Eagan MN), 13 young, 5 seasons (w)
- *74X* (MPL Boswell, Cohasset MN), 13 young, 5 seasons (w)
- *^Chase 06T* (Mayo Clinic, Rochester MN), 13 young, 6 seasons (h)

^ = known or presumed dead

Cliff Nesting

Much hand-wringing over the failure of peregrines thus far to nest successfully on the river cliffs has had no effect on the birds themselves. Perhaps it is time to look at their nesting preferences and performance to see what they are telling us. Over 80 pairs are now nesting on man-made structures in the Midwest, some of them on smokestacks within mere yards of cliffs that were used for nesting historically. No one forces peregrines to nest anywhere; they choose for themselves, often enticed to nest boxes but sometimes ignoring such blandishments in favor of gutters, bridge supports, protected ledges, cubbyholes, hollow girders, and the like. Most of the structures hosting nesting peregrines in the Midwest were built after World War II and were therefore not available to the original population that was in serious trouble by the late 1940s. Peregrines had already nested before the war on buildings in three eastern cities, Montreal, New York, and Philadelphia, and wintered regularly in these and other cities, despite heavy persecution. For example, on January 20, 1931, one of two peregrines attempting to spend the winter in downtown Detroit, Michigan, attracted newspaper attention and was killed by police sent to the scene because it was “preying on pigeons.”

It seems likely that city nesting by peregrines would have increased as more tall buildings became available and public tolerance increased, had the original population survived. When the first reintroduced pairs began nesting in Midwestern cities, we wondered if they would be able to reproduce and survive well enough to replace themselves. Now we see that productivity, certainly, and probably also survival of urban falcons matches that of populations elsewhere. Midwestern urban pairs consistently out-produce their neighbors on the Lake Superior cliffs to the north and survival of urban adults is excellent. Probably survival of young in the first month after fledging from cliffs is better than for city birds, which find bizarre ways to kill themselves, but there is no evidence that life for urban peregrines, considering all factors, is inferior to life on the traditional cliffs. Peregrine egg clutches and broods in nest boxes are almost immune to losses from predation and bad weather, which are major threats to cliff nesters.

It seems almost heresy to ask the obvious question: Are the river cliffs now second-rate peregrine habitat, to be used at that future time when city sites are essentially filled and the surplus non-breeders must use secondary sites, such as cliffs, if they are to nest at all? We think the answer is yes, the peregrines themselves are telling us that man-made sites on average are better choices today than cliff sites, at least in the owl-rich Midwestern river habitat. It is true that city pairs do best with human help but it is also obvious that even without overt help, which usually comes in the form of nest boxes or trays, Midwestern cities would still support a modest population of pairs enterprising enough to find reasonably safe nest sites by themselves. This year, about 19 of the 83 pairs (23%) nesting on man-made structures were on unimproved, often inaccessible, sites chosen by the birds themselves. Obviously if the rest of the urban pairs were deprived of nest boxes, some of these would also find useable unimproved sites. The result would be an urban nesting population that is smaller, but far from obliterated. A few building managers will tire of maintenance changes needed to accommodate falcons nesting on their buildings, but The Raptor Center survey made this year indicates that almost all are willing or even eager to continue to host peregrines, recognizing the enthusiasm of building tenants for the falcons.. The productive nest boxes on smokestacks seem especially secure, given the sensitivity of power companies to their environmental image.

A peregrine's choice of nest site is influenced by its fledging site (Loon, 1998, pp. 127-129), but the influence is not absolute. If it were, it would be impossible to explain the three city-reared peregrines (from Minneapolis, Madison, and Chicago) nesting on distant cliffs along Lake Superior, while the nearby river cliffs have remained vacant since 1989.

If this assessment of cliff nesting seems too pessimistic, we point out that we applaud two ongoing major efforts to return nesting peregrines to the river cliffs. Robert Anderson, Raptor Resource Project, has hacked 18 young falcons from a cliff at Effigy Mounds National Monument in northeastern Iowa in the past two years. Lowell Washburn, Iowa Department of Natural Resources, managed a release this year of 20 falcons from a cliff at Dubuque, Iowa. Over 80 percent survived to dispersal, despite the presence of Great-horned Owls at the Dubuque site. A special effort was made at both places to camouflage the hack boxes with rocks, in the hope that this would influence the future choices of nest sites. These releases generated great public interest and support. We share with our Iowa colleagues their hope for success in reestablishing cliff-nesting pairs.

SUMMARY OF PEREGRINE NESTING IN 1998

In the Midwestern United States, southeastern Manitoba, and the Lake Superior basin of Ontario in 1999, 107 pairs were known to be on territories, 89 pairs (83%) laid eggs, 76 pairs (85% of the nesting pairs) were successful in fledging 214 young, 2.8 young per successful pair, 2.4 per nesting pair, 2.0 per territorial pair.

PEREGRINE POPULATION GROWTH AND PRODUCTIVITY
IN THE MIDWEST, 1982-1999

Year	Hacked Young	Terr. Pairs	Nesting Pairs	Success Pairs	Young Fledge	Young/Territor Pair	Young/Nesting Pair	Young/Success. Pair
1982-1986	105	4	2	0	0	0	0	0
1987	73	6	4	1	3	0.5	.75	3.0
1988	87	13	8	6	16	1.2	2.0	2.7
1989	124	16	12	9	22	1.4	1.8	2.4
1990	103	23	16	13	33	1.4	2.1	2.5
1991	117	30	22	17	36	1.2	1.6	2.1
1992	107	37	32	23	68	1.8	2.1	3.0
1993	38	53	43	33	87	1.6	2.0	2.6
1994	66	62	51	41	116	1.9	2.3	2.8
1995	54	67	53	43	118	1.8	2.2	2.7
1996	33	77	58	48	127	1.6	2.2	2.6
1997	35	90	69	58	167	1.9	2.4	2.9
1998	55	99	84	74	205	2.1	2.4	2.7
1999	63	107	89	76	214	2.0	2.4	2.8
Total	1060	684	543	442	1212	1.8	2.2	2.7

Note: "Young fledged" includes all young surviving to first flight from nest. Falcons hacked in Tennessee, Alabama, and Arkansas are excluded on geographic grounds. Changes (made in 1998) in number of young fledged in 1987 and 1988 reflect our current definition of "fledged" and classification of augmented young as wild rather than hacked.

Of the 107 territorial pairs, 24 (22%) were on cliffs, 49 (47%) were on buildings, 22 (21%) on smokestacks, 12 (11%) on bridges. Thirty-two of the 49 building pairs succeeded, fledging 84 young. Seven of the 12 bridge pairs fledged 26 young. Eighteen of the 22 smokestack pairs fledged 57 young. Of the 24 cliff pairs, 18 are known to have succeeded, fledging 46 young. For three cliff pairs the outcome is unknown and three cliff pairs failed.

Of the 214 young known fledged in the wild this year, 169 were banded and 45 were not because of undiscovered nests, late discovery of nests, remote locations, and other logistical problems. Additional unbanded young were fledged, of course, at unlocated nests.

