

New Jersey Department of Environmental Protection  
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**Peregrine Falcon  
Research and Management Program  
In New Jersey, 2020**

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Siblings near Englewood, July 2020. Photo courtesy of Muhammad Faizan.



**Program Objective:** *To enhance the population of the peregrine falcon (Falco peregrinus anatum), restoring them to a self-sustaining level throughout their range in New Jersey.*

## Summary of Results

The 2020 New Jersey peregrine falcon population remained near the 2018 level, with 38 known pairs, 37 of those active (known to lay eggs). Successful pairs remained about the same, at 28 producing 77 young, for a productivity rate of 2.08 young per active nest and a success rate of 80% (Table 1). A brief summary of data collected during the 2020 nesting season follows:

- ❖ Twelve pairs nested on towers (marsh towers and water towers) and seven on buildings. Those 19 pairs represent 50% of the population and 64% of the production. Towers and buildings fledged 49 young for an overall productivity rate of 2.53 young per active nest. This is close to the long-term average. We used bird-lice spray at some nests pre-season, and treated <2-week old hatchlings at several sites to reduce infestations of parasitic flies (*Carnus hemapterus*). *Carnus* flies were found in nearly all coastal nests.
- ❖ Eight pairs, seven of which were known active, occupied territories in natural cliff habitat in northeastern NJ. Four nests were successful in producing six chicks for a productivity rate of 0.86 young per active nest. This figure excludes one nest where chicks were lost by 3 weeks of age. These results were similar to what was seen in 2019.
- ❖ Eleven pairs (an increase of two) were known to nest on bridges this year. Seven of those bridges lie completely within the boundaries of NJ, while four span the Delaware River between NJ and PA and were monitored by NJ. Bridge pairs produced 21 known young that fledged, for a productivity rate of 1.91 young per active nest. The new bridge nests were discovered well into the nesting season in northern NJ; another bridge was confirmed only after a fledgling was rescued next to it. Bridges can be difficult to monitor and confirm nest results, as the nest sites are often located out of sight or on inaccessible sections of the bridge. Two fledglings were rescued from the water and were fostered back to family groups. Other urban bridges may have been occupied, but the project lacked monitors in urban locations to document all possible sites.

We were able to band 53 of the 77 young produced, with an aluminum federal band and a bicolor (black over green) band engraved with an alpha-numeric code. The 24 young we were unable to band fledged from sites that could not be accessed at the appropriate time.

In recent years we documented nestling mortalities that resulted from lead-poisoned prey, leading us to take blood samples at four nests in 2018 and eight nests in 2019. In 2020 we collected blood samples from 25 nestlings at 11 nests, which Dr. Erica Miller tested for lead. The results ranged from <0.01 to 0.95 ppm. Two nestlings in the Burlington-Bristol Bridge nest died shortly after banding, likely the result of lead in their food. Other nests with high lead exposure were all urban sites. We will keep looking at this issue to understand the risk and possible sources of lead for urban peregrines.

2020 was a difficult year for us humans, with COVID-19 disrupting normal life and limiting our activities. This year would have been the 20<sup>th</sup> year of the webcam at the Jersey City nest, run by the Conserve Wildlife Foundation of NJ. For the first time, the pair was absent. It is likely they nested somewhere else in the city, but they were not observed at 101 Hudson Street rooftop, nor were they reported by local citizens. We will be looking for them in spring of 2021 and hoping for their return.

Nests on bridges have been slowly expanding; in 2019 and 2020, two pairs nested on the Walt Whitman Bridge, with the eastern-nesting pair consisting of a female from Ocean Gate and a male from the Whitman (he is the offspring of the western-nesting pair). Two other nests were discovered this year on northern NJ bridges, in Boonton and Hackensack; neither site has a nest box or tray to support successful nesting. The Boonton nest failed to fledge, and the Hackensack nest apparently fledged three of the four. The Betsy Ross Bridge pair nested in an unfortunate place below roadway, ignoring the nest box for the first

time in many years; moving their two nestlings from the i-beam to the nest box did not work, so they were fostered into the Seaview nest, the only nest with a similar-aged nestling.

