

## Species Status Assessment

**Class:** Birds  
**Family:** Falconidae  
**Scientific Name:** *Falco peregrinus*  
**Common Name:** Peregrine falcon

### Species synopsis:

Peregrine falcons, having become extirpated in the United States in the 1950s, have made an astonishing recovery across the range and in New York where breeding resumed in 1983. The ban on DDT in the early 1970s and a widespread reintroduction program (in which more than 6,000 birds were released) allowed populations to return to some historic breeding sites and even expand into new areas. In New York breeding occurs on bridges, towers, and buildings in urban settings as well as on cliff habitats in the Adirondack Mountains and vicinity.

The NYSDEC's annual survey of peregrine falcons documented 72 territorial pairs in 2013 and 52 successful pairs, which fledged a total of 122 young. The second Breeding Bird Atlas documented an increase in blocks with confirmed breeding records from 4 in 1980-85 to 68 in 2000-05. Similar increases have been documented in all adjacent states and Vermont has removed the species from its endangered species list.

### I. Status

#### a. Current and Legal Protected Status

- i. **Federal** Not Listed **Candidate?** No
- ii. **New York** Endangered; SGCN

#### b. Natural Heritage Program Rank

- i. **Global** G4
- ii. **New York** S3B **Tracked by NYNHP?** Yes

#### Other Rank:

The peregrine falcon was removed from the Federal Endangered Species List in 1999.

**Status Discussion:**

Once extirpated as a breeder in New York, the peregrine falcon is now a local breeder. It is a resident bird in the New York City area and in some upstate areas including Albany and Buffalo. Peregrines are a fairly common fall migrant on the outer coast and rare inland (Levine 1998).

**II. Abundance and Distribution Trends**

**a. North America**

**i. Abundance**

\_\_\_ declining  X  increasing \_\_\_ stable \_\_\_ unknown

**ii. Distribution:**

\_\_\_ declining  X  increasing \_\_\_ stable \_\_\_ unknown

**Time frame considered:** 1990s to present

**b. Regional**

**i. Abundance**

\_\_\_ declining  X  increasing \_\_\_ stable \_\_\_ unknown

**ii. Distribution:**

\_\_\_ declining  X  increasing \_\_\_ stable \_\_\_ unknown

**Regional Unit Considered:** Eastern U.S.

**Time Frame Considered:** 1990s to present

**c. Adjacent States and Provinces**

**CONNECTICUT**                      **Not Present** \_\_\_\_\_                      **No data** \_\_\_\_\_

**i. Abundance**

\_\_\_\_ declining    **X** increasing            \_\_\_\_ stable            \_\_\_\_ unknown

**ii. Distribution:**

\_\_\_\_ declining    **X** increasing            \_\_\_\_ stable            \_\_\_\_ unknown

Time frame considered: Since breeding resumed in 1997

Listing Status: Threatened                      SGCN? Yes

**MASSACHUSETTS**                      **Not Present** \_\_\_\_\_                      **No data** \_\_\_\_\_

**i. Abundance**

\_\_\_\_ declining    **X** increasing            \_\_\_\_ stable            \_\_\_\_ unknown

**ii. Distribution:**

\_\_\_\_ declining    **X** increasing            \_\_\_\_ stable            \_\_\_\_ unknown

Time frame considered: Since breeding resumed in 1987

Listing Status: Endangered                      SGCN? Yes

**NEW JERSEY**                      **Not Present** \_\_\_\_\_                      **No data** \_\_\_\_\_

**i. Abundance**

\_\_\_\_ declining    **X** increasing            \_\_\_\_ stable            \_\_\_\_ unknown

**ii. Distribution:**

\_\_\_\_ declining    **X** increasing            \_\_\_\_ stable            \_\_\_\_ unknown