An additional 63 young were hacked in our area, 35 in Iowa, 6 in Indiana, 12 in Missouri, and 10 in Kentucky.

1999 POPULATION STATUS

SUCCESSFUL BREEDING PAIRS (Pairs fledging young)

1. North Central Life Tower, St. Paul, Ramsey County, Minnesota. Thirteen-year-old Meg 12R again over-wintered here and nested for the twelfth year; with five-year-old Sota 8/*E, fledged in 1994 from the Mayo Clinic, Rochester, Minnesota, here for the second year. Four eggs were laid, three hatched and two females and a male fledged around June 19. Meg has now fledged 36 young in twelve seasons. Sota seems not seriously handicapped by having lost four toes, leaving him with only the outside toe and hind toe on each foot to capture prey. The young seemed well-nourished when banded. We assumed last year that male Spanky 04T, replaced here by Sota in 1998 and 1999, was dead, but this year we found Spanky nesting on the High Bridge, only 1.5 miles away (next pair).

2. High Bridge, St. Paul, Ramsey County, Minnesota. New site. Two-year-old female Sophia *3/G paired with eleven-year-old Spanky 04T to fledge four young from this new bridge site. The nest was discovered on a floor plate at the junction of two I-beams under the roadway when the four young were about two weeks old. All four, two of each sex, fledged despite the cramped quarters and all were doing well two weeks later. Spanky had earlier nested at the Control Data building in Bloomington, about eight miles southwest, for two years and at the North Central Life building in St. Paul, 1.5 miles northeast, for six years (see pair 1). Both adults spent considerable time perching in a nest box on a smokestack at a power plant across the Mississippi River from the bridge nest site. Which site will they nest in next year? Spanky's move from the NCL tower involved giving up a productive mate, Meg 12R, and a nest box. Maybe the move was not voluntary.

3. Colonnade Building, Hwy. 100 and I-394, Minneapolis, Hennepin County, Minnesota. Ten-year-old Kato 31T has nested here for eight years, this year paired with a new female, Mendota *4/C, fledged in 1997 from the Mendota Bridge, Fort Snelling State Park, Minnesota. Mendota replaced Elma, who had nested here for three years and died after a two-hour long fight on April 7, described in detail in the Loon (Tordoff and Redig, 1999, in press). Egg-laying was disrupted by the fight, reported to us by Tom Christianson. Rich Kaiser reports that three eggs were laid, one hatched, and the female young fledged.

4. NSP Riverside Plant, Minneapolis, Hennepin County, Minnesota. Bob Anderson, Raptor Resource Project, and John Tradewell, NSP, report that nesting at this site was disrupted by at least three major fights among peregrines, resulting in two known fatalities: June 1, two-year-old female *4/K fledged at the Multifoods Tower, Minneapolis; May 25, three-year-old male *P/B, from the North Central Life tower in St. Paul. A third injured bird that could not be captured was reported on April 15.

The adult female breeding here this year was three-year-old K/*V, second year at this site, paired with an unidentified male. Four eggs were laid, one hatched, and one young fledged. This site is 3.5 miles from the Multifoods Tower, five miles from the Colonnade, and about ten miles from the North Central Life Tower.

5. Norwest Financial Center, Xerxes and I-494, Bloomington, Hennepin County, Minnesota. Paul Budde helped monitor this site. For the third year, a pair of unbanded adults returned in late March and nested in the old tray. Four eggs were laid, one was broken by the falcons when harassing window washers. Two hatched and two young fledged.

[Ford Parkway Bridge, Minneapolis, Hennepin County, Minnesota. This site was not used in 1999, perhaps because of extensive reconstruction of the west river bank. Six-year-old male Lindee 1/*A had nested here for three years. He moved this year to the Mendota bridge, two miles south, where he nested with his two-year old daughter, P.W. *5/V. Lindee's previous mate, Comet 11V, was not reported this year.]

6. Mendota Bridge, Fort Snelling State Park, Dakota County, Minnesota. Mark Cleveland, MN DNR, reports that peregrines were at this site by March 14. Both adults were new to this site: male Lindee 1/*A moved here from the Ford Parkway Bridge, two miles north, and paired with female P.W. *5/V, his two-year-old daughter fledged in 1997 at the Ford Bridge. Three young were fledged, two males and female. Female E/C, who had nested here for the past three years, was found dead in the Mississippi River near the Ford Parkway Bridge in September 1998. Possibly E/C had a territorial fight with Comet 11V, with both grappling, falling into the river and drowning.

7. Multifoods Tower, Minneapolis, Hennepin County, Minnesota. On very windy March 17, three-year-old Lori X/*V, who was here but failed to lay in 1998, was killed in a collision with the nearby IDS tower. She was replaced by her five-year-old half sister, V/U, both fledged from the NSP Black Dog smokestack 12 miles south. Numerous fresh puncture wounds and a dorsal laceration indicate that the Lori's collision occurred in a fight with V/U, who seen in the nest box on March 20. V/U and twelve-year-old Will 04Y, here for the eleventh year, produced four eggs and fledged four young; all four were killed (or permanently disabled) in accidents by August 1.

8. NSP Black Dog Plant, Eagan, Dakota County, Minnesota. Bob Anderson (RRP) and Dan Orr (NSP) report that three-year-old female Nora G/*V, here for the second year, and her unidentified adult mate fledged three young, two males and a female, around June 28. One young was later found dead nearby.

9. NSP King Plant, Bayport, Washington County, Minnesota. Bob Anderson and Paul Simonet report that female Mae 31V, ten years old and nesting for the tenth time, again spent the winter here. Her mate, an adult, was not identified. They produced four eggs by March 27 and fledged four young, three females and one male, in mid-June.

10. NSP Prairie Island, Goodhue County, Minnesota. Ken Mueller, Dan Orr and Brad Giese of NSP and Bob Anderson report that six-year-old female 7/1, here for the third year, paired with an unidentified male. They fledged four young, three females and one male.

11. NSP Sherco Plant, Becker, Sherburne County, Minnesota. Dan Orr, NSP biologist, reports that eight-year-old female 36R, back for the eighth year, paired with male D/C, fledged in 1993 from NSP Black Dog, Eagan, Minnesota. (The males here in

1997 and 1998 were not identified.) This year five eggs were laid, three hatched. One female and two males fledged.

12. NSP Monticello Plant, Monticello, Wright County, Minnesota. The adults here were not identified, but Dan Orr and Bob Anderson report that the male was in juvenile plumage. Four young fledged, one male and three females, in mid-July, according to Dan Orr, Dave Wisted (NSP), and Bob Anderson.

13. Minnesota Power and Light Boswell Energy Center, Cohasset, Itasca County, Minnesota. A new unbanded adult female paired with an unidentified male. They fledged three young, two males and a female in mid-June, according to Daryl Councilman, MPL, and Bob Anderson.

14. Hull Rust Mine, Hibbing, St. Louis County, Minnesota. A pair found by Norman and Delores Ebert nested here in 1994. In 1998, according to the Eberts, the nest, which failed, was about 10 yards from the 1994 nest. This year, the cave used in 1994 was used again. A male was first seen on March 29, a female joined him on April 8, and an extra male was present April 22 to May 10. Three young fledged July 4; backdating, egg-laying must have been in mid-April. Neither adult was banded, nor were the young. Two adults and three young were still present on July 29.

