

**PENNSYLVANIA GAME COMMISSION  
BUREAU OF WILDLIFE MANAGEMENT  
PROJECT ANNUAL JOB REPORT**

**PROJECT CODE NO.:** 06715

**TITLE:** Peregrine Falcon Research/Management

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**TITLE:** Peregrine Falcon Investigations

**PERIOD COVERED:** 1 January 2011 to 31 December 2011

**COOPERATING AGENCIES:** The Aark Wildlife Rehabilitation and Education Center, Chalfont; Academy of Natural Sciences in Philadelphia; Carbon County Environmental Education Center; Comcast Center, Philadelphia; Dauphin County Wildlife Rescue, Harrisburg; Delaware River Joint Toll Bridge Commission, Morrisville; Delaware River Port Authority; Delaware Valley Raptor Center, Milford; Delaware Water Gap National Recreation Area; Gulf Tower, Pittsburgh; Make a Wish Foundation, Pittsburgh; The National Aviary, Pittsburgh; New Jersey Division of Fish, Game, and Wildlife; Packer Ave. Marine Terminal, Philadelphia; Pennsylvania Department of Conservation and Natural Resources; Pennsylvania Department of Environmental Protection; Pennsylvania Department of Transportation; Pennsylvania Fish and Boat Commission; Pennsylvania Turnpike Commission; Philadelphia City Hall; Philadelphia Zoo; PPL Corporation; Ritz-Carlton Hotel, Philadelphia; Schuylkill Center for Environmental Education - Wildlife Division, Philadelphia; Three Rivers Avian Center, Brooks, West Virginia; Tri-State Bird Rescue & Research, Newark, Delaware; University of Pittsburgh; US Army Corps of Engineers; US Fish & Wildlife Service; Western Pennsylvania Conservancy, Pittsburgh.

**WORK LOCATION(S):** Statewide

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**DATE:** 2 March 2012

**ABSTRACT** The long-term management goal of this project is to re-establish a self-sustaining peregrine falcon (*Falco peregrinus*) population in Pennsylvania (Brauning and Hassinger 2001). Peregrine falcon coordinator Dr. Art McMorris, other agency personnel and over 100 volunteers monitored peregrine falcons at over 55 sites and searched for falcons at additional locations across the state. Dr. McMorris and agency personnel coordinated with managers at over 12 bridge and building sites undergoing construction and maintenance projects to ensure protections for the falcons. Four new nests were identified in 2011, two of them successful, fledging a total of 5 young. One of the new nests was on a cliff, increasing the number of cliff nests from 4 to 5. One pair that has frequently moved its nest back and forth across the Delaware River returned to the Pennsylvania side of the state line. Two previously-active nests were abandoned, and one site

occupied previously by a pair was occupied by a single bird in 2011. Thus there was a net increase of 2 occupied nests in 2011, from 30 to 32. The total number of nest sites occupied by pairs throughout the nesting season (32) was the highest since the beginning of the peregrine falcon recovery program, and the number of successful nests (23) and young fledged (68) tied previous highs. Fifty-two of the 68 young were banded at the nest. The public was invited to attend peregrine falcon banding events at the Rachel Carson State Office Building in Harrisburg, the Gulf Tower and the University of Pittsburgh's Cathedral of Learning in Pittsburgh, and Philadelphia City Hall. Activities of Pennsylvania's peregrine falcons attracted much favorable attention from the public and were well covered in the media. There were 14 band encounters of 13 birds banded in Pennsylvania, or banded elsewhere and encountered in Pennsylvania in 2011 (one bird was encountered twice, at 2 different locations). One encounter was of a bird banded as a nestling in Pennsylvania and found 8 months later in Louisiana.

## **OBJECTIVES**

1. The long-term management goal is to re-establish a self-sustaining peregrine falcon population in Pennsylvania.

2. The recovery levels proposed to upgrade the peregrine falcon's state status from endangered to threatened, outlined in the revised Pennsylvania Recovery and Management Plan for the peregrine falcon (Brauning 2007), are a self-sustaining total of 15 breeding pairs (33% of the historic population), productivity of at least 1.25 young fledged per pair, and at least half of known pairs nesting successfully, each for 3 years. State de-listing is proposed to occur only after the establishment of self-sustaining population of a total 22 pairs on natural (cliff) sites statewide (50% of the historic total) for 3 years, and reproductive success on those cliffs must exceed 2.0 birds per active nest and on buildings and bridges exceed 1.5 birds per active site to assure a stable population. These proposed thresholds are under review.

## **METHODS**

Peregrine falcon coordinator Dr. Art McMorris monitored peregrine falcon nesting activity in southeastern Pennsylvania during the 2011 nesting season and coordinated personnel from the Pennsylvania Game Commission (PGC) and cooperating agencies and over 100 volunteers in monitoring over 55 actual and potential nest sites across the state (Fig. 1). Video cameras, linked to live Internet connections, again monitored the nest site at the Rachel Carson State Office Building (RCSOB) in Harrisburg (Department of Environmental Protection [DEP] 2011), and the Gulf Tower and the University of Pittsburgh's Cathedral of Learning in Pittsburgh (National Aviary 2011). Young falcons at nests within driving distance of Philadelphia were banded by Dr. McMorris; those in the Pittsburgh area were banded by other PGC personnel as noted below.

## **RESULTS**

Peregrine falcons occupied 32 nest sites in Pennsylvania during 2011. Young fledged successfully at 23 of the 32 sites, for a success rate of 72%. Four new nests were established in 2011, including one new cliff nest; one established nesting pair relocated from New Jersey to the

Pennsylvania side of the state line; and 3 previously-occupied sites were either abandoned or were occupied by a single bird (Tables 1-3). The net change was an increase in 2 occupied nests in 2011 as compared with 2010 (Tables 1 and 2). Sixty-eight young fledged from the 23 successful nests, and 52 of them were banded at the nest before fledging. The total number of nest sites occupied by pairs throughout the nesting season (32) was the highest since the beginning of the peregrine falcon recovery program, and the number of successful nests (23) and young fledged (68) tied previous highs (Table 1).

### **Nests in Philadelphia Area, Southeast (SE) Region**

Six Delaware River bridges, 2 Schuylkill River bridges and several tall buildings in the Philadelphia area were monitored for peregrine falcon activity. Nesting activity was observed at 8 sites and success was confirmed at 5, which fledged total of 16 young. One quarter of the Commonwealth's active peregrine falcon nests are in the Philadelphia area and almost 2/3 are in the SE Region. Results for the Philadelphia-area nests are detailed in Tables 1, 2, and 4 and are summarized as follows:

*Benjamin Franklin Bridge, Philadelphia County.*--This nest was again monitored by volunteers Georgia and Barrie Ashby and several others. Four young were produced in this nest and were banded by PGC personnel on 31 May. All 4 fledged successfully and continued to be observed throughout the summer.

*Commodore Barry Bridge, Delaware County.*--Nesting failed at this site in 2011. The full length of the bridge was searched from shore to shore on 24 May, and 5 unhatched eggs were found at 4 locations on the catwalk, but no evidence of young could be found.

