

PROBABLE EFFECT OF DELISTING OF THE PEREGRINE FALCON ON AVAILABILITY OF URBAN NEST SITES

MARK S. MARTELL, JENNIFER L. MCNICOLL¹ AND PATRICK T. REDIG
The Raptor Center at the University of Minnesota, 1920 Fitch Avenue, St. Paul, MN 55108 U.S.A.

ABSTRACT.—We surveyed owners and/or managers of urban nest sites of Peregrine Falcons (*Falco peregrinus*) in the Eastern Recovery Region of the United States to determine their attitudes toward these birds. Telephone interviews were conducted from 14 January–12 March 1999 with 75 individuals responsible for 95 different nest sites on 47 buildings, 29 bridges and 19 power plants. None of the contacts had plans to remove nest boxes or trays or to discourage nesting by peregrines and no changes were expected after delisting at 88 (92%) sites. One contact reported that delisting of peregrines would result in removal of the nest box and, at another six sites, contacts were unsure if delisting would result in removal of nest boxes. The majority (82%) of respondents reported having “positive” feelings about the Peregrine Falcons on their structures and, at 92% of the sites, they felt that the presence of the falcons had a positive effect on operations, tenant feelings and/or public goodwill. The majority (74%) of respondents said that having nesting Peregrine Falcons on their structures resulted in changes in site management or operations. Broken windows, attacks on workers, sanitation and restricted access to nesting areas were examples given of problems affecting operations. We conclude that there is no evidence to indicate that removing the Peregrine Falcon from the Federal Endangered Species List will result in widespread loss of man-made, urban nesting sites in the eastern United States.

KEY WORDS: *Peregrine Falcon; Falco peregrinus; urban nesting; endangered species.*

Efectos probables sobre la disponibilidad de nidos urbanos al sacar la lista del halcon peregrino

RESUMEN.—Realizamos encuestas con propietarios y/o manejadores de sitios de anidación de halcones peregrinos (*Falco peregrinus*) en la región de recuperación del este de los Estados Unidos para determinar sus actitudes hacia esta ave. Llevamos a cabo entrevistas telefónicas desde el 14 de enero–12 de marzo de 1999 con 75 individuos responsables de 95 sitios de nidos diferentes en 47 edificios, 29 puentes y 19 plantas eléctricas. Ninguno de los encuestados tenía planes de remover las cajas de anidación o bandejas para desestimular la anidación, como tampoco existió la posibilidad de cambios en los 88 (92%) de los sitios después de sacar de la lista al halcón peregrino. Uno de los encuestados reportó que al sacarlo de la lista resultaría en la remoción de las cajas de anidación en otros seis sitios, los encuestados manifestaron que no estaban seguros si el sacar el halcón peregrino produciría la remoción de las cajas de anidación. La mayoría (82%) de los encuestados manifestó tener actitudes “positivas” acerca de los halcones peregrinos en sus estructuras. En el 92% de los sitios, consideraron que la presencia de los halcones tenía un efecto positivo en sus operaciones, en su sentido de propiedad y en su reputación. La mayoría 74 % de los encuestados manifestaron que el tener halcones peregrinos anidantes en sus estructuras había producido cambios en el manejo del sitio o en sus operaciones. Ventanas rotas, ataques a trabajadores, problemas sanitarios y acceso restringido a sitios fueron algunos ejemplos mencionados que afectaron sus operaciones. Nuestros resultados indican que no existe ninguna amenaza inmediata para los sitios de nidos urbanos en el Este de los Estados Unidos al remover al halcon peregrino del listado federal de especies amenazadas.

[Traducción de César Márquez]

In 1998, over 200 nesting pairs of Peregrine Falcons (*Falco peregrinus*) occurred in the states covered by the Eastern Recovery Region of the United

States (Federal Register 1999). Only reintroduced peregrines and their offspring (Barclay 1988, Tordoff and Redig 1997) populate this recovery region, which can be divided into Midwest and East components (Cade et al. 1996). Approximately 87% of Midwest pairs (Tordoff et al. 1998) and

¹ Present address: Hawk Mountain Sanctuary, RR2 Box 191, Kempton, PA 19529 U.S.A.