Each year, Minnesota North Shore peregrines are banded with the essential and much appreciated help of expert climbers from the Wolf Ridge Environmental Learning Center, Finland, Minnesota. This year, the climbers were Lori Walewski, Joe Walewski, Peter Smerud, Peter Harris, and Julie Flotten.

15. NorthShore Mining, Silver Bay/Pink Cove cliff, Beaver Bay, Lake County, Minnesota. Curt Gubrub, Beaver Bay Club, reports that the nest site at Pink Cove was not used this year. Warren Lind and Nancy Smith located a pair of adults nesting in an old raven nest on the supporting beams of a conveyor belt at NorthShore Mining, a taconite plant about two miles northeast of Pink Cove. Neither adult is banded. We think this pair moved from Pink Cove because the raven nest used there for the past three years fell apart. Four young were fledged from the new site. They were not banded because the nest is inaccessible.

16. Palisade Head cliff, Tettegouche State Park, Lake County, Minnesota. The nest this year was at the same site as in 1998, at the extreme northeast end of the escarpment. Two young about two or three days old were present on June 18, but an attempt to band them three weeks later was thwarted by heavy rain. Again both adults were unbanded.

17. Manitou cliff, northeast of Little Marais, Lake County, Minnesota. New site. Michael Lee, MN DNR, discovered the nest at this new cliff site on July 21. The female parent is an adult, not banded. The banding status and age of the male parent was not determined. The two young, a male and a female, fledged unbanded on July 22. This is the second year the cliff has been used by peregrines; both nests were in the remains of old raven nests. The site is on private property

18. Finn Church cliff, two miles northeast of Tofte, Cook County, Minnesota. Peter Smerud found the nest on the same ledge used in 1997 and 1998. The female is nine-year-old Algoma, nesting here for the seventh year, paired again with an unbanded male. Two chicks, one of each sex, were banded on June 18. Algoma was trapped and released by peregrine banders at Laguna Atascosa refuge on Padre Island, Texas, on March 7, "with a crop so big she couldn't see her toes."

19. Hat Point cliff, northeast of Grand Portage, Cook County, Minnesota. On August 3, Dave Evans saw at least two juvenile peregrines at this site. They were not banded, nor were the adults identified.

20. Firstar Center, Milwaukee, Milwaukee County, Wisconsin. Greg Septon reports that eleven-year-old female Sibella 20V, eleventh year at this site, and nine-year-old male Bill 74T, ninth year, produced four eggs by March 31, hatched three between May 3 and 5, and fledged one female on June 15. There was much disturbance by construction close to the site. Sibella has now fledged 34 young, two of which were augmented.

21. Landmark on the Lake, Milwaukee, Milwaukee County, Wisconsin. Female Alice U/K, banded here as an adult in 1995 and age therefore unknown, paired again with nine-year-old Omni 76T, both birds in their sixth year at this site. Four eggs were laid April 12 to 18 and two hatched May 20. Two females fledged around July 1, according to Greg Septon.

22. Froedtert Malt, Milwaukee, Milwaukee County, Wisconsin. Greg Septon reports that seven-year-old Leopold C/D, five years at this site, paired with four-year-old female Raynie A/*H, second year at this site. They produced four eggs by April 10, all four hatched May 12 to 14, and two females and two males fledged around June 24. Raynie is exceptionally aggressive in nest defense.

23. WEPCO Oak Creek Power Plant, Milwaukee, Milwaukee County, Wisconsin. Greg Septon reports that the male, believed to be Griffin 5/*D, was fledged wild in 1994 at Landmark on the Lake, Milwaukee, and the female is three-year-old Atlanta L/*C, who took over the territory by killing incumbent three-year-old Sheri X/*U in February. The new pair produced four eggs April 10 to 16, hatched all four May 17 to 20, and fledged three males and a female around June 30. Atlanta, wild-produced at Green Bay, Wisconsin, in 1996, spent six months that year in rehabilitation at The Raptor Center, visited a nest site in Michigan City, Indiana, in 1998, nested the same year at Pleasant Prairie in southeastern Wisconsin and has now taken over at Oak Creek. Here is a bird determined to succeed.

24. Hoan Bridge, Milwaukee, Milwaukee County, Wisconsin. New site. On July 1, Greg Septon, responding to a report of a downed peregrine, discovered a brood of four young, two males and two females, in the process of fledging from this bridge over the Milwaukee River in downtown Milwaukee. The nest site was on pigeon dung on a steel plate at the juncture of two I-beams under the roadway. Greg captured the young, three

already out of the nest, amidst repeated passes by the Navy's Blue Angels and the protesting parents. The adult female is banded.

25. WPL Edgewater Generating Station, Sheboygan, Sheboygan County, Wisconsin. An adult male, perhaps five-year-old Grant B/N, who would be nesting here for the fifth year, paired with a female believed to be three-year-old Liberty E/*D. They produced four eggs April 8 to 15. All four hatched May 15 to 17, and four young males fledged around June 27, according to Greg Septon.

26. Busch Agricultural Resources Complex, Manitowoc, Manitowoc County, Wisconsin. Greg Septon reports that an unbanded adult male, as in 1998, and three-year-old female Nerissa *5/R, Sibella's granddaughter, produced four eggs April 1 to 7, all four hatched, and two males and two females fledged around June 20.

27. WPS Pulliam Power Plant, Green Bay, Brown County, Wisconsin. An unidentified banded adult male and a new adult female, black *H/2, from a clutch taken in 1997 from a precarious ledge in Montreal, Quebec, hatched in captivity, and hatched in Aurora, Ontario. Four eggs were produced March 29 to April 4, hatched two May 8 and 9, and fledged two young, one each sex, June 20. Greg Septon points out that this is the fourth year for nesting at this site.

28. WEPCO Pleasant Prairie Power Plant, Pleasant Prairie, Kenosha County, Wisconsin. Greg Septon reports that this territory was taken over by a new female, one-year-old Breezer *R/*2, fledged last year at U.S. Steel, Gary, Indiana, who ousted an adult female, probably three-year-old Atlanta L/*C, in a fight on March 24. Breezer paired with an unbanded adult male, thought to be the same as in 1998. They produced two eggs by April 15, hatched both around May 15, and fledged a male and a female June 26.

29. Dairyland Power Cooperative, Alma, Buffalo County, Wisconsin. John Thiel and Bob Anderson reports that four-year-old male 4/*G paired again with three-year-old female *5/T, their third year at this site. For the second year, five eggs were laid, all five hatched May 13 to 15, and four males and a female fledged around June 25, only the fifth brood of five to fledge in the new Midwestern population (East Chicago, Indiana, 1994; Columbus, Ohio, 1995; Omaha, Nebraska, 1998 and 1999, Alma, Wisconsin, 1999).