*Exelon Eddystone Generating Station, Delaware County, NEW 2011.*--Peregrine falcons have been observed at this location and at the adjacent Boeing Aircraft factory since 2009, but no nest could be found in spite of numerous searches. This year the nest site was found, but unfortunately it was unsuccessful. On 27 July, a nestling approximately 25 days old, and incapable of flight, was found dead on a low rooftop on the fuels building. Plant personnel reported that during the previous weeks they had seen the adult falcons entering and exiting an air duct directly above. Those observations identified the air duct as the location of the nest, and the late date suggested that the falcons had re-nested after an earlier failed attempt. The inside of the air duct could not be accessed for searching. No fledglings, and no further activity suggesting that there were additional young in the nest, were observed for the remainder of the nesting season. At the request of PGC, plant personnel screened off the air duct to prevent further nesting attempts at this obviously inadequate location. Plant personnel then constructed a nest box and mounted it on the top roof above the air duct, and installed a video camera for monitoring.

*Girard Point Bridge, Philadelphia County.*--Nesting activity has been documented at this site every year since 1987 and young fledged from the site 18 times since then, including 15 years in succession from 1996 to 2010. A major bridge maintenance project was begun in late 2009 and continued through the 2011 nesting season and into 2012. At the request of PGC, the contractors undertook numerous measures to minimize disturbance to the falcons, but excessive disturbance nevertheless occurred, resulting in failure of the nest for the first time in 16 years. Construction activities in March and April delayed the onset of nesting, so that nesting did not

begin until early May, in the north nest box. However, in mid-May the adult falcons re-located to the south nest box, apparently due to ongoing activity near the north nest box. In early June, additional disturbance immediately adjacent to the south nest box resulted in the falcons abandoning the nest, which at that point contained one unhatched egg. No falcons could be found at the bridge for the remainder of the nesting season, despite intensive monitoring.

*Manayunk, St. John's Church, Philadelphia County, NEW 2011.*--Local volunteers observed peregrine falcons in the Manayunk section of Philadelphia beginning in mid-February, but the locations were not consistent and several searches failed to turn up evidence of nesting until 8 July, when a fledgling was found on an electrical transmission tower near the Church of St. John the Baptist. Whitewash on the church steeple and prey remains on the sidewalk below revealed that the nest had most likely been in the steeple. A second fledgling was subsequently found by a local observer.

*Pennsylvania-New Jersey Turnpike Connector Bridge, Bucks County.*--This nest continues to be monitored by several dedicated volunteers led by Linda Rowan. The pair nested in the same box beam that they have used continuously since 2001. Three nestlings were found when the nest was visited for banding on 27 May, but they were judged to be too old to approach without risking pre-fledging. All 3 fledged soon thereafter, and were observed regularly near the nest until mid-August.

*Philadelphia, Downtown, Philadelphia County.*--Downtown Philadelphia and vicinity were monitored with the assistance of long-term volunteer Ed Mutzer. Peregrine falcons had nested at Philadelphia City Hall before the DDT era, and on several occasions during the recovery period, but had been absent for at least 4 years until a pair nested successfully on City Hall Tower in 2009. In 2010 that pair relocated to a building 3 city blocks to the south, and in 2011 the same pair returned to the nest box on City Hall Tower. Four nestlings were banded on 18 May at an event attended by local volunteers, City Hall officials and the media, who reported the event on the TV evening news and in the newspapers. All 4 young fledged successfully, but the post-fledging period was not uneventful. On 7 June, 3 fledglings became trapped behind a glass parapet on a balcony of the Ritz-Carlton Hotel near City Hall. All 3 were freed by the prompt and imaginative action of Ritz-Carlton employees. Then on 8 June, one of the fledglings died when it flew into a glass window. And on 17 June, a fledgling was found on the ground a short distance from the nest. It was treated for mild injuries by wildlife rehabilitators at the Schuylkill Center and The Aark, and released one week later at City Hall where it rejoined its parents and siblings.

*Walt Whitman Bridge, Philadelphia County and New Jersey.*--This tall suspension bridge has a nest box mounted on top of each tower, one in Pennsylvania and the other in New Jersey. The falcons frequently move their nest back and forth across the river. In 2011 the falcons returned to the west (Pennsylvania) tower and produced 3 young, which were banded on 31 May. Two of the young were found on the ground soon after fledging. One was observed on a work barge below the bridge on 20 June. Rescuers responded, but the bird flew away as the rescuers approached. A second fledgling was found on the bridge roadway on 22 June by Delaware River Port Authority police, and taken to a wildlife rehabilitator by PGC personnel. It remained with

the rehabilitator for almost 2 weeks until its flight feathers matured, and was then released near the nest site.

### **Other nests in the SE Region**

In addition to the 8 active nests in the Philadelphia area described above, there were 12 more occupied nests in other locations in the SE Region in 2011. In total there were 20 occupied nests in the SE Region in 2011. The 20 nests included 3 that were new in 2011. Fifteen of the 20 nests were successful. Two additional nest sites in the SE Region that were new, but unsuccessful, in 2010, were abandoned in 2011.

*Allentown, Lehigh County.*--The Allentown pair nested at the 8<sup>th</sup> Street Bridge for the third year in a row, after having nested previously at the PPL GO Building a short distance away. The falcons have moved their nest to a different bridge arch each year; in 2011 they returned to the same location they used in 2009. Four nestlings were banded on 26 May with the aid of a crane generously provided by PPL Corporation. All fledged successfully and individual fledglings were seen at various locations until at least mid-July.

*Brunner Island PPL Plant, York County.*--Peregrine falcons were observed at this coal-burning power plant for several years, and nesting was confirmed in 2010 when two recently-fledged birds were found on the ground, and were banded by PGC personnel. The falcons nested again this year and, after much searching, the nest was found in an inaccessible location behind sheet metal fascia atop a coal silo. Two nestlings could be seen through a chink in an interior wall, but the young could not be reached for banding. Both are believed to have fledged successfully.

*Clark's Ferry Bridge, Dauphin County.*--Peregrine falcons nested for the second year in a row on top of a bridge pier near the west end of this bridge. Four nestlings could be observed. The Pennsylvania Department of Transportation (PennDOT) made a snooper crane and crew available to access the nest for banding, but banding had to be canceled at the last minute because of stormy weather that prevented safe operation of the crane. All four young are believed to have fledged successfully.

*Columbia, Lancaster County.*--This pair is monitored by a group of local volunteers led by Meredith Lombard, Charley Albin and Eric Witmer. The pair nested successfully in 2010 and unsuccessfully in 2009, on an arch under the deck of the Pennsylvania Route 462 bridge over the Susquehanna River. A pair believed to be the same two birds nested the previous two years, unsuccessfully, on the nearby US Route 30 Bridge. Two young were banded at the nest on 14 July 2011. One is known to have fledged successfully and was seen flying well for a month after fledging, whereas the other was not seen after the time of fledging and is presumed to have been lost.

*Delaware Water Gap, Northampton County.*--Peregrine falcons have been observed at the Mount Minsi Cliff, a historic nest site, since at least 2003, and nesting has been documented on several occasions, but no success has been observed in the post-DDT era. Falcons continued to be observed through the winter of 2010-2011. Monitoring was done by local observers Brian Hardiman, Rick Wiltraut, Jim Thomson, Allan Ambler and Paul Karner. The cliff was closed to

rock climbing in February to protect the birds from disturbance, and over the ensuing months, many behaviors indicative of nesting were observed. However, when PGC personnel descended the cliff face and searched the presumed nest ledge on 23 June, all that could be found was a broken peregrine falcon egg. The breakage pattern suggested predation, not hatching, but it could not be determined whether predation was the cause of nest failure, or whether the egg was opportunistically depredated after it failed to hatch and was abandoned.

