



New Jersey Department of Environmental Protection
Division of Fish and Wildlife
Dave Chanda, Director
C. David Jenkins, Chief
Endangered and Nongame Species Program



Peregrine Falcon Research and Management Program In New Jersey, 2015

Kathleen Clark, Endangered and Nongame Species Program
Ben Wurst, Conserve Wildlife Foundation of New Jersey
John Heilferty, Endangered and Nongame Species Program



The Paulsboro nest, home to Falcon 1687-02937, banded as an adult in 2014. She died in December, 2015, but was a superbly territorial bird for nearly ten years.

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 2015 New Jersey peregrine falcon population remained relatively stable with 32 known pairs (28 active) occupying suitable nesting habitat across the state. There was good nesting success overall with 24 pairs successful in producing 63 young, for a productivity rate of 2.25 young per active nest and a success rate of 86% (Table 1). A brief summary of data collected during the nesting season follows:

- ❖ Sixteen pairs nesting on towers and buildings continued to be the core of the nesting population, producing 43 young, for a productivity rate of 2.69 young per active nest. This is above the long term average. We used bird-lice spray at nests in the winter, and treated <2-week old hatchlings at two sites to reduce infestations of parasitic flies (*Carnus hemapterus*). These flies have caused mortality of young hatchlings in recent years. We did not see any total brood failure due to flies that we saw in 2014.
- ❖ Six pairs were known to occupy territories in natural cliff habitat in northeastern NJ. Nine young fledged for a productivity rate of 1.50 young per active nest. One site that presumably failed was discovered as a result of an adult female recovered injured during May; she was successfully treated and released to the wild in July.
- ❖ Six pairs of falcons were known to nest on bridges this year. Four of those bridges lie completely within the boundaries of NJ, while two span the Delaware River between NJ and PA and are monitored by NJ. All bridge pairs fledged a total of 11 young for a productivity rate of 1.83 young per active nest. Nesting can be difficult to confirm, as the nest sites are often located out of sight or on inaccessible sections of the bridge. Some previously occupied bridges (e.g., Trenton and Newark Bay) were not tracked due to insufficient staff or volunteers. Other bridges may have been occupied, but the program lacked monitors in northern NJ to document all possible sites.

We were able to band 49 of the 63 young produced this year, fitting nestlings with an aluminum federal band and an auxiliary, bicolor band engraved with an alpha-numeric code. The 14 young we were unable to band fledged from sites that could not be accessed at the appropriate time.

Eight addled eggs were collected from five different nest sites this season. These, along with eggs collected in the 2014 season, were sent for analysis to Dr. Da Chen of Southern Illinois University, whose research focuses on the accumulation and effects of flame retardants.

The Conserve Wildlife Foundation of NJ operated the webcam at 101 Hudson Street in Jersey City, but the season was lost when both adults from previous seasons were lost to unknown causes and two new peregrines occupied the site. In a previously unknown scenario, the adults courted but failed to lay eggs. The female was banded as 41/AX, marked as a nestling at the Bayonne Bridge in 2012, while the male was unbanded but showed mature plumage. The nest can be viewed online during the season at:

<http://www.conservewildlifenj.org/education/falconcam/>

Resightings and Recoveries

We continued to use remote, motion-activated cameras to photograph peregrines at nests. Using this method we read the leg bands on 20 breeding adults at 11 nest sites. An additional 12 adults were identified using optics. A minimum of 5 adults (12%) were unbanded. The oldest females identified were a 17-year old Atlantic City bird that failed to lay eggs a third consecutive year, and a 15-year old Tuckahoe female that laid no eggs. The oldest known male was 11 years, at the Burlington-Bristol Bridge where he has little fear of people. The median age of males and females was 8.5 and 7.0, respectively. 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 we recorded at NJ nest sites, we received reports of peregrines sighted here and elsewhere:

- 14/AM AC Hilton 2012, resighted 1/2/15 at Holgate
- 15/AM AC Hilton 2012, resighted Stone Harbor in fall 2013, and spring 2014, 2015
- 48/Y Ocean Gate 2007 male nesting at Walt Whitman Bridge 2015
- *Y/*4 Betsy Ross 2006 female nesting in VA 2011-2015
- *Y/*9 AC Hilton 2006 female continued to nest in NY (Brooklyn 2009) at Water St/Manhattan 2013-2015
- 30/AN Elizabeth 2012 male nesting Water St/Manhattan 2015 (mated with *Y/*9)
- 60/Y Tuckahoe 2006 female continued to nest at Phila City Hall 2009-2015
- 31/AN Elizabeth 2012 female nesting bridge, Montgomery Co, PA 2015
- 32/AN Tuckahoe 2012 female nesting Yorktown Power, VA 2015
- 78/AN Sea Isle 2014 female recovered injured in yard in Fallston, MD in Sept 2014.
- 82/AN Wildwood Crest 2015 female resighted at Holgate; later found dead Beach Haven Sept 2014
- 88/AN Somers Point 2014 female resighted April 2015 in Montezuma NWR, NY
- 98/AN Somers Point 2015 female recaptured/released at Cape May, Sept 2015
- BD/04 Heislerville 2015 female resighted August 2015 near Moore's Beach
- BD/12 Ocean Gate 2015 female resighted August 2015 in Hockessin, DE
- BD/14 Atlantic City 2015 female resighted August 2015 in Brigantine
- 79/AN Jersey City 2014 female recaptured September 2015 in Toronto

Conclusions

The peregrine population remained stable but 2015 saw improved nest success and productivity. Across all sites – towers, buildings, bridges and cliffs – nest success was 86% and 2.25 young produced per active site, figures that are above average (Figure 1). The tower and building nest sites are the consistent center 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 in a stable and productive population.

Nest success at cliff sites was improved in 2015. We had documentation on six occupied territories and a total of nine fledged young yielding a 1.50 productivity rate. Observations continued to be difficult in the more remote locations and where nest sites cannot be viewed after leaf-out. One adult female with a brood patch was recovered injured in May, which indicated an occupied territory but where no nest could be directly

observed; the injured bird was successfully rehabilitated but missed the nesting season. The highly variable nest success at the cliff territories continues to be a problem if we consider occupancy of historic habitat important to a fully recovered population. Targeted investigation of the cause of those losses is necessary to guide future management.

Management of nesting pairs and nest sites is essential to maintain peregrines in New Jersey. Bridge-nesting birds are especially vulnerable to nest-site problems, and many other pairs occupy human-constructed sites. With site management and the cooperation of bridge and building staff, these sites can contribute to population viability and stability, but proper site management takes staff time and attention. Building managers, in particular, are key partners in improving some nest sites and expanding the potential peregrine population.

Our Thanks To: Volunteers who protect and watch over peregrine falcons in New Jersey, including McDuffy Barrow, Mike Girone, Ray Gilbert, Bonnie Talluto, Greg Gard, Steve Sachs, Rick Weiman, Keith and Jackie Parker, Elmer & Bunny Clegg, Dan Brill, Frank Budney; Forsythe NWR staff and volunteers; Delaware River Port Authority staff (Larry Walton, Chuck Wadding, Steve James); Palisades Interstate Park Commission and the Palisades Interstate Parkway Police; Betty Ann Kelly, Thomas MacDermant and John Salerno at the Union County Court House; the Burlington County Bridge Commission and their engineer Mike Ott; Palmyra Nature Center and Kristina Merola; Don DeRogatis; Mary Kramer at the 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; Ed Konopka and Lois Knowlson at Sewaren Generating Station; Stan Kupsey and staff at Logan Generating Plant; and Tina Shutz and Bruce Hawkinson of NJDOT. **Thanks to** caregivers Dr. Erica Miller, Don and Karen Bonica at Toms River Avian Care, The Raptor Trust, Tri-State Bird Rescue & Research, and Barnegat Animal Clinic. Special thanks to the climbing crew, John Gumbs and Mitzi Kaiura.