30. Dairyland Genoa Power Plant, Genoa, Vernon County, Wisconsin. Bob Anderson and John Thiel report that three-year-old female Scooter U/W, wild-produced at Green Bay, Wisconsin, paired with male V/W, hatched in 1995 at West Olive, Michigan. They may be the same birds that were here in 1998, but neither was identified then. Four eggs were laid by April 22, all four hatched, and two males and two females fledged in June.

31. Ameritech/Book Building, Detroit, Wayne County, Michigan. Judith Yerkey, Detroit Peregrine Coordinator, and Tim Payne, MI DNR, report that female Judy red AD was replaced in summer, 1998, by three-year-old Marical A/*C, fledged in 1996 in

Dayton, Ohio. Marical, who nested unsuccessfully in 1998 at the River Rouge plant in Detroit, paired with eight-year-old male Pop, his eighth year in Detroit. They nested on the Book Building, producing four eggs that hatched in late April. Three young fledged, two females and a male. The fourth youngster, a female suffered a broken wing before fledging, was healed and put in the New Center nest box, but she died before fledging.

32. New Center/Fisher Building, Detroit, Wayne County, Michigan. Judy Yerkey and Tim Payne report that six-year-old female H 6/H, sixth year at this site, paired again with five-year-old Speedster A/*6, fourth year at the site. They had three eggs by late-March, two hatched April 26, and two young, one of each sex, fledged in early June.

33. Whittier Apartments, Detroit, Wayne County, Michigan. Eight-year-old Sunrise 55R, nested at this site for the fifth year, paired with her two-year-old son Cinder *5/C. They produced three eggs by April 8, two hatched; one male and one female fledged around June 12, according to Judy Yerkey.

34. Monroe Edison Power Plant, Raisin River, Monroe, Monroe County, Michigan. Judy Yerkey and Tim Payne report that four-year-old female, Monroe E/K, here for the second year, paired with four-year-old male, Leopold N/*4, here for the third year. They produced four eggs by March 26, hatched all four around April 29, and fledged four young, three females and a male. The male was grounded shortly after fledging and banded. The other three young were not banded because the nest is inaccessible.

35. Porcupine Mountains Wilderness State Park, five miles west of Silver City, Ontonagon County, Michigan. Bob Sprague and Joe Rogers reports that an unidentified pair, an adult male and a “young, brownish female,” hatched three eggs around June 14 and fledged three young around July 25, two females and a male, all banded by Rogers.

36. Grand Island, north of Munising, Alger County, Michigan. Joe Rogers found a nest with two young in July, but had to leave before they fledged. The young were not banded. Both parents were adults.

37. Woodmen Tower, Omaha, Douglas County, Nebraska. John Dinan, Nebraska Game and Parks Commission, reports that five-year-old female Winnie *T/6 paired again with five-year-old male Zeus X/R, their fourth year at this site. For the second year in a row, five eggs were laid in mid-April. All five hatched by May 25 and two females and three males fledged in early July. One young male was found dead, cause unknown, in downtown Omaha on July 21. Twice in one day, young falcons were seen to fly into windows, surviving the collision but once cracking the glass. Five broods of five young have now fledged in the Midwest (East Chicago, Indiana, 1994, Columbus, Ohio, 1995, Omaha, Nebraska, 1998 and 1999, and Alma, Wisconsin, 1999).

38. Firstar Bank, Cedar Rapids, Linn County, Iowa. Jamie Edwards and Jodean Cancilla report that eight-year-old female 49R, nesting here for the seventh year, and ten-year-old male 64T, also here for the seventh year, produced three eggs that hatched around May 28, and three young fledged around July 9.

39. Alliant Lansing, Lansing, Allamakee County, Iowa. New site. Bob Anderson, Raptor Resource Project, reports that female Joanne *6/V, fledged in 1997 from the Ford Parkway Bridge, Minneapolis, Minnesota, paired with male Alpha *T/M, fledged in 1997 at NSP Prairie Island, Minnesota. They produced three eggs, hatched three around May 21, and fledged two males and a female around July 2. Female Joanne *6/V was at the Mayo Clinic, Rochester, Minnesota, in 1998, but did not nest.

40. 5821 Broadway, Irving Park, Chicago, Cook County, Illinois. Mary Hennen reports that female Eleanor 2/8, now six years old, paired for the sixth year with nine-year-old male Franklin 95T. They produced three eggs, hatched two, and fledged two young, which were not banded.

41. Unitarian Church, Hyde Park, Chicago, Cook County, Illinois. Mary Hennen reports that eight-year-old female Magnolia 22R and nine-year-old male Orion 77T nested here for the third year on a decorative ledge with no nest box or gravel tray. Four eggs were laid, two hatched, and one young fledged.

42. Jackson Street Prison, Chicago, Cook County, Illinois. New site. An unidentified adult pair (both with black/red bands) nested in an inaccessible area here in 1998 and again in 1999. They fledged four young, two of which were grounded and banded, according to Mary Hennen.

43. University of Illinois, Chicago, Chicago, Cook County, Illinois. New site. Two-year-old female Rosie *6/D, fledged in Milwaukee in 1997, and an unidentified banded male produced four eggs, hatched three, and fledged three young.

44. First United Methodist Church, Evanston, Cook County, Illinois. New site. Two-year-old female Zoom *4/H, fledged at North Central Life, St. Paul, Minnesota, and two-year-old male *P/M, fledged at 5821 Broadway, Chicago, were reported by local birders to have nested and fledged one young, according to Mary Hennen.

45. Market Tower, Indianapolis, Marion County, Indiana. John Castrale, Indiana DNR, reports that six-year-old male Kinney 7/*3 paired for the fifth year here with seven-year-old female Scout 28W. This year egg-laying began in the last week of February. Four eggs were laid, three hatched, and three males fledged around May 16, again the earliest brood in the Midwest

46. Cline Avenue at Lake Michigan, East Chicago, Lake County, Indiana. John Castrale reports that five-year-old female Ozzie V/D, here for the second year, paired with seven-year-old male Marty 53Z, his sixth year at this site. Four chicks, two males and two females, hatched and fledged around May 31

47. Inland Steel, East Chicago, Lake County, Indiana. John Castrale reports that seven-year-old female Courtney 25W paired for at least the fourth year here with six-year-old male Glory 2/*2. They nested again on an I-beam, producing four eggs by early April. Three hatched and fledged, unbanded because the nest was inaccessible.

48. One Summit Square, Fort Wayne, Allen County, Indiana. Five-year-old female Freedom U/*8, fourth year nesting at this site, paired again with four-year-old male Roosevelt R/*4, his third year here. They produced four eggs, hatched all four around April 27, and fledged four young, three males and a female, around June 8, according to John Castrale.

49. U.S. Steel, Gary, Lake County, Indiana. Eleven-year-old female Suzy Q 52P and nine-year-old male Vulcan 79T nested again, the tenth year for the locality and Suzy Q, the seventh for Vulcan. They produced four eggs by early April, hatched all four by May 8, and fledged two males and two females around June 8.

50. NIPSCO Bailly Plant, Porter, Porter County, Indiana. Four-year-old female Barb E/L, her second year here, and five-year-old male Bailly 4/9, his fourth year here, fledged four young, two males and two females, in mid-June, according to John Castrale.