*French Creek State Park, Berks County, NEW 2011.*--In early March, Pennsylvania Department of Conservation and Natural Resources (DCNR) personnel discovered a new peregrine falcon nest on a cliff ledge in an abandoned quarry in a section of French Creek State Park that is closed to the public. The nest was visited on 16 May and three nestlings were banded. All are believed to have fledged successfully. This is only the fifth cliff nest in Pennsylvania in the recovery period, and is the only one in a quarry.

*Harrisburg, RCSOB, Dauphin County.*--The Harrisburg nest has continued to be productive every year since its first success in 2000. PGC and DEP partner to manage this site. This year 4 eggs were laid but only one hatched. The nestling was banded on 17 May at an event attended by an overflow audience of 150 children from area schools and broadcast on local TV and live webcast (see below). The single nestling, a male, fledged at the very early age of 37 days and was observed in the vicinity of the nest, flying strongly, for over 6 weeks after fledging. Since both hatching and fledging were observed on camera, there was no uncertainty about the young falcon's age at fledging. For the first time in several years, no fledglings had to be rescued from the streets or sidewalks at this site.

The female that nested this year was new to the site. The previous September, after the fledglings had dispersed, the 12-year-old resident female was replaced by a new female, possibly as the result of a territorial battle. The new female was in adult plumage, but since she was not banded her exact age was unknown. To add to the drama, a new male appeared at the nest ledge in early November, and was seen battling the resident male. The resident male was known to be 8 years old at that point; the new male was unbanded so its age was unknown. The resident male was last seen on 30 November, and so it was believed that he had succumbed to the newcomer, who remained at the nest ledge through the winter and bonded with the female. However, in mid-January 2012 the resident male, identified by his leg bands, was again present at the nest ledge and the new unbanded male was no longer observed. Apparently the 8-year-old resident male had merely left the nest site for several weeks during the winter, as was his usual habit. But it is curious that he would leave the nest site unguarded while he was being challenged by another male.

*Martin's Creek PPL Power Plant, Martin's Creek, Northampton County.*--Peregrine falcons again bred successfully at this nest for the seventh year in a row. The nest box, mounted 110 m above the ground on an 180-m smokestack at the Martin's Creek PPL Power Plant, is monitored by PPL employees John Depalma and Jack Hahn. Four eggs were laid and all 4 hatched. The young were banded on 3 June, and all four fledged successfully. However, one was found dead near the nest shortly after fledging.

*Norman Wood Bridge, Lancaster County.*--The Norman Wood Bridge carries Pennsylvania Route 372 across the Susquehanna River in Lancaster County. Peregrine falcons exhibiting nesting behavior have been observed at this location since 2008, but neither eggs nor young had been found, either by monitoring from shore or by inspection from the catwalks. This year, for the first time, 3 eggs were found and photographed by an engineer doing bridge inspections in late April. As soon as news of this find reached PGC in mid-June, monitoring activity was stepped up, but no falcons of any age could be found at the bridge. Thus the nesting attempt apparently failed.

*Reading, Downtown, Berks County.*--This pair nested on a balcony of a building in downtown Reading for the fourth year in a row, after nesting once (2007) on a different building just 0.2 km away. Volunteer Shawn Walb monitored the nest and provided progress updates. Four eggs were laid and two hatched. The two nestlings were banded on 25 May, and both fledged successfully in June. On 11 July, one of the nestlings was found injured at street level and was taken to a wildlife rehabilitator, where it was found to have a severe fracture of the ulna. At this writing the bird is still in the care of a rehabilitator; the fracture has healed and the bird is scheduled to begin flight training, but it is doubtful that it will become a strong enough flier to be releasable.

*Safe Harbor Railroad Bridge, Lancaster County.*--This nest was new, and unsuccessful, in 2010. The site was well monitored by local volunteers in 2011, but no peregrine falcons were observed.

*Scudder Falls Bridge, Yardley, Bucks County.*--This nest, on the bridge that carries Interstate (I)-95 over the Delaware River in Lower Makefield, Bucks County, has been successful each year since it was first established in 2008. For the first two years the birds nested in debris on a catwalk, and in 2010 and 2011 they nested in a nest box that was placed at that location by the Delaware River Joint Toll Bridge Commission (DRJTBC) in cooperation with PGC. Two young were banded at the nest on 24 May, using a snooper crane and crew provided by DRJTBC. Both are believed to have fledged successfully.

*Three Mile Island, Middletown, Dauphin County.*--Nesting activity at the Three Mile Island (TMI) nuclear power station continued in 2011. Three young were produced in the nest at an inaccessible location near the top of the #1 reactor containment building and fledged successfully on 13 June. As often happens at this location, 2 fledglings became trapped in a corner on the ground, uninjured, 2 days later. PGC personnel responded, found the birds to be in good health, banded them, and released them on a nearby rooftop.

*Wade Bridge, I-81, Dauphin County.*--This nest was new, and unsuccessful, in 2010. The Wade Bridge carries I-81 across the Susquehanna River in Harrisburg, and is undergoing major repairs. At the request of PGC, PennDOT sealed off access to the steel box the birds had used for nesting in 2010, which offered very poor protection, and placed a nest box on a pier of an exit ramp that was not undergoing repairs. However, no falcons could be found at the bridge this year.

## **Northeast (NE) Region Nests**

There are 4 peregrine falcon nests in the NE Region, and 3 of them were successful. Two of the 4 nests are on natural cliffs; this is 40% of the total number of active cliff nests in Pennsylvania in 2011. Both of the NE Region cliff nests were successful.

*Luzerne County Cliff, Luzerne County.*--This nest is on a cliff in Luzerne County at a location which is undisclosed at the landowner's request. This and the other 2 Luzerne County nests were monitored by skilled volunteers Bob Wasilewski and Jeff Hartman. As they have done previously, the falcons moved their nest to a different ledge on the same cliff this year. Three young were banded on the nest ledge on 26 May. All 3 fledged successfully in mid-June and were seen flying well in the following weeks.

*Montour PPL Power Plant, Montour County.*--The falcons nest in a nest box mounted on the #2 stack at the Montour PPL Power Plant near Washingtonville. The smokestack has been decommissioned and had been slated for demolition, but demolition has now been put on hold indefinitely. The nest box was previously mounted on an emissions equipment ring 145 m above ground, but the ring and the elevator serving it have been removed and the nest box has been moved to a higher catwalk, making visibility difficult and access for banding impossible. One, and possibly 2, nestlings were observed on the perch of the nest box in late May (recorded as one in the data tables), and 1 was confirmed to have fledged successfully soon thereafter.

*Pittston/Duryea, Luzerne County.*--A pair has nested in this location since 2002, but the nest site shifted back and forth between a bridge in Pittston and the Campbell's Ledge Cliff in Duryea, 3.5 km to the north. The pair nested at the Campbell's Ledge Cliff in 2011 for the third year in a row, using a different cliff ledge each time. One young was produced this year. It was banded on 26 May, fledged 2 weeks later, and was seen flying well for several weeks after fledging.

*Wilkes-Barre, Luzerne County.*--This pair has nested successfully from 1999 to 2009, using 3 different bridges in Wilkes-Barre, and with the turnover of one of the adults (the male, in 2009). The pair nested in 2011 under the deck of the Market Street Bridge at the same inaccessible location they have used since 2003. Nesting appeared to be progressing normally until late April, when the behavior of the adults suggested that the nest had failed. The adults then appeared to re-nest at a different location on the bridge, but the re-nesting also failed. The female remained at the site through the summer and fall, but the male was last seen in early May. This marks the second year in a row that the nest failed, after 11 straight years of success.