Time frame considered: Since breeding resumed in 1980

Listing Status: Endangered                      SGCN? Yes





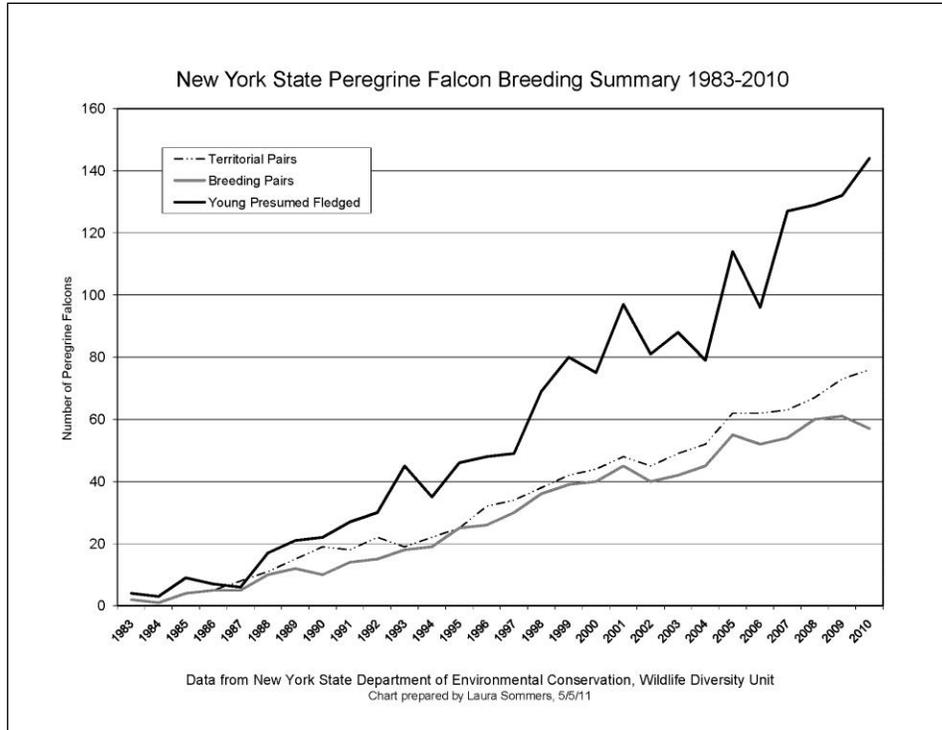


Figure 1: Trend in peregrine falcon breeding in New York (Loucks 2011)

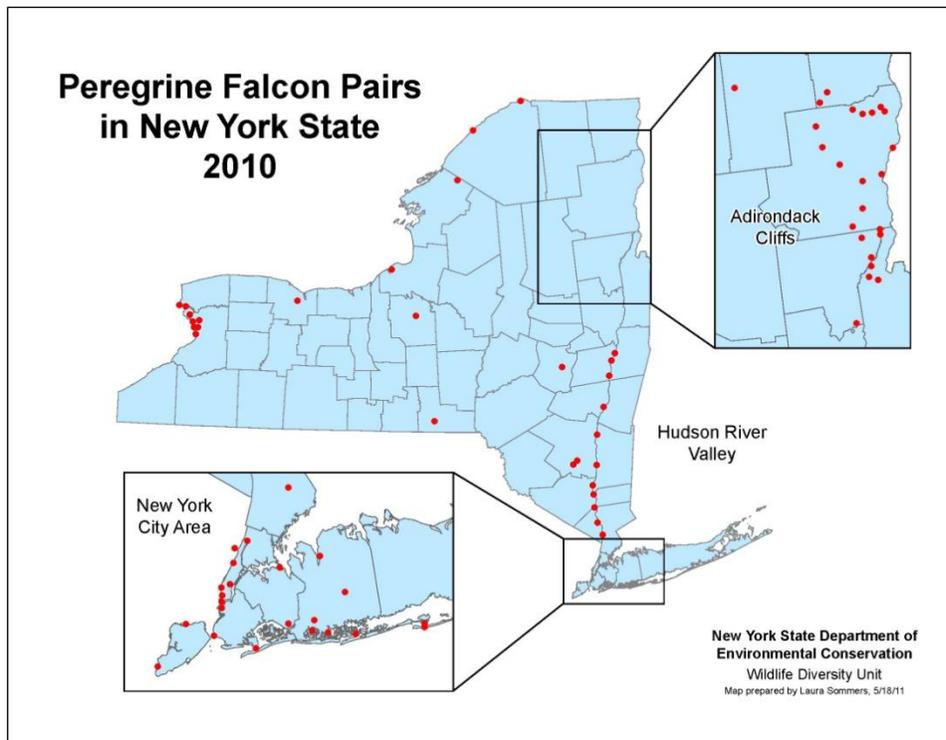


Figure 2: Location of peregrine falcon nests in New York (Loucks 2011)