51. NIPSCO Schahfer Plant, Wheatfield, Jasper County, Indiana. John Castrale reports that four-year-old female Laurie E/*H and three-year-old male Rollin K/*8 had four eggs by March 24, hatched two around April 28, and fledged two male young in early June.

52. Commodore Perry Motor Inn, Toledo, Lucas County, Ohio. Dave Scott and Bill Roshak, Ohio Division of Wildlife, report a new pair here, female *7/X, fledged in 1997 at Dayton, Ohio, and male Fury *G/A, fledged in 1997 in Fort Wayne, Indiana. The pair produced three eggs in late April, but only hatched and fledged one male by early July. Building renovations at this formerly abandoned and inaccessible site required relocation of the nest box and young falcon to another area of the roof of the banding.

53. Terminal Tower, Cleveland, Cuyahoga County, Ohio. Dave Scott and Steve Wilcox, Ohio Division of Wildlife, report that six-year-old male Bullet 2/*G, here for the second year, paired again with seven-year-old female Zenith 23W, nesting here for her seventh year. On March 17, Zenith, who migrates each year, evicted female Clearpath *5/A (see pair 86), who had arrived on the site in late winter, in a dramatic but non-fatal battle. Four eggs laid by April 12 hatched in mid-May. Four young males fledged by June 26.

54. LTV Steel, Cleveland, Cuyahoga County, Ohio. Seven-year-old male A/2, here for the second year, paired with a new female, five-year-old Star 5/X, hatched in Rochester, New York, in 1994. This is Star's second appearance in Ohio. In 1996, she laid four eggs in a gutter at USS/Kobe Steel, approximately 25-30 miles west of this location. This season, four eggs were laid by early April, three hatched in early May, and a male and two females fledged in late June, according to Dave Scott and Steve Wilcox, Ohio Division of Wildlife.

55. Hilliard Road Bridge, Lakewood, Cleveland, Cuyahoga County, Ohio. Dave Scott and Sara Jean Peters, Ohio Division of Wildlife, report that five-year-old female Athena 5/V and six-year-old male Buckeye 3/1, used this site for the second year. The pair produced at least three eggs that hatched around May 8, according to volunteer Andrea Nagy. The assistance of the Ohio Department of Transportation allowed one female and two male chicks to be banded in late May, with all three fledging by June 25.

56. Bohn Building, Cleveland, Cuyahoga County, Ohio. New site. Female *6/3, fledged in 1998 from the Gulf Tower in Pittsburgh, Pennsylvania, and male Wizard S/*8, fledged in 1997 in Fort Wayne, Indiana, produced two eggs by early April, hatched one by May 9, and fledged one young male by June 24.

57. Lazarus Building, Dayton, Montgomery County, Ohio. Dave Scott and Rick Jasper, Ohio Division of Wildlife, report that six-year-old female Baltimore 7/D paired again with nine-year-old male Mercury 21X. The pair produced four eggs by March 24, one hatched on April 27, and the single young male fledged June 9. It appears that this abandoned building will be demolished prior to the 2000 nesting season.

[Bank One, Canton, Stark County, Ohio. A single unbanded female peregrine was last seen here on March 26, according to Sara Jean Peters, Ohio Division of Wildlife. The falcon had reappeared at the site in late November, 1998, following her disappearance during late spring, 1998. She is now presumed to winter at this site.]

58. Commerce Tower, Kansas City, Jackson County, Missouri. John Meyer and Laurie Dohm, Missouri Department of Conservation, report that an unidentified adult pair (male probably 39X, but not confirmed) nested here, produced four eggs by April 5, hatched three, and fledged two young on June 14. The young were not banded because the nest site is inaccessible. This was the third successful peregrine nesting at this site.

59. Chase Park Plaza, St. Louis, St. Louis County, Missouri. Seven-year-old female 2/3, nesting here for the seventh year, paired with seven-year-old male 73R, fledged wild in 1992 from Southwestern Bell, St. Louis, Missouri. Four eggs were laid and three hatched around May 8. Two females and a male fledged, according to Mike Cooke. The unidentified male wearing a silver and a black band here in 1997 was probably 73R; this is probably his third year at this site. Both adults over-wintered.

60. Interco Building, Clayton, St. Louis County, Missouri. This site is on the west side of metropolitan St. Louis. Mike Cooke reports that female R/*A paired again with male 2/*Y, producing four eggs. Three hatched in late April, and two males and a female fledged.

61. McKinley Bridge, St. Louis, Missouri / East St. Louis, St. Clair County, Illinois. A silver banded pair fledged two young here in 1996, but the site was unreported again until Mike Cooke heard from a local source that three young fledged here this year. The same person says that peregrines also nested here in 1997 and 1998. The nest may be in Illinois, but is listed with the Missouri pairs until this is resolved.

62. Ohio River Kennedy Bridge (I-65), Jeffersonville, Indiana/Louisville, Jefferson County, Kentucky. Laura Burford reports that female W/A, fledged in 1995 at Chase Park Plaza, St. Louis, Missouri, paired with an unidentified male and fledged two young, not banded, the last week of May. Female W/A was injured when the chicks were about two weeks old and is in rehab at The Raptor Center.

63. Louisville Gas and Electric Company (LG&E), Trimble County, Kentucky. One-year-old female Mary Ellen *B/*B, fledged last year at Froedtert Malt, Milwaukee, Wisconsin, paired with male *K/V, hatched in 1997 at Calloway Power Plant, near St. Louis, Missouri, and produced three young. The nest was in an intake tube 160 feet up a smokestack. Two young were killed in an accident at the site on June 11; the other fledged successfully. It was not banded.

Ron Larche and Tracy Machonachie, Manitoba Wildlife Branch, supplied the following information on Manitoba falcons

64. Delta Winnipeg Hotel, Winnipeg, Manitoba. Ten year old female Madame 52V paired with three year old male black 2/7 for the second year.. They fledged two male young.

65. McKenzie Seed Building, Brandon, Manitoba. The same pair of eight-year-olds nesting here for the sixth year, female Phoebe black O/*B and male Mustafa red *7/3, fledged three young, two males and a female.

Ted Armstrong, Ontario Ministry of Natural Resources, and Brian Ratcliff, Thunder Bay Field Naturalists, sent the following summary of peregrine nesting along the Ontario North Shore of Lake Superior. Brian Ratcliff organized a team of climbers again this year. They banded 20 young falcons at six cliff sites, most reached by hiking and climbing and some by helicopter. Many of the Ontario sites are much more difficult to reach than most sites in the Midwestern U.S. We thank climbers Frank Pianka and Michael Pianka from the Alpine Club of Canada, and Brent Cuthbertson, Shawn McKinstry, and Dave Hintz, Lakehead University, School of Outdoor Recreation, Parks, and Tourism.

66. Mt. McRae, about three km from Mt. McKay, Thunder Bay, Ontario. Two unidentified adults produced four chicks, two females and two males, which were banded on June 28, ages 23 to 26 days.

67. Turtle Head, Pie Island, Ontario. Second year for this site. A banded adult female and an unidentified adult male produced four male chicks that were banded on June 29, ages 27 to 30 days.