### **North Central (NC) Region Nests**

Two nests were occupied in NC Region in 2011, and 1 was successful. A third site, Shikellamy Cliff, was unoccupied for the second year in a row.

*McElhattan Bridge, McElhattan, Clinton County.*--Peregrine falcons have nested successfully at this bridge every year since 2008 when the nest was discovered. The nest is on the top of a concrete pier under the deck of the bridge that carries State Route (SR) 1005 (McElhattan Drive) across the Susquehanna River West Branch between Woolrich and McElhattan in Clinton County, and is monitored by a group of local volunteers led by Wayne Laubscher. PennDOT District 2 again provided the use of a snoopier crane to access the nest, and

4 young were banded on 25 May. One of the 4 young had to be retained to replace a rivet band, but the crane was no longer available when the band was replaced. Therefore the nestling was fostered into the Reading nest, which had 2 nestlings of a similar age. The nestling was readily accepted by its foster parents. The 3 remaining nestlings all fledged successfully from the bridge in McElhattan, but 1 died in a vehicle collision a few days after fledging.

*Montgomery Cliff, Lycoming County.*--This site became the first successful cliff nest in Pennsylvania in 45 years when falcons nested and 1 young fledged in 2003. Falcons have nested at the cliff every year since then. Monitoring was done by Dan Brauning and local volunteers. Nesting appeared to progress normally and the female appeared to be incubating in mid-April, but the adults abandoned the nest in mid-May and there was no evidence of young.

*Shikellamy Cliff, Union County.*--Allen Schweinsberg and other local volunteers monitor the Shikellamy Cliff nest. No peregrine falcons were observed at the site in 2011. The site was last occupied in 2009, and was only successful once, fledging a single falcon in 2008.

### **Southwest (SW) Region Nests**

Five nests were occupied by pairs of peregrine falcons in the Southwest Region in 2011. Two were on buildings in Pittsburgh and the other 3 were on nearby bridges. Four of the 5 are known to have been successful; the outcome at the fifth is unknown. Another bridge, occupied by a pair of falcons in 2010, was occupied by only a single bird this year.

*McKees Rocks Bridge, Allegheny County.*--The McKees Rocks bridge crosses the Ohio River near the borough of McKees Rocks in Allegheny County, about 6 km northwest of Pittsburgh. An incubating female was found when the nest area was inspected on 27 May, but the outcome is unknown.

*Monaca, East Rochester Bridge, Beaver County.*--The nest at the East Rochester Bridge in Monaca, Beaver County, is monitored by a group of local enthusiasts led by Scott Gregg. Four nestlings were found in the nest and banded on 27 May, and at least 3 were later confirmed to have fledged successfully.

*Pittsburgh, Gulf Tower, Allegheny County.*-- — The falcons nest in a nest tray on the 37<sup>th</sup> floor of the Gulf Tower where they have nested for 21 years. Five eggs were laid, and all 5 hatched. The nestlings were banded on 26 May, and all fledged successfully. This nest has been productive every year since 1991 and has produced a cumulative total of 73 young, including the 2011 brood, making it the most productive and the longest continuously-successful site in Pennsylvania (Table 1).

*Pittsburgh, University of Pittsburgh's Cathedral of Learning, Allegheny County.*--The pair at the University of Pittsburgh's Cathedral of Learning in the Oakland section of Pittsburgh nested again in the nest tray on the 40<sup>th</sup> floor. This pair was monitored by a crew of local enthusiasts led by Kate St. John. Five eggs were laid and all hatched. Ten days after hatching, the adult female was seen removing a dead nestling from the nest. The remaining 4 nestlings were banded by PGC personnel on 19 May, and all fledged successfully. However, 1 month after fledging, 1 of the fledglings was found dead 2 blocks from the nest, apparently the result of

collision with a glass building. Two days later another fledgling collided with the same building but was merely stunned.

*Tarentum Bridge, Allegheny and Westmoreland Counties.*--The Tarentum Bridge carries Pennsylvania Route 366 across the Allegheny River between Tarentum, Allegheny County and New Kensington, Westmoreland County. This site was a new, but unsuccessful, nest site in 2010. This year only a single adult peregrine falcon could be found at the site (the same female as last year), in spite of intense monitoring by a large group of local enthusiasts.

*Westinghouse Bridge, Allegheny County.*--The George Westinghouse Memorial Bridge carries US Route 30 across Turtle Creek from East Pittsburgh to North Versailles in Allegheny County. Nesting was first documented in 2010, when 3 young were found and banded, but nesting is suspected to have taken place at least 3 years previously. Three nestlings were found when the nest was visited on 27 May but they were too old to approach for banding.

### **Northwest (NW) Region Nests**

Peregrine falcons were found nesting in Erie in 2011. Nesting by peregrine falcons has never been documented previously in the NW Region.

*Erie, Penelec Stack, Erie County.*--The Penelec Stack is the smokestack of the former Penelec Power Plant near the shore of Lake Erie. The power plant has been demolished, but the stack remains. A pair of adult peregrine falcons was found at the site in mid-February, creating much excitement in the local community and in the press. Copulation was observed on many occasions, and incubation appeared to be underway in late March in a recess near the top of the stack. However, the site was abruptly abandoned in early April.

### **Other sites**

Peregrine falcons have been observed with some regularity at a number of additional sites, but without confirmed evidence of nesting. In some cases the site is most likely used only for wintering or foraging; whereas in other cases, the regularity or timing of the falcons' presence raises the possibility that nesting may occur, either in the future, or undetected at the present. All are being monitored by local volunteers and PGC personnel, and most have been thoroughly searched on one or more occasions. The following is a list of such sites:

Bath, Keystone Cement Quarry, Northampton County, SE Region.

Bethlehem, Bank of America Building, Northampton County, SE Region.

Delaware River Route 202 Bridge, north of New Hope, Bucks County, SE Region.

Etna, 62<sup>nd</sup> Street Bridge, Allegheny County, SW Region. Nesting was confirmed at this location once in the past: eggs were laid in 2007 but were washed out in a storm. A nest box has subsequently been installed.

Lancaster, downtown, Lancaster County, SE Region. Griest Building (8 North Queen Street), Marriott Hotel (25 South Queen Street) and vicinity.

Norristown, Montgomery County, SE Region. Vicinity of Montgomery County Court House.

Peach Bottom, Lancaster and York counties, SE Region. Vicinity of the Peach Bottom Atomic Power Station on the Susquehanna River in Peach Bottom Township, York County.

Philadelphia, 2400 Chestnut Street, Philadelphia County, SE Region. Tall building overlooking

the Schuylkill River, with nest box installed on the roof.

Philadelphia, Temple Medical School, Philadelphia County, SE Region. Vicinity of 2400 North Broad Street.

Rankin Bridge (George Rankin Jr. Memorial Bridge), Allegheny County, SW Region. Steel bridge crossing the Monongahela River from Braddock Ave. in Rankin to Kennywood Blvd. on the opposite bank.

Raymondskill Cliff, Pike County, NE Region. Cliff overlooking the Delaware River, 2-3 km south of Milford.

Scranton, Lackawanna County, NE Region. Downtown.

Sewickley Bridge, Allegheny County, SW Region. Steel truss bridge carrying River Street (SR4025) across the Ohio River at Sewickley.