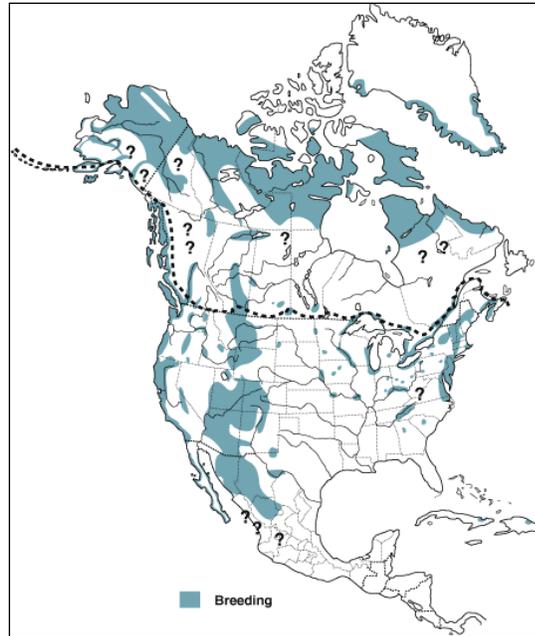


Figure 3: Range of peregrine falcon in North America (Birds of North America Online)

**III. New York Rarity, if known:**

| <b>Historic</b>      | <b><u># of Animals</u></b> | <b><u># of Locations</u></b> | <b><u>% of State</u></b> |
|----------------------|----------------------------|------------------------------|--------------------------|
| <b>prior to 1970</b> | _____                      | _____                        | <u>0%</u>                |
| <b>prior to 1980</b> | _____                      | _____                        | <u>0%</u>                |
| <b>prior to 1990</b> | _____                      | _____                        | <u>&lt;1%</u>            |

**Details of historic occurrence:**

About 50 pairs of breeding peregrine falcons were thought to be present in New York before the 1950s, mostly in the Adirondacks, but also on some bridges and buildings. The last known successful breeding was in 1956 and the last known breeding attempt—an unmated adult at a nest—was in 1961 (Bull 1974). Breeding resumed in 1983 and the first Breeding Bird Atlas (1980-85) documented occupancy in a total of 17 survey blocks statewide, 4 of which included Confirmed breeding.

| <b>Current</b> | <b><u># of Animals</u></b> | <b><u># of Locations</u></b> | <b><u>% of State</u></b> |
|----------------|----------------------------|------------------------------|--------------------------|
|                | <u>76 pairs</u>            | _____                        | <u>2%</u>                |

**Details of current occurrence:**

The second Breeding Bird Atlas (2000-05) documented occupancy in 111 survey blocks statewide, 68 of which had Confirmed breeding. Statewide occupancy increased by 553% and Confirmed breeding increased by 1,600%. In 2013, the NYSDEC reported 72 territorial pairs statewide (36 upstate, 36 downstate). A total of 122 young were fledged by 52 successful pairs.

**New York’s Contribution to Species North American Range:**

**Distribution** (percent of NY where species occurs)

- X 0-5%
- \_\_\_\_\_ 6-10%
- \_\_\_\_\_ 11-25%
- \_\_\_\_\_ 26-50%
- \_\_\_\_\_ >50%

**Abundance** (within NY distribution)

- \_\_\_\_\_ abundant
- \_\_\_\_\_ common
- \_\_\_\_\_ fairly common
- X uncommon
- \_\_\_\_\_ rare

**NY's Contribution to North American range**

- 0-5%
- 6-10%
- 11-25%
- 26-50%
- >50%

**Classification of New York Range**

- Core
- Peripheral
- Disjunct

Distance to core population:

\_\_\_\_\_

**IV. Primary Habitat or Community Type:**

1. Cliff and Talus
2. Commercial/Industrial and Residential
3. Freshwater Marsh
4. Floodplain Forests
4. Riparian
5. Coastal Marshland

**Habitat or Community Type Trend in New York:**

Declining       Stable       Increasing       Unknown

Time frame of decline/increase: \_\_\_\_\_

Habitat Specialist?       Yes       No

Indicator Species?       Yes       No

**Habitat Discussion:**

Peregrine falcons are found in a wide variety of habitats that provide avian prey and high cliff (or cliff-like) nest sites. In New York, nest heights outside of the Adirondacks range from 10-foot platforms in coastal salt marshes to a 693-foot bridge (C. Nadeski, pers. comm.). Over the past two decades, peregrines have established themselves as urban denizens, placing nests on urban structures that mimic cliffs, including buildings and bridges (Cade et al. 1996). Increasingly, peregrines have used other unconventional nest sites such as old common raven nests, nests on electric pylons, osprey nests, and cormorant nests on channel buoys, special towers in salt marshes, power plants, and heating stacks.