[Pie Island, East Side, Ontario. No evidence of nesting here this year.]

68. Thunder Cape, Sleeping Giant Provincial Park, Ontario. A new female, Pathfinder *G/*4, fledged in 1997 at Pink Cove, Beaver Bay, Minnesota, paired with an unidentified male, produced three young, two females and a male, banded on June 29, ages 26 to 30 days

69. Squaretop Mountain, Ontario. The third year for this site, adults not identified. On July 5, three chicks were seen in the nest, too old at about 38 days to band.

70. Nipigon River Mouth, Nipigon, Ontario. Three chicks, two males and a female, were banded on July 1, ages 27 to 31 days. One adult was seen but not identified.

[Kama Hills, Nipigon, Ontario. No sign of adults during helicopter flight on June 15.]

71. Devil's Warehouse Island, Lake Superior Provincial Park, Ontario. This site has been in use for seven years. The male, here for at least the fourth year, is nine-year-old red 1/9. The female has a black band with a "P" on the left leg and "23" as the last numbers in the USFWS band on the right leg. Only Poindexter 09P, 877-42523, of the roughly 2500 birds in our database, fits this; she was hacked at Fort Sheridan, Illinois, in 1987. Three chicks, two females and a male, were banded on June 27, ages 29 to 35 days.

72. NW Mollie Mountain, Ontario. Third year for this site. Adult female is not banded, male not identified. Three male chicks were banded on July 5, ages 22 to 24 days

73. Squaw Bay, Ontario. Second year for this site. One unbanded adult and two chicks about 38 days old, too old to band, were seen on July 5. The chicks, a male and a female, were seen again on July 18 after fledging.

74. Whitefish Lake, Ontario. Second year for this site, inland from Lake Superior. A pair and one chick about 37 days old were seen from the base of the cliff on July 5. More young might have been in the nest.

75. Robertson Lake, near Goulais River, Ontario. Two chicks were still on the nest ledge on July 21.

76. Havilland Bay, North of Sault Ste. Marie, Ontario. Second year for this site. Two chicks, a male and a female, fledged about July 16. They were not banded

UNSUCCESSFUL BREEDING PAIRS

(Eggs laid, no young fledged)

77. I-94 Mississippi River Bridge/Riverside Plaza, Minneapolis, Hennepin County, Minnesota. Albert Charles Bergmann reports on this pair, which nested and failed in 1997 on an apartment balcony and on the bridge in 1998. This year, the same pair, female Phoebe, a five-year-old escapee from falconry in Kansas, and four-year-old male Pippin C/*5, nested on the same spot under a leaky drain on a pier supporting the roadway of the I-94 bridge. As in 1998, they were flooded out during incubation by a rainstorm. They did not re-nest.

78. St. Cloud State Correctional Facility/University Bridge, St. Cloud, Stearns County, Minnesota. According to Al Grewe, a pair apparently nested this year on the University Bridge, but did not fledge any young. The adults were not positively identified this year.

79. Corundum Point cliff, Split Rock State Park, Lake County, Minnesota. On April 15, Matt Solensky and Bud Tordoff saw a pair of adults here. A search on June 18 involving climbers and three kayaks on the lake below the cliff failed to locate a nest. The behavior of the adults suggested that nesting had failed. Dave Evans read the band on one adult, probably the female, black X/4, fledged wild in Canada. The other adult is unbanded.

80. Kennedy Creek cliff, Lake County, Minnesota. Bud Tordoff and Matt Solensky saw a single male here on April 15. A pair was here on June 18, but no nest was found. Behavior of the adults suggested that they had not nested or had failed. Dave Evans and Sue and Gary Prebil noted that the male is banded red 7/R, hacked at Sleeping Giant Provincial Park, Ontario, in 1994, here for the second year. The female is unbanded.

81. State Capitol, Lansing, Ingham County, Michigan. Mark Dietrich reports that two-year-old female Stelco, black 4/S, paired with an unbanded adult male for the second year. Four eggs were laid on pigeon dung on a poor site on the state capitol building. Three eggs fell from the ledge and the nest was abandoned. A nest box will be installed.

82. International Bridge, Sault Ste. Marie, Chippewa County, Michigan. Joe Rogers tells us that an unidentified pair of adults nested on this bridge. Eggs were laid but the nest failed. A nest box will be installed.

83. American Republic, Des Moines, Polk County, Iowa. Jaime Edwards, Pat Schlarbaum and Bruce Ehresman, Iowa DNR, report that eight-year-old female 13R, nesting here for the seventh year, paired again with nine-year-old male 93T, his sixth year at this site. They produced two eggs, but the nesting attempt was disrupted by nearby construction work and failed.

84. 125 S. Wacker, Chicago, Cook County, Illinois. Female E/E was here in 1998, but not identified until found dead on April 8 on a nearby roof. She had laid four eggs. A new female, still unidentified, arrived, paired with thirteen-year-old Jingles, and laid two more eggs, but none hatched, according to Mary Hennen, Chicago Academy of Sciences.

85. NIPSCO Power Plant, Michigan City, LaPorte County, Indiana. John Castrale reports that five-year-old Diana D/U and four-year-old Uncle Billy 3/*B nested here for the fourth year, producing three eggs by April 19; these were still present on May 17, but gone on May 25. They nested at the top of the stack after a mid-level box was closed.

86. Case Western Reserve University, Cleveland, Cuyahoga County, Ohio. For the third year, a pair of peregrines was observed at this site, according to Dave Scott and Sara Jean Peters, Ohio Division of Wildlife. Female Clearpath *5/A, fledged in 1997 in Detroit, Michigan, was observed here on March 20, three days after being evicted from the Terminal Tower area (see pair 53). She replaced a banded but unidentified female previously on the site. The male is three-year-old Buckeye *R/K, here for the second year. They did not use the nest box, but instead appeared to nest in the inaccessible gutters of the Biomedical Research Building as in previous years. No eggs or young, however, were observed during the nesting season despite a quick gutter check by an obliging Life Flight pilot on May 15.

87. First Merit Bank, Akron, Summit County, Ohio. Three-year-old female J.P. *G/3 and four-year-old male Bandit 3/*P, both here for the third year, produced four eggs by April 2. The nest failed when the eggs failed to hatch in May.

88. Miami Fort Station, Cincinnati Gas and Electric, Cleves, Hamilton County, Ohio. This power plant, located 20 miles west of Cincinnati, attracted a pair of peregrines for the third year. The male is five-year-old River Ace 7/*A and the female is five-year-old Echo W/*8, both hatched in Evansville, Indiana, in 1994. They produced three eggs by March 23. The eggs failed to hatch, according to Dave Scott and Rick Jasper.

89. Mt. McKay, Thunder Bay, Ontario. A pair was seen here by Gail Jackson on April 11, but only one adult on June 15 and later. Brian Ratcliff thinks the pair may have nested but failed early.