This project was funded by people who support the NJ Tax Check-Off for Wildlife, purchase Conserve Wildlife license plates, and donate to the Conserve Wildlife Foundation of NJ. Funds were also provided by the U.S. Fish and Wildlife Service’s State Wildlife Grants program.

We remember Jack DiGiovanna, who invited peregrine falcons onto “his” bridges in Burlington County and was an enthusiastic fan of this wonderful bird.



Table 1. Site-specific results of peregrine falcon nesting in New Jersey, 2015

Site Name	Occupied	Active	Eggs	Young Hatched	Young @ Band Age	Young Fledged	2015 Comments
101 Hudson, Jersey City	Y	N	0	-	-	-	
Atlantic City water tower	Y	Y	?	3	3	3	2 banded after grounding
Bayside Prison Water Tower	Y	Y	?	2	2	1	1 died fledging (6/22)
Drag Island	Y	Y	4	4	4	4	
Egg Island WMA	Y	Y	4	4	4	4	
Elizabeth-Union Co Ct House	Y	Y	4	4	4	4	
Forsythe NWR/Barneгат	Y	Y	5	4	4	4	
Forsythe NWR/Brigantine	Y	Y	3	1	1	1	
Great Bay WMA/Water Tower	N	N	-	-	-	-	
Hilton-closed Atlantic Club	Y	N	0	-	-	-	
Logan Generating Plant	Y	Y	4	4	4	4	First year active
Margate Marsh	N						
Marmora WMA	Y	Y	4	2	2	2	
Ocean Gate	Y	Y	4	3	3	3	
Paulsboro Refinery	Y	Y	4	4	4	4	
Sedge Island WMA	Y	Y	3	3	3	3	
Sewaren Generating Station	Y	Y	?	1	0	0	Rainstorm killed 1 chick
Stone Harbor	Y	Y	3	2	2	1	1 fostered @Tuckahoe
Swan Bay WMA	Y	Y	4	4	4	4	
Trenton-Roebling Bldg	N						Winter roosting bird(s). New igloo.
Tuckahoe WMA	Y	Y	3	0	0	1	Fostered 1
Wildwood Crest-Grand Condo	Y	N	0	-	-		
SUBTOTAL: TOWERS & BUILDINGS		16			44	43	2.69 young/active site
Delaware Water Gap	N	N					
Natural Site C-1	Y	Y	3	3	3	3	
Natural Site C-2	Y	Y	?	2	2	2	
Natural Site C-3	N	N					
Natural Site C-4	N	N					
Natural Site C-5	Y	Y				0	
Natural Site C-6	Y	Y		U	U	2	
Natural Site C-7	N	N					
Natural Site C-8	Y	Y	?			U	
Natural Site C-9	Y	Y	?	2	2	2	
SUBTOTAL: NATURAL SITES	6	6			7+	9	1.5 young/active site
Ben Franklin Br.	PA				1		
Betsy Ross Bridge	Y	N					Possibly only female?
Brigantine Bridge	U	U					
Burlington-Bristol Br.	Y	Y	4	4	4	4	
Commodore Barry Br.	PA				4		
Geo. Washington Bridge	NY						
Newark Bay Br (NJTP/Conrail)	U	U					
NJ-PA Turnpike Br@Delaware	PA				3		
Ocean City-Longport Bridge	U	U					
Route 1 Br./Raritan	Y	Y		3	3	3	
Route 3 Br/Hackensack, NJDOT	Y	Y	?	3	3	3	1 fledgling p/u 7/9; treated, released 9/7, Meadowlands
Route 35 Bridge-Belmar	Y	Y	?	0		0	Incubated 5/1-5/23
Route 46 Br./ Ridgfield Pk	N	N					
Route 72 Bridge (2015)	Y	Y	>1	0	-	0	Coll 1 egg
Scudders Falls Bridge	PA						
Secaucus-Kearny NJTP Bridge	U	U					
Tacony-Palmyra Br.	Y	Y	4	1	1	1	
Trenton RR Bridge	U	U					
Vince Lombardi – NJTP Bridge	U	U					
Walt Whitman Bridge	PA				4		
SUBTOTAL: BRIDGES (NJ only)	7	6			11	11	1.83 young/ active site
TOTALS (NJ Only)		28				63	2.25 young/active site