**V. New York Species Demographics and Life History**

Breeder in New York

Summer Resident

Winter Resident

Anadromous

Non-breeder in New York

Summer Resident

Winter Resident

Catadromous

Migratory only

Unknown

## **Species Demographics and Life History Discussion:**

Peregrine falcons breed annually. Age at first breeding varies, depending on territory availability, which is in turn influenced by floater competition and breeder turnover. Females tend to breed a year earlier than males (Cade and Fyfe 1978, Ratcliffe 1993). Yearling females are more likely to breed than yearling males, although both sexes have bred successfully as yearlings (Wendt and Septon 1991, C. Nadeski, pers. comm.). First-year survival is not well known but generally assumed to be 40–50% of fledglings. In urban environments, the mortality rate is higher at 60–70+% during the first-year of life (C. Nadeski, pers. comm.). The annual mortality rate for sub-adults and adults is approximately 12% (The Peregrine Fund). Maximum longevity records for banded birds range from 16 to 20 years.

Annual breeding success in New York in 2013 was 2.3 young produced per successful breeding pair and reached a high of 3.7 young per successful nest in New York City in 1993 (NYSDEC 1994). The average annual breeding success in the past ten years is 2.4 young per successful breeding pair. In reintroduced eastern populations, natal dispersal of 29 females ranged from 0 to 752 km, with 18 (62%) >100 km; for 13 males, 0–1,117 km, with 8 (62%) >100 km (Barclay 1995). Female generally disperses farther than male from natal localities to breed.

Fledglings at cliffs may be killed prior to independence by other raptors, especially great horned owls and golden eagles, occasionally by mammalian predators, and they may also suffer disease and accidents. Other cliff-related causes of mortality may be a result of cliff-ledge flooding during the spring season (C. Nadeski, pers. comm.). Urban fledglings may have greater variety of postfledging fatalities than fledglings in natural landscapes; deaths primarily from collisions with automobiles, windows, buildings, and other human-made objects (e.g., cables, wires, and barbed wire fencing), falling into chimneys and air ducts, and drowning after falling from bridges (Cade and Bird 1990, Sweeney et al. 1997). Some of the urban fledgling mortality can be attributed to human disturbance causing premature flight (C. Nadeski, pers. comm.). Additional causes of urban fledgling fatalities have been attributed to avian diseases transmitted by feral pigeons (e.g., trichomoniasis or frounce, and herpesvirus), West Nile virus, lead poisoning, and organochlorine pesticides (e.g., chlordane, dieldrin, DDE, and PCBs) (NYS Wildlife Health Unit). Collisions also affect older age classes; in nonurban environments, face a variety of human-related hazards, including electrocution by utility lines, wire and fence collisions, shooting, and airplane strikes (Barclay and Cade 1983, Santa Cruz Predatory Bird Research Group unpubl.). In urban environments, causes of sub-adult and adult mortality also include trichomoniasis, organochlorine pesticides (as noted above), shooting, collisions with vehicles, and territorial battles (C. Nadeski, pers. comm.).

## **VI. Threats:**

Pairs vary greatly in responsiveness to human activities, depending partly on individual characteristics, partly on period of breeding cycle, and partly on environmental circumstances

(Cade 1960). Pairs in remote locations are generally most reactive; those in urban areas or frequently visited sites become habituated to close human activities but are still susceptible to failure if disturbed at critical times. Rock-climbing, activity of researchers, or necessary maintenance at eyries is not usually detrimental when reasonable precautions are taken, but constant relationship-tending is necessary between people involved in these activities and resource managers.

Urban-dwelling peregrines may be killed or injured by flying into windows or other features of buildings while chasing prey, occasionally by collision with moving vehicles, including aircraft at airports; sometimes strike wires; recently fledged young sometimes fall down chimneys or are killed by air-conditioning equipment or other machinery on tops of buildings; young in nests on bridges often fall into water, significantly reducing productivity at such sites (Barclay and Cade 1983, Cade and Bird 1990, Bell et al. 1996). Premature fledging or falling due to human disturbance at urban nest sites continues to be an important issue. Human activities such as required inspections, ongoing or onset of new construction, security inspections, routine maintenance such as replacement of avian lighting, and general human curiosity have been documented at building(s) and bridge(s) locations (C. Nadareski, pers. comm.).

Peregrines are occasionally killed by eating birds poisoned by strychnine or other persistent toxic chemicals (see Porter et al. 1987) and from lead (primarily from chips of paint on bridges and buildings).