Natural nest sites on natural and quarry cliffs had only moderate success; four pairs fledged young, three pairs failed, and one pair did not lay eggs. The cause of failures was unknown, but the sudden loss of 4 nestlings at Alpine implied predation by great-horned owl. The two sites created with nest structures in 2019 remained unoccupied, at Montclair State University and the J&J building in New Brunswick.

In 2020, we expanded our use of *NestStory* to document nest activity, band identities, photos and resightings, enabling us to connect our many databases on individual birds, their populations, and movements.

## Resightings and Recoveries

We continued to use small, motion-activated cameras to photograph peregrines at nests, which allowed us to read the leg bands on 13 breeding adults at eight nest sites. An additional 23 adults were identified using optics and photographs. A minimum of 12 adults were unbanded and therefore unidentifiable to origin and age. The oldest female identified was a 15-year old who has nested successfully at Tacony-Palmyra Bridge since 2009; none of her five eggs hatched this season so we provided a foster chick from a coastal site, which fledged successfully. The median age of males and females was 7.5 and 7.0, respectively, for 16 males and 21 females. The information that these identifications provide is valuable for relating peregrine origin and age to nest success, site fidelity and turnover rate in the population.

In addition to the resightings recorded at NJ nest sites, we received reports of peregrines sighted here and elsewhere:

- 31/AN Union Co courthouse 2012 female was resighted in Philadelphia on 2/21/2020
- 56/AN Sea Isle 2013 female was resighted in Avalon, NJ on 3/15/2020
- BD/28 Ocean Gate 2015 female was resighted nesting at Philadelphia City Hall in 2020.
- BD/47 Logan 2017 female was resighted nesting at a quarry in Lehigh County, PA, April 2020.
- BD/55 Bayside 2017 female was resighted nesting in Philadelphia, 3/14/2020 with male 67/AM.
- BM/01 Atlantic City 2019 female was resighted in Stone Harbor 8/1/20 and in DE 10/20/20.
- BM/17 Jersey City 2019 female was sighted at Liberty State Park on 2/14/2020.
- BM/37 Atlantic City 2020 was sighted at Forsythe in August, then trapped at JFK Airport on 9/14/20.
- BM/61 fledged too early from a Hackensack bridge; after treatment at TRT, was released in New Paltz, NY.
- 26/AM Manahawkin male was resighted at Sedge Island, May 2020
- 53/AM Englewood 2014 male was sighted at the Hellgate Bridge, Queens, NY.
- 67/AM Stone Harbor 2014, was resighted nesting in Philadelphia with NJ female BD/55.
- BE/11 Alpine 2017 male was sighted at a West Orange nest site, 4/28/20.
- BE/45 Stone Harbor 2018 male was photographed in Tuckerton.
- BE/54 Ocean Gate 2019 male was found injured in North Cape May, and later euthanized, 5/21/20.
- 96/BC, from Nassau Co, NY in 2017, was sighted in July 2020 near Asbury Park.
- 90/AK, from Wilmington, DE in 2017, was resighted at the Palisades in 2020.

## Conclusions

The peregrine population returned close to the 2018 level, with moderately good nest success. Like last year, the natural nest sites had poor success, but expansion into abandoned (or even active) quarries is a positive sign. Across all sites – towers, buildings, bridges, and cliffs – nest success was 81% and 2.00 young per active site. The tower and building nest sites are the consistent core of the population in NJ, without which the population would fluctuate widely year to year. Management of nest sites, mainly to provide safe, undisturbed nesting environments for the birds, continues to be the predominant factor for a stable and productive population.

Nest success at cliff and quarry sites remained poor, with seven of eight occupied sites active, and four successful in fledging young. Some sites are difficult to observe, and we need more frequent

observations at all natural sites. New site occupations are good news, but nest success continues to be highly variable.

Management of nesting pairs and nest sites is essential to maintain peregrines in New Jersey. Bridge-nesting birds can be especially vulnerable to nest-site problems, and many other pairs occupy human-dominated sites. Human activities on bridges and other types of nest sites can quickly end nesting and cause failures. With proper attention to nest sites and the cooperation of bridge and building staff, man-made sites can contribute to population viability and stability, but proper site management takes staff time and attention. Managers are key partners in improving some nest sites and expanding the peregrine population.