33% of East pairs (Cade et al. 1996) nest on man-made structures such as bridges, buildings and smokestacks in urban areas. The U.S. Fish and Wildlife Service (USFWS) August, 1998 notice of proposal to remove the American Peregrine Falcon (*F. p. anatum*) from the endangered species list (Federal Register 1998) included a 3-mo public comment period. Written and public hearing comments on the proposal included concerns that delisting would result in less cooperation by building owners with falcon management and protection, as well as removal of nest boxes and trays from buildings, bridges, and power plant smokestacks (C. Kjos, pers. comm.). The extent to which such actions might occur was of relevance to the final listing rule (Federal Register 1999), and continues to be so now that the species has been delisted, as it could affect the long-term viability of the species in the Eastern Recovery Region.

The primary purpose of our survey was to determine if delisting the Peregrine Falcon might result in widespread removal of nest boxes or trays at urban sites in the Eastern Region. For the purposes of this paper, we use the term "site" to mean the physical structure (i.e., building, bridge or smokestack) upon which the falcons nested. We also attempted to assess the attitudes of owners and/or managers of peregrine nest sites towards nesting Peregrine Falcons. Furthermore, we were interested in what these individuals knew about the falcons nesting on their structures and whether they were aware of the proposed delisting of the Peregrine Falcon.

METHODS

We identified all known urban, man-made nest sites in 19 states and the District of Columbia (Table 1) from information provided by USFWS biologists, state agency personnel, published literature and project reports (i.e., Cade et al. 1996, Tordoff et al. 1998) and personal knowledge. We limited our assessment to those buildings, bridges or utility company smokestacks that had occupied nest sites in 1998. At each site, we identified a contact, who we defined as an individual with responsibility for making decisions about the future of nest boxes/trays and maintenance of Peregrine Falcons. We interviewed five building owners (7%), 36 property managers (48%), 10 company biologists (13%), 18 building superintendents and engineers (24%) and six others (8%) (Table 1). These 75 contacts provided information on 95 of the 117 identified nest sites, which included 47 buildings, 29 bridges and 19 power plants.

Telephone interviews with site contacts were conducted by J. McNicoll between 14 January–12 March 1999. All site contacts were asked 13 questions (Table 2), including ones that addressed: a) details of the site; b) if there were

plans to remove the nest box or tray; c) the site contact's attitudes and the attitudes of tenants and the public toward the nesting falcons; and d) the benefits and drawbacks of having falcons at the site. Many of the site contacts had extensive comments either in direct response to the questions, or about their experiences and opinions.

RESULTS

Nest boxes or trays were available to peregrines at 75 (79%) of the 95 sites (Table 2). At seven sites, the falcons ignored boxes and nested on a beam (6) or a flower box (1). At sites without a tray or box, nesting occurred on beams (12), ledges (5), a gutter, a window and an air duct.

At no site were there plans for removing nest boxes/trays or for interfering with falcon nesting. At only one site (1%) did a contact indicate that the nest box would be removed if the Peregrine Falcon was delisted. At six sites (6%), contacts were uncertain whether they would keep their nest box if peregrines were delisted (Table 2).

Overall, site contacts were familiar with the nesting history of the Peregrine Falcons at their sites, and 47 (63%) of the contacts held their current position at the time of nest box placement. Fifty-three (71%) of the contacts were aware that the Peregrine Falcon was proposed for delisting.

Contacts reported having "positive" feelings about the Peregrine Falcons at 78 sites (82%). At only two sites (2%) did the contact report having "negative" feelings and, at 15 sites (16%), the response was neutral. At 87 sites (92%), contacts reported a "positive effect" from the presence of peregrines (Table 3). Contacts reported no effect from the presence of peregrines at seven (7%) sites while at one site (1%) the contact reported an overall negative effect.

Although attitudes were generally positive toward nesting peregrines, at 25 (26%) sites contacts reported minor problems (Table 3) but noted that they still intended to maintain the site for Peregrine Falcon nesting. At 70 (74%) sites, contacts reported that the presence of peregrines resulted in modifications of activities and schedules or had negative consequences that had to be dealt with (Table 3).