Details on causes of mortality and injury to urban peregrines are included in the discussion above under Species Demographics and Life History. A review of a sampling of 81 urban-dwelling peregrines from 2001 through mid-2013 (the majority of data collected within the past 5 years) shows the following causes of death or injury: vehicle strikes (24), avian diseases (5), building strikes (15), unknown impacts (11), airplane strikes (3), lead poisoning (3), pesticide poisoning (3), shooting (2), drowning (2), and other (2). This results in an additional threat, mortality from organochlorine pesticides. Data provided by The Port Authority on band recoveries from peregrines struck by aircraft at John F. Kennedy International Airport included 13 banded peregrine falcons, three of which were banded in New York. The balance were banded in Pennsylvania (4), Massachusetts (1), and at an unknown origin (5).

**Are there regulatory mechanisms that protect the species or its habitat in New York?**

**No**       **Unknown**

**Yes**

The peregrine falcon is listed as an endangered species in New York and is protected by Environmental Conservation Law (ECL) section 11-0535 and the New York Code of Rules and Regulations (6 NYCRR Part 182). A permit is required for any proposed project that may result in a take of a species listed as Threatened or Endangered, including, but not limited to, actions that may

kill or harm individual animals or result in the adverse modification, degradation or destruction of habitat occupied by the listed species. This listing status provides vital protection from human disturbance such as rock-climbing, necessary bridge maintenance, and building roof repairs and façade maintenance, and airport operations during critical times of the breeding season.

**Describe knowledge of management/conservation actions that are needed for recovery/conservation, or to eliminate, minimize, or compensate for the identified threats:**

To ensure this species’ continued success, NYSDEC stresses the need to build and foster partnerships with countless agencies, bridge authorities, building owners, and individuals who remain essential to the protection and management of this species. The majority of sites would probably not be successful without proactive management due to the need to restrict activity during critical periods of the breeding season. Seasonal cliff closures are necessary at some sites to ensure nesting success and bridge maintenance must be scheduled carefully.

Conservation actions following IUCN taxonomy are categorized in the table below.

| <b>Conservation Actions</b> |                                    |
|-----------------------------|------------------------------------|
| <b>Action Category</b>      | <b>Action</b>                      |
| Land/Water Protection       | Site/Area Protection               |
| Land/Water Protection       | Resource/Habitat Protection        |
| Land/Water Management       | Site/Area Management               |
| Species Management          | Species Recovery                   |
| External Capacity Building  | Alliance & Partnership Development |

The Comprehensive Wildlife Conservation Strategy (NYSDEC 2005) includes recommendations for the following actions for peregrine falcon.

**Development rights/Easement acquisition:**

\_\_\_ Pursue conservation easements or outright purchase of essential peregrine falcon habitats.

**Educational signs:**

\_\_\_ Develop signs/displays and post where appropriate in essential habitat areas to inform the public of the need to protect the species and limit disturbance.

**Fact sheet:**

\_\_\_ Develop materials and post where appropriate in essential habitat areas to inform the public of the need to protect the species and limit disturbance.

**Habitat management:**

\_\_\_ Review and comment on any plans to ensure that any proposed actions would not be detrimental to essential peregrine falcon habitat or its use. Place nest boxes on bridges and

buildings where appropriate, and maintain and replace as necessary. Promote the construction of nesting towers where appropriate.

**Habitat monitoring:**

\_\_\_ Review and comment on any plans to ensure that any proposed actions would not be detrimental to essential peregrine falcon habitat or its use.

**Habitat research:**

\_\_\_ Conduct radio-telemetry studies as well as field observations to determine essential peregrine falcon habitat.

**Life history research:**

\_\_\_ Through population monitoring and banding, determine site-fidelity, turnover, migration and wintering movements, home-ranges, mortality, longevity, etc. of peregrine falcons.

**Other action:**

\_\_\_ Ensure that all new peregrine falcon information is submitted to the Natural Heritage /BCD database.

**Other management plan:**

\_\_\_ Prepare individual management plans as necessary.

**Population monitoring:**

\_\_\_ Annually monitor and determine the number of territorial peregrine falcons and their reproductive outcome. Collect failed eggs and carcasses for analysis. Rehabilitate injured birds for release when possible.

\_\_\_ Gather wintering information when possible.

**State land unit management plan:**

\_\_\_ Ensure needs of peregrine falcons are incorporated into all UMPs where suitable habitat may occur.

**Statewide baseline survey:**

\_\_\_ Annually monitor and determine the number of territorial peregrine falcons and their reproductive outcome.

**Web page:**

\_\_\_ Keep the webpage current.

## **VII. References**

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