Staff and project volunteers continued to use our online data management system, *NestStory*<sup>™</sup>, and are grateful to Jim Verhagen and the Little Egg Foundation. NestStory enables us to track all nests through each nesting season, and is now the means to track individually-marked birds at nests and resighted elsewhere. We also thank the many people who report banded birds to the USGS Bird Banding Lab at [www.reportband.gov](http://www.reportband.gov).

***Our Thanks To:*** Volunteers who protect and watch over peregrine falcons in New Jersey, including Beth Balbierz, Dan Brill, Frank Budney, Bonnie Coe, Kelly Connolly, Anita Coogan, Dave Demsey, Muhammad Faizan, Greg Gard, Keara Giannotti, Mike Girone, Len Greer, Jill Homcy, Herb Houghton, Kevin Keith, Mary Kostus, Mary Lenahan, Jack McCormack, Kristina Merola, Peter Monti, Kristen Nicholas, Martin Rapp, Steve Sachs, Vicki Schmidt, Frank Sencher, Chris Takacs, Don Torino, Matt Tribulski, Rick Weiman; Delaware River Port Authority staff (Bill Stricker, Joe McAroy, Joe Riehs); Palisades Interstate Park Commission and the Palisades Interstate Parkway Police; Betty Ann Kelly and Charles Chirafisi at Union County; the Burlington County Bridge Commission and engineers Mike Ott and Glen Miller; Palmyra Cove Nature Center; AC Atlantic Club; the Port Authority of NY/NJ; Barbara Deen and Mack-Cali engineers at 101 Hudson Street; Dave Demsey and staff at PBF Energy; Lois Knowlson at Sewaren Generating Station; Stan Kupsey and David Hinton & staff at Logan Generating Plant; Tina Shutz and Bruce Hawkinson of NJDOT; the Hard Rock Café in Atlantic City; Karl Schurr and staff at the Seaview Resort in Galloway; Atlantic City Water Authority; NJ Natural Lands Trust; Montclair State University; Johnson & Johnson, New Brunswick. We thank Northside Jim for telling the many stories of coastal falcons at <https://thereadings.org>. We also appreciate all those who photograph and report banded birds to [www.reportband.gov](http://www.reportband.gov) !

**Thanks to** the professionals at The Raptor Trust, Tri-State Bird Rescue & Research, Mercer County Wildlife Center, Toms River Avian Care, and Barnegat Animal Clinic. Special thanks to Dr. Erica Miller for veterinary and toxicological expertise. And to our climbing crew, John Gumbs and Mitzi Kaiura.

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We are indebted to Jim Verhagen and [Little Egg Foundation](http://www.littleegg.org) for their *NestStory* program and database that allows all sorts of data entry, storage, and analysis.

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*We sadly note the recent passing of Jill Homcy, a wonderful birder, photographer, and lover of peregrine falcons.*

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**Photos:**

Female falcon \*D/\*1 (originally from Hempstead, NY in 2005) has nested at the Tacony-Palmyra Bridge since 2009. Due to her advanced age, none of her eggs hatched, but she successfully raised a foster chick in 2020.



**Resightings:**



*Clockwise from top left:* 31/AN by Ronald Zigler; 34/BH by K. Clark; BM/01 by Lynne Falterbauer; BE/45 by Rich Nicol.