DISCUSSION

Information provided by site contacts does not suggest that delisting of the Peregrine Falcon would result in widespread removal of nest boxes and trays, or result in any interference with pere-

Table 1. Locations, types and site contacts for Peregrine Falcon urban nest sites in the eastern United States.

STATE	CITY	SITE NAME	SITE TYPE ^a	SITE CONTACT ^b
East				
Connecticut	Hartford	Traveler's Tower	BLD	MGR
Delaware	New Castle	Delaware Memorial Bridge (site #1)	BRG	MGR
		Delaware Memorial Bridge (site #2)	BRG	MGR
District of Columbia	Bloomington	Wilmington, Dupont Brandywine	BLD	SPC
	Washington	Basilica of the National Shrine	BLD	MGR
Maryland	Baltimore	Francis Scott Key Bridge (I-695)	BRG	SUP
	Baltimore	Legg Mason	BLD	NC
Massachusetts	Annapolis	Solomon's Bridge (Rt. 4)	BLD	NC
	Springfield	Chesapeake Bay Bridge	BRG	SUP
	Boston	Monarch Place	BLD	MGR
	Boston	Marriott's Custom House	BLD	ENG
	Boston	Christian Science Center	BLD	ENG
New Jersey	Fall River	Braga Bridge (Rte 195)	BRG	ENG
	Atlantic City	Atlantic City Hilton	BLD	MGR
	Kearny	PSE&G Kearny Generating Station	STK	MGR
	Pennsauken	Betsy Ross Bridge	BRG	MGR
New York	Bridgeport	Commodore Barry Bridge	BRG	MGR
	Elizabeth	Goethals Bridge	BRG	MGR
	Bayonne	Bayonne Bridge	BRG	MGR
	Buffalo	Statler	BLD	ENG
	Rochester	Eastman Kodak	BLD	OWR
	East Meadow	Nassau Medical Center	BLD	SPC
	Tottenville	Outer Bridge Crossing	BRG	MGR
	Ft. Montgomery	Bear Mountain Bridge	BRG	ENG
	Beacon	Newburgh Bridge	BRG	ENG
	Poughkeepsie	Mid-Hudson Bridge	BRG	ENG
	Kingston	Rhinecliff Bridge	BRG	ENG
	Westchester	Tappan Zee Bridge	BRG	MGR
	New York	Riverside Church	BLD	MGR
	New York	Met Life	BLD	MGR
	New York	NY Hospital Cornell Medical Center	BLD	SPC
	New York	Marine Parkway Bridge	BRG	SUP
	New York	Verrazano Narrows Bridge	BRG	MGR
New York	Throgs Neck Bridge	BRG	ENG	
Pennsylvania	New York	48 Wall Street	BLD	NC
	Philadelphia	Walt Whitman Bridge	BRG	SUP
	Philadelphia	Philadelphia City Hall	BLD	MGR
	Harrisburg	NJ-PA Delaware River Turnpike Bridge	BRG	BIO
	Harrisburg	Rachel Carson State Office	BLD	MGR
	Pittsburgh	Gulf Tower	BLD	MGR
	Pittsburgh	Cross-Valley Expressway	BRG	NC
Virginia	Norfolk	Ben Franklin Bridge	BRG	NC
		Girard Point Bridge	BRG	NC
		Norfolk-Berkley Bridge	BRG	NC
		West Norfolk Bridge	BRG	NC
		James River Bridge	BRG	NC
		Benjamin Harrison Bridge	BRG	NC
		Rappahannock River Bridge	BRG	NC
		Godwin Bridge	BRG	NC

Table 1. Continued.