TERRITORIAL PAIRS, NON-BREEDING OR STATUS UNKNOWN

90. Mayo Clinic, Rochester, Olmsted County, Minnesota. Ted Bartel, Mayo staff, reports that male Chase 06T, here from 1992 through 1997, was found on a Mayo building dead and mummified on May 1. A peregrine was seen on March 7 and a rehabilitated female was released here by John Arent and Bud Tordoff in March, but no falcons nested. Two one-year-old birds were present intermittently in mid-summer. The female Joanne *6/V, here but not nesting in 1998, nested this year at Lansing, Iowa (pair 39).

91. Cargill Elevator, Lake City, Wabasha County, Minnesota. New site. Jon Peters, plant superintendent, and Tom Sexton reported on September 1 that a pair of peregrines had been at this site for about a month. Matt Solensky and Bud Tordoff read the bands, tentatively, on the two one-year-old falcons on September 2. The female may be Vector X/*D, the male is Joe *3/*W, fledged in 1998 at NSP Prairie Island, Minnesota. Both birds were in nearly full adult plumage, with a few brown feathers on their wings and head. By September 23, when Solensky read his band repeatedly, the male had completed molt. A nest box, installed here by plant workers in 1993, was being visited by the birds in September. Both birds were still present in mid-October.

92. I-494 Mississippi Bridge, South St. Paul, Minnesota. A single adult was seen here in 1998 and a pair of adults on April 21, 1999, but no nesting activity was found by Mark Pribula, MN DOT, during a bridge inspection in May nor were adults or young seen here on numerous visits later in the spring and summer.

93. Champion International paper mill, Sartell, Stearns County, Minnesota. New site. Mike Asselin reports that peregrines attempted to nest here on a smokestack, but apparently did not lay eggs. A nest box has now been installed. This site is 7.5 miles upstream from the University Bridge nest site in St. Cloud.

94. Blatnik Bridge, Superior, Douglas County, Wisconsin / Duluth, St. Louis County, Minnesota. Dave Evans saw peregrines here and in downtown Duluth several times over the season, but there was no evidence of nesting.

[Bong Bridge, Duluth, St. Louis County, Minnesota. Ten-year-old Bong female 34R was found dead under the east end of the Blatnik Bridge on August 19, 1998. Dave Evans saw no peregrine activity during the nesting season this year on the Bong Bridge, but in December, two peregrines were reported present by the attendant at the nearby railroad bridge.]

95. WEPCO Port Washington Power Plant, Port Washington, Washington County, Wisconsin. Greg Septon says one and sometimes two falcons were here through the spring. Only one was identified, juvenile male Flaps 8/*T, fledged in 1998 at Green Bay, Wisconsin. Although two birds were seen to use the nest box, no scrape was made and no eggs were laid.

96. Racine County Courthouse, Racine, Racine County, Wisconsin. Greg Septon reports that an adult banded male and an unbanded immature female were seen in courtship on April 9. Later in spring, only a lone male was seen, probably five-year-old Joshua 0/*A, who now must be the most frustrated male in the Midwest. He was

intermittently territorial here also in 1995, 1996, 1997, and 1998. A more apt biblical name would be Methuselah

97. Trap Hills, Ontonagon County, Michigan. Bob Johnson, Ottawa National Forest, and Joe Rogers each report that two peregrines were seen here in May. Johnson monitored the site from late May to July and found no evidence of nesting.

98. Yellow Dog River, Big Bay, Marquette County, Michigan. Joe Rogers reports that a pair of adults were seen here in May, but not later in the season.

[Pictured Rocks National Lakeshore, near Munising, Alger County, Michigan. Brian Kenner, National Park Service, and Joe Rogers saw no peregrines here in 1999.]

[Keweenaw Peninsula, Keweenaw County, Michigan. Reports of peregrines in this area reach Joe Rogers regularly, but no nesting pairs have been found. The area has good cliffs and inland lakes and marshes.]

99. Zip Feed Mill, Sioux Falls, Minnehaha County, South Dakota. Charles Patterson and Tim Keyser report that an unbanded female and two-year-old male Top Gun *H/C, hatched here in 1997, were seen at various sites in March and April, but there was no evidence of nesting and the birds were not seen later in the spring and summer.

100. Allerton Hotel, Chicago, Cook County, Illinois. Mary Hennen reports that nine-year-old female Oog 62V and her mate, ten-year-old Fast Eddie 88Y, moved south one mile to Michigan and Washington streets, but did not attempt to nest, unusual behavior for an established pair

101. Lakeview, Chicago, Cook County, Illinois. Mary Hennen reports a pair here early in the season, but apparently no nesting.

102. Kokomo, Howard County, Indiana. On April 12, a banded adult male and two immature females were seen. Copulation was noted on April 20, but no nesting took place. Wayne Yoder read the band on one female as *8 or *3/*5; only the latter has been used in our area, on a female hatched in 1998 at Mason City, Iowa.

103. Bank One, Lima, Allen County, Ohio. Dave Scott and Bill Roshak report that a new unidentified banded female and male Orrville black 2/C, wild-produced in London, Ontario, in 1996, were here early in the nesting season, but only the male was regularly seen after March.

104. Rhodes State Office Tower, Columbus, Franklin County, Ohio. Dave Scott and Donna Daniel, Ohio Division of Wildlife, report that a new female, Katie *B/*U, fledged in 1998 in Milwaukee, paired with the resident male Bandit (unbanded, but identity presumed by plumage and behavior), here for the sixth year. Katie replaced an unbanded adult female who arrived on the site earlier in the year and temporarily occupied the territory vacated by the death of Aurora after the 1998 nesting season. Despite several weeks of courtship and much scraping activity, no eggs were laid.

105. Chemed Center/PNC Building, Cincinnati, Hamilton County, Ohio. Dave Scott and Rick Jasper report that an unidentified pair was present early in the nesting season; however, no nest was found and the pair was not seen regularly after March.

106. Kansas Power and Light, Topeka, Shawnee County, Kansas. Joanne Brier reports that two unidentified falcons were seen from time to time at the nest box, but they did not nest.

107. Old Woman Bay, Lake Superior Provincial Park, Ontario. Three peregrines were seen on April 3 and one during the week of April 5-9, but there was no evidence of nesting here this year.

SINGLE TERRITORIAL FALCONS

108. State Capitol, Lincoln, Lancaster County, Nebraska. John Dinan reports that male peregrine *T/B, fledged in 1996 in Des Moines, Iowa, was found injured here on March 19. After rehabilitation at The Raptor Center of Lincoln and at the University of Minnesota, it was released at the state capitol in Lincoln on May 28, 1999.

109. Mason City, Cerro Gordo County, Iowa. Lowell Washburn, Iowa DNR, reports that an adult male was present here for about six weeks in late spring and early summer.

110. Davenport, Scott County, Iowa. An adult male was seen here repeatedly during the season, according to Lowell Washburn.

111. Evansville, Vanderburgh County, Indiana. An adult male falcon was seen here on several occasions from January to June, but there was no evidence of a pair or of nesting, according to Yvonne Lingo and John Castrale.

112. Gibson Lake Power Plant, Gibson County, Indiana. Yvonne Lingo and Gary Bowman saw single peregrines here sporadically in winter and spring. No nest box is available because Least Terns nest nearby.