Shippingport, Beaver County, SW Region. Three nearby sites: Bruce Mansfield coal-fired electric generating station, Shippingport Atomic Power Plant, and Montgomery Dam.

York, downtown, York County, Southcentral Region. Vicinity of the York County Court House.

### **Productivity**

A total of 32 nest sites were occupied by pairs of peregrine falcons during the 2011 nesting season, and 23 of those pairs nested successfully (72%), fledging 68 young (Tables 1 and 2). “Successful” is defined as fledging young, or raising young to the fledging age. Four nests were new (or newly-discovered) this year. Two of the 4 new nests were successful, fledging a total of 5 young.

Productivity was 2.1 young fledged per occupied nest, and 3.0 young fledged per successful pair. The number of pairs and number of young produced at each nest type (bridge, building, smokestack and cliff) is shown in Table 3. The data set is too small to allow statistical comparison of productivity by nest type.

Young known to have been lost as nestlings (2), pre-dispersal fledglings (5) and post-dispersal fledglings (0) are shown in Tables 2 and 4, and are discussed above. Additional losses very likely occurred at all stages without being detected.

Unhatched eggs were documented at 8 nests, for a total of 16 known unhatched eggs (Table 2), and collected for contaminant analysis (see below). As with undetected losses of nestlings, it is most likely that there were additional unhatched eggs that went undetected because they were lost before the nest was visited for banding.

### **Banding**

A total of 52 young were banded at 17 of the 23 productive nest sites. Details and band numbers are given in Table 4. When young were not banded, it was because the nest was inaccessible (3 nests), the nestlings were too old to approach safely when the nest was visited (2 nests), or the nest was not discovered until after fledging (1 nest), as described above.

### **Egg Contaminant Analysis**

Whenever possible, unhatched eggs that were found during the banding visit (i.e. 20-30 days after the eggs should have hatched) were collected and stored at -20°C. The laboratory to which we have been sending eggs for analysis in the recent past is no longer doing these

analyses, and so the eggs collected this year are being held in storage at -20°C.

### **Parental Birds**

Parental birds at Pennsylvania nest sites have been identified wherever possible. Table 5 summarizes the band information for all pairs. Of the 64 nesting birds, almost half (27 birds) have been identified by their bands, whereas 17 of the nesting adults (27%) are known to be unbanded, or were not banded until after they arrived as adults. Partial or no band information is known for the remainder.

There were 4 new nesting pairs in 2011 (Table 1). Of the 8 birds, 2 were identified by their leg bands, 2 were found to be unbanded, and partial or no band information was obtained for the other 4.

There was little turnover of nesting adults in 2011. Of the 56 adults nesting at previously-established nest sites, 75% are believed or confirmed to be the same birds that nested in 2010; 21 (38%) were identified by their leg bands, and another 21 (38%) are believed to be the same individuals as before, based on plumage and behavioral characteristics (e.g. favorite perches). Only 2 birds, 4% of the total, were confirmed to be new nesting birds. Both of these are unbanded individuals that replaced banded birds.

The 15 adult females breeding in Pennsylvania whose origin has been determined fledged from nests in 10 US states or Canadian provinces; Pennsylvania (1 bird), Ohio (3), Virginia (2), New Jersey (2), New York (2), Connecticut, Massachusetts, Vermont, Wisconsin and Ontario (1 each). In contrast, the breeding males whose origins are known came from fewer and closer locations: Pennsylvania (10 birds), Ohio (2 birds) and Maryland (1 bird) (Table 5). These findings are consistent with the pattern, observed in many avian species, that females disperse greater distances than males.

### **Band Encounters**

There were 14 band encounters of 13 birds banded in Pennsylvania, or banded elsewhere and encountered in Pennsylvania, in 2011 (1 bird was encountered twice, at 2 different locations). Five were males and 8 were females. Details are given in Table 6. Table 6 reports only birds that were encountered after dispersing from their nest site. Those recovered (injured or dead) before dispersal are noted in Tables 1, 2 and 4 and are discussed above.

Two of the band encounters were of dead birds, with the cause of death unknown. The remaining 12 encounters of 11 birds were all of live birds. Three were sight records, and 9 were of birds that were nesting; 5 successfully, 3 unsuccessfully and 1 of unknown success.

Nine birds that dispersed from Pennsylvania nests were encountered at other locations in 2011. The locations of the encounters were in Pennsylvania (1 male [M], 1 female [F]), Ohio (1 M, 4 F), New Jersey (1 M), Connecticut (1 F) and Louisiana (1 F). Birds encountered in Pennsylvania included 2 birds from Pennsylvania nests (1 M, 1 F), and 1 bird each from nests in Ohio (M), New York (F), Massachusetts (F) and Virginia (F).

The shortest distance from its fledge site that a bird was encountered was 14 km: an adult

male from a 2008 nest in Pittston, Pennsylvania was observed in downtown Scranton, Pennsylvania in December 2011. No nesting peregrine falcons have been found in Scranton, so it is possible that Scranton is merely a wintering site. However, it is noteworthy that the bird was in the company of an adult female, one that fledged from a nest in Boston, MA in 2006.

The longest-distance encounter was a juvenile female that was banded as a nestling at the Luzerne County cliff on 19 May 2010 and was encountered 1,860 km away in Bunkie, Louisiana 8 months later, on 21 January 2011. This is possibly the furthest distance from its nest that a Pennsylvania peregrine falcon has been found. The bird was found dead in an area of flat farmlands, where the finder reported that it was being eaten by a raptor.

One of the birds in Table 6 was encountered twice in 2011. A female banded as a nestling at the Scudder Falls Bridge in Bucks County, Pennsylvania in 2009 was observed nesting on a tall building in Bristol, CT in June 2011, where she successfully fledged 3 young. In December 2011, the same bird was observed at the Middle Creek Wildlife Management Area in Stevens, PA, where she was observed preying on wintering waterfowl. As of this writing (2/28/2012), the same bird was observed back at its nest site in Bristol, CT.

One bird in Table 6 was previously encountered, in 2010 and its status can now be updated. The bird in question is a male from the 2007 nest at the University of Pittsburgh. In March 2010 the bird was observed paired with a female at a possible nest site in Warren, OH. On 22 July 2011, it was reported that the bird had nested successfully in 2011.

### **Construction and Maintenance Activities at Nest Sites**

Since 27 of the 32 nests are on man-made structures, human activities frequently present the possibility of disturbance. Some disturbance is chronic and unavoidable (e.g. vibration and traffic noise on bridges), and the falcons have shown their acceptance of that disturbance by choosing the nest site in the first place. In other cases, specific projects or activities such as construction or maintenance present the possibility of disturbance. Such activities pose the possibility of harm to both the falcons and people; harm to the falcons may include injury, nest failure or abandonment; and harm to people may include harassment or injury of workmen by aggressive falcons. PGC maintains a dialog with personnel at all sites frequented by falcons so that activities can be designed or scheduled to minimize human-avian conflicts.

Projects or activities posing the potential for conflicts, and actions being taken by PGC, include the following, several of which are discussed more fully in the narrative for that nest site.

*Allentown, 8<sup>th</sup> Street Bridge rehabilitation.*--This aging concrete bridge is scheduled for major rehabilitation work. PGC is in contact with PennDOT District 5 to coordinate work so as to minimize disturbance of the falcons and inconvenience to the work project. Preliminary assessments have now been completed, and rehabilitation work is now scheduled to begin in 2013 at the earliest.