STATE	CITY	SITE NAME	SITE TYPE ^a	SITE CONTACT ^b
Midwest				
Illinois	Chicago	125 S. Wacker	BLD	MGR
	Chicago	Allerton Hotel	BLD	ENG
	Chicago	Broadway-Fisher	BLD	SUP
	Chicago	Unitarian Church—Hyde Park	BLD	MGR
	Chicago	Metro Correctional Prison	BLD	MGR
Indiana	East Chicago	Inspat Inland	BLD	ENG
	East Chicago	Cline Ave Bridge	BRG	ENG
	Wheatfield	NIPSCO Schahfer Plant	STK	BIO
	Michigan City	NIPSCO Michigan City Plant	STK	BIO
	Burns Harbor	NIPSCO Bailly Plant	STK	BIO
	Gary	US Steel—Gary	BLD	MGR
	Fort Wayne	One Summit Square	BLD	MGR
	Indianapolis	Market Tower—Mansur Property	BLD	MGR
Iowa	Des Moines	American Republic Insurance	BLD	OWR
	Cedar Rapids	Firststar Bank	BLD	MGR
Kansas	Topeka	Western Resources	BLD	MGR
Kentucky	Louisville	Ohio River Kennedy Bridge (I-65)	BRG	ENG
Michigan	Detroit	Book Building	BLD	OWR
	Detroit	River Rouge Plant	STK	BIO
	Detroit	The Whittier	BLD	NC
	Detroit	Fisher	BLD	NC
Minnesota	Monroe	Monroe Edison Power Plant	STK	BIO
	Minneapolis	Multifoods Tower	BLD	MGR
	Minneapolis	Colonnade	BLD	ENG
	Minneapolis	Ford Parkway Bridge	BRG	BIO
	Minneapolis	Mendota Bridge	BRG	BIO
	Minneapolis	NSP Riverside Plant	STK	BIO
	Minneapolis	I-94 Mississippi River Bridge	BRG	BIO
	Bloomington	Norwest Financial Center	BLD	MGR
	St. Paul	North Central Life	BLD	MGR
	Eagan	NSP Black Dog Plant	STK	BIO
	Rochester	Mayo Clinic	BLD	MGR
	St. Cloud	St. Cloud State/University Bridge	BRG	BIO
	Duluth	Bong Bridge	BRG	BIO
	Becker	NSP Sherco Plant	STK	BIO
	Bayport	NSP King Plant	STK	BIO
	Red Wing	NSP Prairie Island Plant	STK	BIO
	Monticello	NSP Monticello Plant	STK	BIO
Missouri	Cohasset	MPL Boswell Energy Center	STK	NC
	Kansas City	Commerce Bank Towers	BLD	OWR
	St. Louis	Chase Park Plaza	BLD	MGR
	St. Louis	Old Chain of Rocks Bridge	BRG	MGR
Nebraska	Clayton	Intercove Corporate Tower	BLD	MGR
	Omaha	Woodmen Tower	BLD	MGR
Ohio	Cleveland	Tower City Center	BLD	MGR
	Cleveland	LTV Steel	BLD	SPC
	Cleveland	Case Western Reserve University Hospital	BLD	ENG
	Rocky River	Hilliard Road Bridge	BRG	BIO
	Akron	First Merit Real Estate	BLD	SPC

Table 1. Continued.

STATE	CITY	SITE NAME	SITE TYPE ^a	SITE CONTACT ^b
Wisconsin	Toledo	Commodore Perry Apartments	BLD	OWR
	Columbus	Rhodes State Office Tower	BLD	MGR
	Cincinnati	Fourth & Vine Tower	BLD	MGR
	Cincinnati	Hines Chemed Center	BLD	MGR
	North Bend	Miami Fort Station—Cincinnati Gas & Electric	STK	SPC
	Dayton	Old Lazarus	BLD	SUP
	Lima	Bank One	BLD	NC
	Port Washington	WEPCO Port Washington Power Plant	STK	BIO
	Pleasant Prairie	WEPCO Pleasant Prairie Power Plant	STK	BIO
	Milwaukee	WEPCO Oak Creek Power Plant	STK	BIO
	Alma	Dairyland Power Cooperative Alma	STK	BIO
	Genoa	Dairyland Power Cooperative	STK	BIO
	Sheboygan	WPL Edgewater Generating Station	STK	BIO
	Milwaukee	Landmark on the Lake	BLD	NC
	Milwaukee	Firstar Center	BLD	NC
	Milwaukee	Froedtert Malt	BLD	NC
	Manitowoc	Busch Agricultural Resources Complex	BLD	NC
Green Bay	WPS Pulliam Power Plant	STK	NC	

^a BLD—building; BRG—bridge; STK—smokestack.