**Table 1.** Site-specific results of peregrine falcon nesting in New Jersey, 2020.

Site Name	Occupied	Active	Eggs	Young Hatched	Young @ Band Age	Young Fledged	2020 Comments
101 Hudson, Jersey City	N	N					
Allenhurst	Y	Y	?	?	3	3	New/unk site
Atlantic City – North end water tower	Y	Y	4	3	3	3	
Atlantic City – Taj/Hard Rock	N	N					
Atlantic City - empty Plaza	N	N					
Bayside Prison Water Tower	Y	Y	3	2	2	2	
Drag Island 1	Y	Y	4	4	4	4	Tower
Drag Island 2	Y	Y	?	?	2	2	BL England
Egg Island WMA/Dividing Creek	Y	Y	4	1	1	1	
Elizabeth-Union County Court House	Y	Y	4	4	4	4	
Forsythe NWR/Barnegat Tower	Y	Y	5	4	4	4	
Forsythe /Seaview	Y	Y	3	2	1	1	Fostered 2 from BRBR
Hilton/The Grand Casino/Atl Club	Y	Y	4	1	1	1	
Logan Generating Plant	Y	Y	5	5	5	5	
Margate/OC Marsh	N	N					
Marmora WMA	Y	Y	4	1	1	1	
Newark downtown	Y	Y	?	?	2	2	
Ocean Gate	Y	Y	4	4	4	4	
Paulsboro Refinery	N	N					
Route 72 /Bonnet Island	Y	Y	4	4	4	4	
Sedge Island WMA	Y	Y	4	?	2	2	
Sewaren Generating Station	N	N					
Stone Harbor	Y	Y	4	1	1	1	Nestling(s) likely lost to flies
Swan Bay WMA	Y	Y	2	0	0	0	
Tuckahoe WMA	Y	Y	4	4	4	4	1 fostered to TPBR
Wildwood Crest-Grand Condo	N	N	0				
<b><i>SUBTOTAL: TOWERS &amp; BUILDINGS</i></b>	<b>19</b>	<b>19</b>		<b>40</b>	<b>48</b>	<b>48</b>	<b>2.53</b>
Natural Site C-1	Y	Y	4-Jan	4	4	0	Suspected predation by GHO
Natural Site C-2	Y	Y	3	2	2	2	
Natural Site C-3	N	N					
Natural Site C-4	Y	Y	?	0	0	0	
Natural Site C-5	Y	Y	?	?	2	2	
Natural Site C-6	N	N					
Natural Site C-7	N	N					
Natural Site C-8	N	N					
Natural Site C-9	Y	Y	?				
Natural Site C-10	Y	Y	?	?	1	1	
Natural Site C-10	Y	N					
Natural Site C-11	Y	Y	?	?	1	1	
Natural Site C-12	U	U	?	?	?	?	Unknown in 2020
<b><i>SUBTOTAL: NATURAL SITES</i></b>	<b>8</b>	<b>7</b>		<b>U</b>	<b>10</b>	<b>6</b>	<b>1.43</b>
Betsy Ross Bridge (Delaware River)	Y	Y	4	3	2	2	2 fostered into BRIG
Brigantine Bridge (Atlantic City)	U	U					No data from nearby Harrahs
Burlington-Bristol Br. (Delaware River)	Y	Y	4	2	2	0	Nestlings died of poisoning
Newark Bay Bridge (NJTP or Conrail)	U	U					
Ocean City-Longport Bridge	N	N					No observed pair.
Pulaski Skyway Bridge	Y	Y	?	?	3	3	
Route 1 Br./Raritan-New Brunswick	Y	Y	4	4	4	4	1 fledged early and returned
Route 3 Br./Hackensack (NJDOT)	Y	Y	?	?	2	2	
Route 35 Bridge-Belmar	N	N					
Route 46 Br./Little Ferry-Ridgefield Pk	N	N					
Secaucus-Kearny NJTP Bridge	U	U					
Tacony-Palmyra Br. (Delaware River)	Y	Y	5	0	0	0	1 foster from Tuck fledged.
Trenton RR Br (2015 igloo @20 W State)	U	U					
Vince Lombardi – NJTP Bridge	U	U					
Walt Whitman Bridge (Delaware R.)	Y	Y	4	4	4	4	On NJ tower.
NJTP Br/Rahway	Y	Y	?	?	3	3	
Cape May Ocean Drive bridge	N	N					
Rumson-Oceanic Drive Bridge	Y	Y	?	?	+1	+1	Grounded fledgling found
Boonton Bridge	Y	Y	?	?	0	0	
Route 80 Hackensack Bridge	Y	Y	?	?	3	3	Grounded fledgling treated, rel in NY
<b><i>SUBTOTAL: BRIDGES</i></b>	<b>11</b>	<b>11</b>			<b>23+?</b>	<b>23+?</b>	<b>1.91</b>
<b>TOTALS</b>	<b>38</b>	<b>35</b>			<b>81</b>	<b>77</b>	<b>2.08</b>