*Girard Point Bridge repainting and maintenance.*--A major repainting and maintenance project began in the fall of 2009 and is scheduled to continue through 2012. PGC has negotiated with PennDOT to include protections for the falcons in the contract, and the services of a

dedicated peregrine falcon observer reporting to PGC have been retained. In spite of those measures, disturbance resulted in nest failure in 2011.

*Wade Bridge, I-81, Harrisburg.*--PennDOT District 8 is coordinating this multi-year maintenance project with PGC to reduce disturbance to the peregrine falcons that arrived at the bridge and nested in 2010. Early in 2011, PennDOT placed a nest box on a pier of an exit ramp that is not undergoing maintenance work. However, falcons were not observed at the bridge in 2011, either at the nest box or elsewhere.

*Other locations.*--PGC provided coordination with various agencies regarding numerous other projects in 2011, including:

Allentown, demolition of a city block and construction of a hockey rink near the PPL GO building, where peregrine falcons have nested.

Clark's Ferry Bridge, expansion joint replacement and various maintenance activity.

Columbia, Route 462 Bridge, lighting project.

Delaware River bridges, installation of monitoring equipment.

Philadelphia City Hall, demolition and reconstruction at Dilworth Plaza.

Scudder Falls Bridge, long-range planning for bridge replacement.

University of Pittsburgh's Cathedral of Learning, antenna installation.

Walt Whitman Bridge, redecking.

Various locations, repairs and cleanup of storm damage.

## **Outreach**

Groups were invited to attend peregrine falcon banding events where logistics made this possible, most notably at the RCSOB (see below) and at the University of Pittsburgh Cathedral of Learning and the Gulf Tower in Pittsburgh. These are popular events, drawing capacity crowds. Details of outreach activities are provided as follows.

*RCSOB.*--The peregrine nest site was again monitored with live video Web streaming at the RCSOB in Harrisburg (DEP 2011). The Web site, with its Web cam, supporting information, email account, falcon story submission and related links, continues to be one of the most popular wildlife watching Web sites in the world.

*Pittsburgh Nest Sites.*--Web cameras at the nest sites at the University of Pittsburgh Cathedral of Learning and the Gulf Tower in Pittsburgh were again provided by the National Aviary (National Aviary 2011). These allow the public to watch live video Web streaming of nesting activity at these 2 sites.

*Banding Events.*--The falcon banding event at the RCSOB, for the eleventh season, provided the opportunity to allow school students to observe the banding of the nestlings with their teachers. Approximately 150 students and teachers from area schools and other educational organizations attended the event. The event was also broadcast live on local TV and world-wide by live Webcast.

The National Aviary partnered with the PGC to invite members of the public and the local media to attend the banding at the University of Pittsburgh Cathedral of Learning and the Gulf Tower in Pittsburgh.

Philadelphia city officials attended the banding event at Philadelphia City Hall. The event was well covered by local newspapers and was featured on the TV evening news.

*Teacher In-Service Workshop.*--DEP and the PGC again partnered to facilitate a spring endangered species education teacher in-service workshop at the RCSOB. On 12 April, 31 Pennsylvania teachers and environmental educators were instructed on peregrine falcon reintroduction efforts, endangered species curriculum activities, and teaching techniques to address urban habitat.

*Public Presentations.*--Dan Brauning and Art McMorris presented talks on peregrine falcon biology and population dynamics and the Pennsylvania Peregrine Falcon Recovery and Management Plan to numerous public groups during the year.

*Media Coverage.*--Peregrine falcons continue to capture the public's interest and are frequently featured in the media throughout the year. PGC's work with peregrine falcons is also publicized on the Web on the PGC website (PGC 2011), via live webcasts as noted above, and in blogs and online discussion groups that are too numerous to keep track of. A partial list of media appearances during the 2011 calendar year follows.

*Newspapers and Magazines:*

Bucks County Intelligencer  
Erie Times-News  
Grid Magazine  
Journal Register (New Jersey)  
Lancaster Intelligencer-Journal  
Lancaster New Era  
Newark Star-Ledger (New Jersey)  
Philadelphia Inquirer (including a front-page feature)  
Pittsburgh Post-Gazette  
Pittsburgh Tribune-Review  
Pocono Record  
Reading Eagle  
Trenton Times (New Jersey)  
Williamsport Sun-Gazette

*TV Stations:*

KDKA  
WFMZ  
WGAL  
WPVI (ABC Channel 6)  
WPXI  
WQED  
WTAE

*Radio Stations:*

WDUQ

**RECOMMENDATIONS**

1. Nest boxes or trays should be placed on any building or bridge where peregrine falcons are nesting and the nest site is judged to be insecure for nesting birds. Nestlings in bridge girders should be transferred to a suitable nest box or tray to increase prospects of successful fledging. Placing of nest boxes on man-made structures where falcons are not already nesting, in an attempt to attract birds there, is no longer recommended; it is preferable to let the birds seek out natural sites.

2. Maintenance and construction on bridges, buildings and other manmade structures supporting nesting peregrines should be coordinated with wildlife biologists in the Environmental Review Division to assure minimized disturbance of nesting birds.

3. Young should be banded at nest sites wherever feasible.

4. Inspections of historic cliff and potential urban nest sites should be completed at regular intervals, in accordance with federal monitoring protocols.

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Table 1. Number of young peregrine falcons produced in Pennsylvania by nest site, 2001-2011 <sup>a</sup>.

Locations	Number of young produced per year <sup>b</sup>										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Allentown, 8 <sup>th</sup> St. Bridge							NP	4	4	3	4
Ben Franklin Bridge	-	0	S	S	?	4	1	3	3	2	4
Brunner Island PPL plant										2	2
Clark's Ferry Bridge										3	4
Columbia Rte.462 Bridge							E	E	E	2	2
Commodore Barry Bridge	1	?	?	?	[E] <sup>c</sup>	P	P	2	1	3	E
Delaware Water Gap			SP	NP					0	NP	E
Erie, Penelec stack											NP
Etna, 62nd St. Bridge							E				
Exelon Eddystone Power Station											NP
French Creek State Park											3
Girard Point Bridge	2	4	3	3	1	4	3	2	4	2	E
Harrisburg, Rachel Carson	4	4	4	3	3	5	4	4	5	2	1
Luzerne County cliff							0	2	3	2	3
Manayunk, St. John Church											2
Martin's Creek PPL plant					2	3	3	4	3	2	4
McElhattan Bridge								2	4	4	4
McKees Rocks Bridge								E	3	2	E
Monaca, E. Rochester Bridge							2	4	3	NP	4
Montgomery Cliff			1	0	1	1	0	2	4	1	NP
Montour PPL plant							1	4	3	2	1
Norman Wood Bridge									NP	P	E
PA/NJ Turnpike Bridge	2	2	3	4	2	3	3	4	4	3	3
Philadelphia: City Hall	-	S	S	S					4		4
Wachovia Bldg.										2	
Bell Atlantic	1										
Schuylkill Exp.					3	NP	NP				
Pittsburgh, Gulf Tower	4	4	4	4	3	5	4	2	2	5	5
Pittsburgh, U. Pitt. Cathedral	P	4	4	4	3	3	4	3	4	5	4
Pittston/Duryea: Bridge		4	3	3			4	3			
Campbell's Ledge					2	3			2	3	1
Reading, downtown							1	3	4	3	2

Table 1. cont.