^b MGR—site manager; SPC—site peregrine coordinator; SUP—maintenance supervisor; NC—not contacted; ENG—facilities engineer, OWR—owner; BIO—site biologist.

grine nesting on man-made sites in urban areas. Furthermore, we found no indication that the long-term welfare of these urban nesting birds was in danger and concluded that delisting this species should not affect the availability of these nest sites. Since peregrines nesting at man-made sites constitute a significant portion of the nesting population in the Eastern United States, and given the fidelity of Peregrine Falcons to nest sites, particularly in urban areas (Cade et al. 1996), the maintenance of these urban sites must remain a high management priority.

Ownership and management of the urban structures that Peregrine Falcons use for nesting is often multi-layered. Many of these structures have corporate or public ownership where there is no single individual with absolute authority over all aspects of the site's management. That was the reason why we surveyed individuals other than owners, such as biologists and site engineers. While these individuals may not have had final decision-making authority, we did confirm that they were knowledgeable about all aspects of Peregrine Fal-

con management at the site and could represent prevailing attitudes fairly. We acknowledge that some of our contacts may have had biases in favor of peregrines, which could have affected our results. However, we do not feel that this effect was large enough to affect our conclusions. The unequivocal nature of our results bears this out. We found peregrines widely appreciated and accommodated at the man-made sites on which they nest. This appreciation and accommodation appears to result from appreciation of the birds themselves by owners and managers, as well as by tenants and the general public. This positive reaction to peregrine nesting should not be surprising considering the initial cooperation and investment of site owners. Efforts to induce peregrine nesting on smokestacks (Septon et al. 1996) and buildings included an intensive effort to educate site owners and managers in Peregrine Falcon biology and conservation. Daily contact with nesting falcons has given many site managers and tenants a personal attachment to the birds at their sites.

None of the contacts noted the endangered sta-

Table 2. Questions asked during a telephone survey of 75 site contacts for 95 Peregrine Falcon nest sites in the Eastern United States. Questions are listed in the order they were asked.

QUESTIONS	SUMMARY OF RESPONSES
1 Does the site have a box or tray? ^a	Yes—75 (79%) No—20 (21%)
2 How long has the box or tray been there? ^b	1–5 yr—37 (49%) 6–10 yr—32 (43%) 11–15 yr—6 (8%)
3 Were you in your current position when the nest box was put up on your building? ^c	Yes—47 (63%) No—26 (35%) Uncertain—2 (2%)
4 Were you personally interested in putting up a box or did the idea come from someone else? ^b	Personal—36 (48%) Other—39 (52%)
5 The Peregrine Falcon is proposed for delisting, but will still be protected by other state and federal laws. Were you aware that the Peregrine Falcon might be taken off the Federal endangered species list? ^c	Yes—53 (71%) No—22 (29%)
6 How do you like having the box on your building and how do you like the falcons? ^a	Positive—78 (82%) Negative—2 (2%) Neutral—15 (16%)
7 Have the peregrines been a positive effect for your office? ^a (see Table 3)	Positive—87 (92%) Negative—1 (1%) Neutral—7 (7%)
8 Have the peregrines created any problems and, if so, what are they? ^a (see Table 3)	Yes—25 (26%) No—70 (74%)
9 What maintenance activities are you doing for the peregrines?	Not Applicable
10 Do you have to adjust any normal activities while they are present? ^a (see Table 3)	Yes—54 (57%) No—41 (43%)
11 Do you plan to continue allowing peregrines to nest at the site? ^a	Yes—95 (100%)
12 Would your intent change if the bird is no longer an endangered species? ^a	Yes—1 (1%) No—88 (93%) Unsure—6 (6%)
13 Are your questions of interest or concern about the peregrines being answered?	Not Applicable

^a *N* = 95, sites in survey.

^b *N* = 75, sites with nest boxes or trays (see question 1).

^c *N* = 75, site contacts surveyed.

tus of the Peregrine Falcon as a reason for maintaining a site. Nonetheless, the publicity and attention given to peregrines as a result of their endangered status should not be overlooked when assessing public reaction to them. Public opinion, publicity and the constant attention given to nesting Peregrine Falcons by biologists and state agencies create a positive environment that affects the attitudes of building owners, managers and tenants. Continued public education will be needed to guarantee cooperation at urban Peregrine Falcon nesting sites in the future.