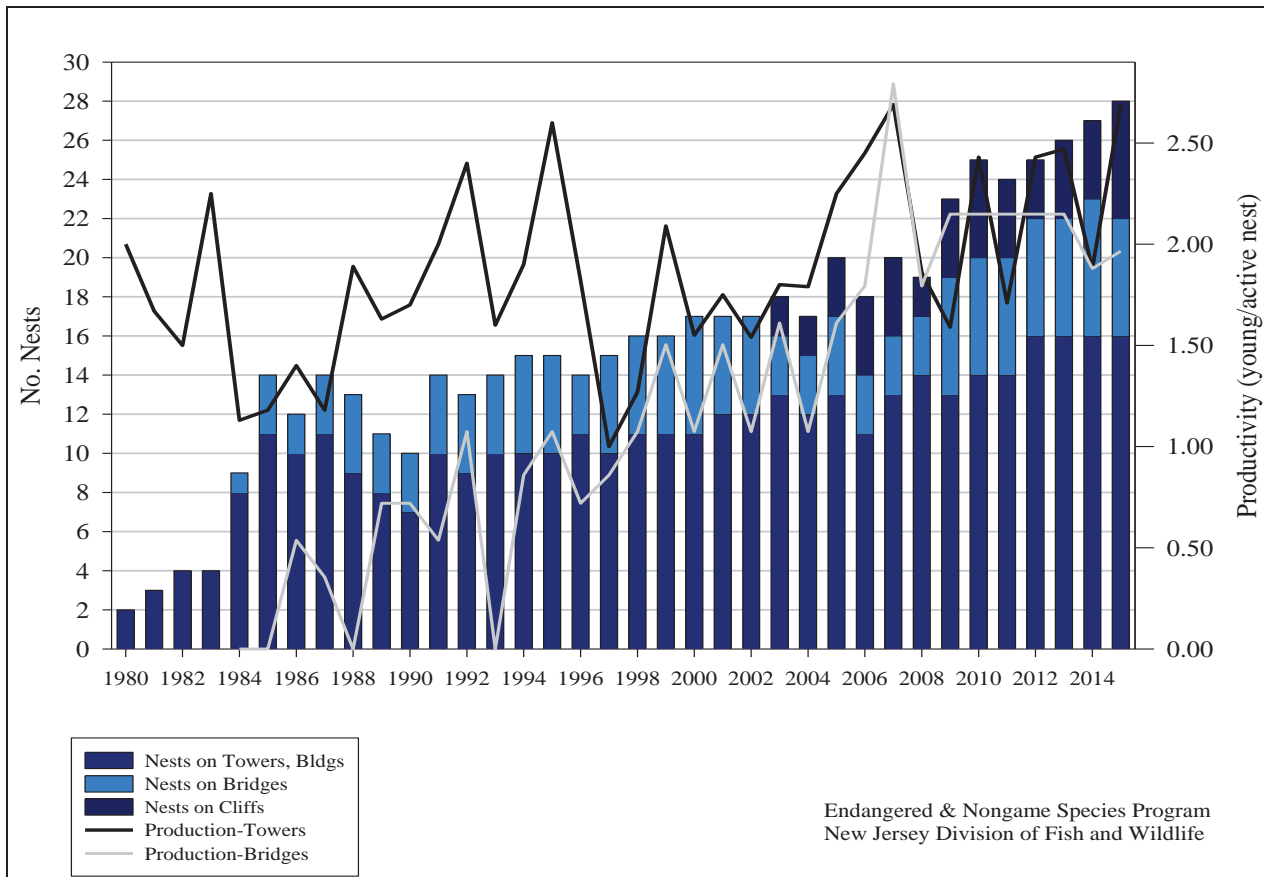


Figure 1. Nesting and productivity of peregrine falcons in New Jersey, with comparisons between towers/buildings, cliffs, and bridges.



Falcon (of unknown origin) at the new nest box provided by Logan Generating Company in Gloucester County.

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