Locations	Number of young produced per year <sup>b</sup>										
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Safe Harbor RR Bridge										NP	
Scudder Falls Bridge								1	3	3	2
Shikellamy cliff							NP	1	NP		
Tarentum Bridge										NP	S
TMI, Middletown		1	3	2	3	3	2	2	1	2	3
Wade Bridge, I-81 Harrisburg										E	
Walt Whitman Bridge	3	[3] <sup>c</sup>	4	3	[4] <sup>c</sup>	[1] <sup>c</sup>	[4] <sup>c</sup>	4 <sup>d</sup>	[2] <sup>c</sup>	[3] <sup>c</sup>	3
Westinghouse Bridge							S			3	3
Wilkes-Barre	1	4	2	2	3	2	3	4	4	NP	NP
<b>Summaries<sup>e</sup></b>											
Hacking summary									-3		
Number of pairs (occupied nests)	9	9	11	11	11	13	21	23	25	30	32
Number of successful nests <sup>f</sup>	8	8	10	9	11	11	13	21	21	23	23
Percent of nests successful	89	89	91	82	100	85	62	91	84	79	72
Young produced <sup>b</sup>	18	27	31	29	26	36	35	60	68	61	68
Productivity <sup>g</sup>	2.00	3.00	2.82	2.64	2.36	2.77	1.67	2.61	2.72	2.10	2.13
Nestlings known lost <sup>h</sup>				2	0	1	5	1	2	3	2
Known fledgling mortality, pre-dispersal	4	2	1	2	4	1	3	5	6	7	5
Known fledgling mortality, post-dispersal		1	3	1	0	2	3	0	3	0	0

<sup>a</sup> Includes nesting pairs on Delaware River bridges that occasionally move nest site to the New Jersey side. When nesting occurs on the NJ side of the state line, data are placed in square brackets and noted with footnote “c”. NJ data are not included in the summaries at the bottom of the table.

<sup>b</sup> “Young produced” is defined as the number of young that fledged or reached fledging age. Where no young were produced, “E” indicates eggs were documented, “S” represents a single adult bird observed through the breeding season, “SP” is a sub-adult pair present, “P” is a pair present, but no nesting attempt documented, “NP” is a pair present which nested but did not produce fledged young, and a “?” reflects uncertainty of activity.

<sup>c</sup> Nest was on the New Jersey side of the bridge.

<sup>d</sup> Three of the 4 young were transferred to West Virginia cliff hacking site by PGC.

<sup>e</sup> Summaries exclude data from nests on the NJ side of the state line.

<sup>f</sup> Successful nests are defined as those that fledged young or raised young to fledging age.

<sup>g</sup> Productivity is defined as the number of young produced per occupied nest.

<sup>h</sup> Data for nestlings known lost begin in 2007.

Table 2. Nesting results at occupied nests in Pennsylvania, 2011.

Nest site	Nest Type <sup>a</sup>	Status <sup>b</sup>	Unhatched Eggs <sup>c</sup>	Nestlings	Banded	Fledged <sup>d</sup>	Known lost <sup>c</sup>		
							Nestl	Fledged	Dispersed
Allentown, 8 <sup>th</sup> St. Bridge	Br -	BP	0	4	4	4			
Ben Franklin Bridge	Br +	BP	0	4	4	4			
Brunner Island PPL plant, York Co.	Bl -	BP	0	2	0	2			
Clark's Ferry Bridge	Br -	BP		4	0	4			
Columbia, Rte. 462 Bridge	Br -	BP	0	2	2	2		1	
Commodore Barry Bridge	Br -	NP	5	0	0	0			
Delaware Water Gap	Cl -	NP	1	0	0	0			
Erie, Penelec stack	Sm-	NP			0	0			
Exelon Eddystone Power Station	Bl -	NP		1	0	0	1		
French Creek State Park	Cl -	BP	1	3	3	3			
Girard Point Bridge	Br + <sup>e</sup>	NP	1	0	0	0			
Harrisburg, RCSOB	Bl +	BP	3	1	1	1			
Luzerne County cliff	Cl -	BP	0	3	3	3			
Manayunk, St. John Church	Bl -	BP		2	0	2			
Martin's Creek PPL plant	Sm +	BP	0	4	4	4		1	
McElhattan Bridge	Br -	BP	0	4	4	4		1	
McKees Rocks Bridge	Br -	NP		?	0	?			
Monaca, E. Rochester Bridge	Br -	BP	0	4	4	4			
Montgomery Cliff	Cl -	NP		0	0	0			
Montour PPL Plant	Sm +	BP		1	0	1			
Norman Wood Bridge	Br -	NP	3	0	0	0			
PA/NJ Turnpike Bridge	Br #	BP	1	3	0	3			
Philadelphia City Hall	Bl +	BP	0	4	4	4		1	
Pittsburgh, Gulf Tower	Bl +	BP	0	5	5	5			
Pittsburgh, Pitt Cathedral	Bl +	BP	0	5	4	4	1	1	
Pittson/Duryea: Campbell's Ledge	Cl -	BP	0	1	1	1			
Reading, Callowhill Bldg.	Bl -	BP	0	2	2	2			
Scudder Falls Bridge	Br +	BP	0	2	2	2			
Three Mile Island, Middletown	Bl -	BP		3	2	3			
Walt Whitman Bridge	Br + <sup>e</sup>	BP	1	3	3	3			
Westinghouse Bridge	Br -	BP		3	0	3			
Wilkes-Barre, Market St. Bridge	Br -	NP		0	0	0			
Totals: 32 nests, 23 successful			16	70	52	68	2	5	

<sup>a</sup> Bl = building, Br = bridge, Cl = cliff, Sm = smokestack. + = nest box or tray, # = other enhancement (e.g., gravel), - = no nest site enhancement.

<sup>b</sup> BP = breeding pair (produced young); NP = pair nested but did not produce fledged young.

<sup>c</sup> Observed numbers of unhatched eggs or of lost young; actual numbers may be higher. Where no number is shown, eggs or young may have been lost without being detected. Nestl = nestlings; Fledg-pre-d = fledglings prior to dispersal from nest site; Fledg-post-d = fledglings post-dispersal.

<sup>d</sup> Number fledged or raised to fledging age.

<sup>e</sup> Two nest boxes are present.

Table 3. Number of young peregrine falcons produced in Pennsylvania by nest type, 2011.

<b>Nest type</b>	<b>Number of pairs</b>	<b>Number of successful pairs</b>	<b>Number of young fledged</b>
Man-made structures:			
Bridge	15	10	33
Building	9	8	23
Smokestack	3	2	5
(Total man-made)	(27)	(20)	(61)
Natural sites:			
Cliff	5	3	7
Totals	32	23	68

Table 4. Listing of peregrine falcon band numbers used in Pennsylvania, 2011: Nestlings banded at nest.