It is important to note that site owners, managers and tenants will change and the attitudes we encountered during our survey are not guaranteed

to prevail over time. Almost every site contact we spoke with related some accommodation that was being made for peregrines at their site that involved time, money or inconvenience. Reducing the number and impact of these accommodations, while keeping a positive aura around urban falcons, will be a challenge that must be met if current Peregrine Falcon numbers are to be maintained or increased.

ACKNOWLEDGMENTS

The Endangered Species office of Region 3, USFWS provided funds for this project. The authors would like to thank C. Kjos of the USFWS for initiating this project and providing guidance and assistance. The cooperation of M. Allen, D. Brauning, K. Clark, L. Dohm, C. Koppie,

Table 3. Positive and negative effects of the presence of Peregrine Falcons at urban nest sites as noted during a telephone survey of site contacts in the Eastern United States.

NUMBER OF TIMES STATED	POSITIVE EFFECT	NUMBER OF TIMES STATED	NEGATIVE EFFECT
45	Employee and tenant enjoyment	24	Re-scheduling painting or maintenance
25	Positive public relations and media attention	15	Keeping employees/tenants away from nest site or limiting access to area
19	Pigeon control	15	Peregrines stooping at workers
11	Video cameras display nesting falcons on lobby monitors, cable TV, or web sites	13	Cleaning up prey items
7	Involvement of school children and employees in nestling banding and naming	4	Extra precautions needed during maintenance
4	Example of environmental stewardship	3	Site modification
		3	Broken windows
		2	Changing poison used to kill starlings and pigeons to avoid secondary effects on peregrines
		1	Rescuing grounded fledglings

B. Loucks, P. Manthey, C. Nadeski, T. Payne, D. Scott, L. Smith and H. Tordoff by providing contact names and phone numbers is greatly appreciated. Comments made by B. Walton and D. Varland greatly improved the manuscript.

LITERATURE CITED

- BARCLAY, J.H. 1988. Peregrine restoration in the Eastern United States. Pages 549–558 in T.J. Cade, J.H. Enderson, C.G. Thelander and C.M. White [EDS.], Peregrine Falcon populations: their management and recovery. The Peregrine Fund, Boise, ID U.S.A.
- CADE, T.J., M. MARTELL, P. REDIG, G. SEPTON AND H.B. TORDOFF. 1996. Peregrine Falcons in urban North America. Pages 3–13 in D.M. Bird, D.E. Varland and J.J. Negro [EDS.], Raptors in human landscapes: adaptations to built and cultivated environments. Academic Press, London, U.K.
- FEDERAL REGISTER. 1999. Endangered and threatened wildlife and plants; final rule to remove the American Peregrine Falcon from the federal list of endangered and threatened wildlife, and to remove the similarity of appearance provision for free-flying peregrines in conterminous United States. *Fed. Reg.* 64:46541–46558.
- . 1998. Endangered and threatened wildlife and plants; proposed rule to remove the Peregrine Falcon in North America from the list of endangered and threatened wildlife. *Fed. Reg.* 63:45446–45463.
- SEPTON, G.A., J. BIELDFELDT, T. ELLESTAD, J.B. MARKS AND R.N. ROSENFELD. 1996. Peregrine Falcons: power plant nest structures and shoreline movements. Pages 145–153 in D.M. Bird, D.E. Varland and J.J. Negro [EDS.], Raptors in human landscapes: adaptations to built and cultivated environments. Academic Press, London, U.K.
- TORDOFF, H.B. AND P.T. REDIG. 1997. Midwest Peregrine Falcon demography, 1982–1995. *J. Raptor Res.* 31:339–346.
- , M.S. MARTELL AND P.T. REDIG. 1998. Midwest Peregrine Falcon restoration, 1998 Report. The Raptor Center and The Bell Museum of Natural History, Univ. Minnesota, St. Paul, MN U.S.A.

Received 6 June 1999; accepted 20 September 1999