113. Terre Haute, Vigo County, Indiana. One peregrine was seen sporadically in fall and winter on the Indiana State University campus.

114. The Adam's, Sleeping Giant Provincial Park, Ontario. New site. One adult was seen from helicopter on June 15.

115. Sibley Lookout, Sleeping Giant Provincial Park, Ontario. A single adult was seen on June 29, but no sign of nesting in three helicopter passes.

116. Le Pate, Pie Island, Ontario. A single peregrine was seen from helicopter on June 15.

117. Kama Bay, Nipigon, Ontario. One adult observed from helicopter June 15.

PEREGRINE RELEASES IN 1999

Iowa

Dubuque, Dubuque County. Twenty peregrines (plus one rehabilitated youngster from Chicago) from South Dakota Raptor Trust, Mark Bolton, and Larry Cottrell, 15 males and five females, were hacked here in four groups, June 17, July 6, July 21, and July 27. Seventeen survived to dispersal, according to Lowell Washburn, Iowa Department of Natural Resources, and Irene Berry, chief hack site attendant..

MEC Louisa, Louisa County. Six peregrines, four from South Dakota Raptor Trust and two from Mark Bolton, five males and a female, were hacked here in two groups, June 10 and July 21, from a power plant roof, according to James Haack, MidAmerica Energy, and Lowell Washburn, Iowa DNR. One left the site at release and the other five survived to independence. Two rehabilitated young of the year were also released here in October.

Effigy Mounds National Monument, Allamakee County. Nine falcons, seven from the Raptor Resource Project and two from Bruce Haak, were hacked here, seven males, two females, in two groups of five and four, July 13 and 16. One male left the hack site at release and was trapped in good condition and released by Bret Mandernack on September 30 at Eagle Valley Nature Center, two miles south of Glen Haven, Grant County, Wisconsin. The other eight survived to dispersal, according to Bob Anderson.

Indiana

Muncie, Delaware County. Six falcons from the South Dakota Raptor Trust were hacked here by a Ball State University team led by Tom Morrell.

Missouri

Four sites, vicinity of St. Louis, St. Louis County. Twelve young from Walter Crawford, World Bird Sanctuary, were hacked in the area, according to Mike Cooke.

Kentucky

Lexington, Fayette County. Ten falcons from the South Dakota Raptor Trust were hacked here, according to Laura Burford, Kentucky Department of Fish and Wildlife Resources.

In sum for 1999, 214 young were fledged by wild pairs and 63 young were released from captive pairs, for a total of 277.

GENETIC ANALYSIS

We continued collecting blood in 1999 from all released young and from all wild young banded in the U.S., and from whatever wild breeders were handled. The goal is to measure inbreeding, outbreeding, genetic variation, changes in occupancy of territories, dispersal of adults and young, success of the different genetic stocks introduced, and long-term development of genetic structure in the new Midwestern population.

The peregrine blood samples collected over the years uniquely represent the history of the Midwest population. Only a handful of study skins and skeletons, acquired randomly, have been preserved, in contrast to the nearly full coverage of blood samples available. Sophisticated as current techniques of blood analysis may seem today, they will be considered primitive in a few decades. The blood specimens are in the permanent

tissue collections at the Bell Museum of Natural History, University of Minnesota, where they are available for genetic and other analyses in the future.

PLANS FOR THE FUTURE

Annual increases in territorial pairs from 1987 through 1999 show the rapid growth earlier and recent slower growth typical of new populations. It appears that a plateau in number of territorial pairs in this area will not be reached for several more years.

Year	Pairs	Increase	% increase
1987	6		
1988	13	7	117%
1989	16	3	23%
1990	23	7	43%
1991	30	7	30%
1992	37	7	23%
1993	53	16	43%
1994	62	9	17%
1995	67	5	8%
1996	77	10	15%
1997	90	13	17%
1998	99	9	9%
1999	107	8	8%

Early guesses by us that the current peregrine carrying capacity in the Midwest would be somewhere below 100 pairs were too conservative, but the actual final figure will depend on how well pairs are able to re-occupy the river cliffs, on growth of the cliff populations around Lake Superior and the Iron Range, on the use of additional bridges, on the ability of pairs to squeeze into cities already holding falcons, and how much help is provided to attract additional pairs to man-made structures. Enthusiasm for peregrine management will likely diminish now that the species is no longer classified as endangered, but substantial interest and support will continue from a public now much more aware and appreciative of peregrines than ever before.

We need to continue to try to:

- Identify all breeders.
- Band all wild young produced.
- Collect and analyze blood from all young and from any adults handled.
- Appropriately manage pairs nesting on man-made structures.
- Continue efforts to re-establish peregrines on the river cliffs and on suitable cliffs elsewhere in the region.
- Collect, coordinate, and circulate information among Midwest peregrine workers through reports, meetings, and regular informal contacts.

ACKNOWLEDGMENTS

The Midwest Peregrine Project is a cooperative effort involving many people and organizations. The University of Minnesota provides the overall coordination and administration of the project through Pat Redig and Mark Martell of the Raptor Center and Bud Tordoff of the Bell Museum of Natural History. We are able to maintain our database on peregrines, which is the basis of the various reports you receive, through the enthusiastic cooperation of people interested in peregrines in the 12 U.S. states and two Canadian provinces in our area. We thank all of you who have sent us information. John Castrale prepared the graphs in this report and detected many inconsistencies in the database. We are also grateful to those who read parts of an early draft of this report for help in detecting errors and omissions. Please let us know about mistakes that we missed.

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- BCED Minnesota
- Big Game Club Special Projects Foundation
- Farm Credit Leasing
- Iron Range Resources and Rehabilitation
- Koll Management
- Mayo Clinic
- Minnesota DNR Nongame Wildlife Program
- Minnesota DNR Parks and Recreation
- Minnesota Department of Transportation
- Minnesota Falconers Association
- Minnesota Power and Light Company
- Northern States Power Company
- Northwest Airlines
- Norwest Financial Center Building Management
- St. Paul Department of Public Works
- Raptor Resource Project
- U. S. Fish and Wildlife Service
- U. S. Forest Service
- Wolf Ridge Environmental Learning Center

Each cooperating state or province has, in addition, its own list of cooperators. Falcons for release were obtained from the falcon breeders listed below.

BREEDERS SUPPLYING PEREGRINES FOR 1999 RELEASES

- Robert Anderson, Raptor Resource Project, Decorah, Iowa (Effigy Mounds, Iowa, releases)
- Mark Bolton, Hugo, Minnesota (Dubuque and Louisa, Iowa, releases)
- Larry Cottrell (Dubuque releases)
- Walter Crawford and Mike Cooke, World Bird Sanctuary, St. Louis, Missouri (St. Louis releases)
- Bruce Haak, Boise, Idaho (Effigy Mounds, Iowa, release)
- Victor Hadaswick and Don Hunter, South Dakota Raptor Trust, Centerville, South Dakota (Indiana, Kentucky, and Dubuque and Louisa, Iowa releases)
- Alan Pollard, Dillsburg, Pennsylvania (Dubuque release)