County	Location	Banding Date	Sex	USFWS Band	Color Band <sup>a</sup>	Wght g.	Tape <sup>b</sup>
Allegheny	Gulf Tower	26 May	M	2206-79724	43/AC	720	yellow
			M	2206-79725	44/AC	680	blue
			F	1687-00523	01/AR	960	black
			F	1687-00524	02/AR	1010	red
			F	1687-00525	03/AR	1010	green
Allegheny	U. Pitt. Cathedral	19 May	M	2206-80668	00/AR	650	red
			F <sup>c</sup>	1687-00520	72/AE	980	yellow
			F	1687-00521	73/AE	1010	green
			F	1687-00522	74/AE	1007	blue
Beaver	Monaca bridge	27 May	M	2206-79735	16/AP	680	blue
			M	2206-79736	17/AP	640	red
			M	2206-79737	18/AP	690	green
			F	1687-00526	62/AC	940	yellow
Berks	French Creek St. Park	16 May	F	1687-00550	33/AR	640	red
			F	1687-00555	34/AR	580	white
			F	1687-00556	35/AR	755	blue
Berks	Reading, downtown	25 May	M	2206-79751	32/AP	630	blue
			F <sup>d</sup>	1687-00560	39/AR	935	red
Bucks	Scudder Falls Bridge	24 May	F	1687-00558	37/AR	>1000	-
			F	1687-00559	38/AR	980	red
Clinton	McElhattan Bridge	25 May	F	1687-00588	11/AR	800	-
			F <sup>e</sup>	1687-00589	14/AR	700	-
			F	1687-00590	12/AR	830	-
			F <sup>f</sup>	1687-00591	13/AR	750	-
Dauphin	Harrisburg, RCSOB	17 May	M	2206-79747	28/AP	660	--
Dauphin	TMI nuclear plant	15 June	F	1687-10842	A/75	850	
			F	1687-10843	A/76	760	
Lancaster	Columbia Rt. 462 br.	14 July	F	1687-00575	54/AR	>1000	red
			F <sup>g</sup>	1687-00576	55/AR	850	blue
Lehigh	Allentown, 8 <sup>th</sup> St. br.	26 May	M	2206-79752	33/AP	628	blue
			F	1687-00561	40/AR	512	red
			F	1687-00564	41/AR	738	red
			F	1687-00562	42/AR	608	red
Luzerne	Campbell's Ledge Cliff	26 May	F	1687-00565	44/AR	925	-

Table 4. cont.

County	Location	Banding Date	Sex	USFWS Band	Color Band <sup>a</sup>	Wght g.	Tape <sup>b</sup>
Luzerne	Luzerne County Cliff	26 May	M	2206-79756	37/AP	645	blue
			F	1687-00566	45/AR	940	white
			F	1687-00567	46/AR	>1000	red
Northampton	Martin's Creek PPL	3 June	M	2206-79758	39/AP	720	red
			M	2206-79759	40/AP	720	white
			F <sup>h</sup>	1687-00570	49/AR	930	blue
			F	1687-00571	50/AR	915	yellow
Philadelphia	Ben Franklin Bridge	31 May	M	2206-79754	35/AP	680	red
			M	2206-79755	36/AP	685	yellow
			M	2206-79757	38/AP	690	white
			F	1687-00569	48/AR	860	blue
Philadelphia	Philadelphia City Hall	18 May	M	2206-79748	29/AP	645	blue
			M	2206-79749	30/AP	620	yellow
			M <sup>i</sup>	2206-79750	31/AP	660	white
			F <sup>j</sup>	1687-00557	36/AR	950	red
Philadelphia	Walt Whitman Bridge	31 May	M	2206-79753	34/AP	640	red
			F	1687-00563	43/AR	770	white
			F <sup>k</sup>	1687-00568	47/AR	705	blue

<sup>a</sup> All color bands are Black/Green. "\*" indicates that characters are in a horizontal position, top to left.

<sup>b</sup> Color of marker tape placed on USFWS band. "-" indicates no tape was used.

<sup>c</sup> Found dead with broken neck near nest 4 July, apparent building strike.

<sup>d</sup> Found near nest with fractured ulna 11 July, apparent collision with building or vehicle. In rehab.

<sup>e</sup> Fostered into Reading nest 26 May.

<sup>f</sup> Killed in collision with vehicle on bridge 20 June.

<sup>g</sup> Not observed after fledging; presumed lost.

<sup>h</sup> Found dead in cooling tower near nest 19 June.

<sup>i</sup> Found on ground near nest 17 June. Rehabilitated; released at nest site 25 June.

<sup>j</sup> Found dead on sidewalk near nest 8 June: window strike.

<sup>k</sup> Found on bridge roadway 22 June. Rehabilitated; released near nest 5 July.

Table 5. Identities of nesting peregrine falcons at occupied nests, 2011.

Nest Site	Parent	USFWS Band <sup>a</sup>	Aux. Band <sup>a,b</sup>		Banding (hatch) date <sup>c</sup>	Age at Banding	Banding Site
			Number	Color			
Allentown, 8 <sup>th</sup> St. Bridge	M <sup>d</sup>	none	none		≤ 2005		
	F <sup>d</sup>	1807-76454	07/Z	Bl/Gr	5/31/2006	Nestling	Fallon bldg, Worcester MA
Ben Franklin Bridge	M <sup>d</sup>	none	none		≤ 2004		
	F <sup>d</sup>	1807-62116	25/E	Bl/Gr	6/26/2003 <sup>e</sup>	Nestling	LTV Steel Bldg, Cleveland, OH
Brunner Island PPL Plant	M <sup>d</sup>	present	present	Bl/Gr			
	F <sup>d</sup>	present	?				
Clark's Ferry Bridge	M <sup>d</sup>	present	present	Bl/Gr			
	F	present	present	Bl/Gr			
Columbia, Rte. 472 Bridge	M <sup>d</sup>	816-69321	*1/*3	Bl/Gr	5/27/2004	Nestling	Southmarsh I. WMA, MD; hacked at Harper's Ferry, MD
	F <sup>d</sup>	1807-02717	10/V	Bl/Gr	5/17/2006	Nestling	Richmond, VA; hacked Hawksbill VA
Commodore Barry Bridge	M	?	?				
	F	1807-02711	04/V	Bl/Gr	6/13/2005	Nestling	Mockhorn Island, VA
Delaware Water Gap	M	?	?		≤ 2008		
	F	?	?		2009		
Erie, Penelec Stack	M <sup>d,f</sup>	1126-06438	B/79	Bl/Gr	5/28/2008	Nestling	I-90 Br., Cuyahoga R., Cleveland OH
	F <sup>d,f</sup>	1687-01203	72/U	Bl/Gr	5/29/2007	Nestling	Statler Towers Bldg., Buffalo NY
Exelon Eddystone Power Sta.	M <sup>d</sup>	present?	present?				
	F	?	?				
French Creek State Park	M <sup>d,f</sup>	present	present	Bl/Gr			
	F <sup>d,f</sup>	none	none				
Girard Point Bridge	M <sup>d</sup>	present	none		2004		Philadelphia or Bristol PA? <sup>g</sup>
	F <sup>d</sup>	1807-37492	*K/*V	Bl/Rd	5/22/2003	Nestling	Ocean Gate, NJ
Harrisburg, RCSOB	M <sup>d</sup>	2206-24690	*W/*V	Bl/Rd	5/19/2003	Nestling	Walt Whitman Bridge, Phila., PA
	F <sup>d,f</sup>	none	none				
Luzerne County cliff	M	2206-80632	3/Z	Bl/Gr	6/15/2006	Nestling	Martin's Creek PPL plant, PA
	F <sup>d</sup>	?	present	?			
Manayunk, St. John Church	M <sup>f</sup>	?	?				
	F <sup>f</sup>	?	?				
Martin's Creek PPL plant	M <sup>d</sup>	none	none		≤ 2003		
	F <sup>d</sup>	none	none		2003		

Table 5. cont.

Nest Site	Parent	USFWS Band <sup>a</sup>	Aux. Band <sup>a,b</sup>		Banding (hatch) date <sup>c</sup>	Age at Banding	Banding Site
			Number	Color			
McElhattan Bridge	M	?	?		≤ 2006		
	F <sup>d</sup>	?	present	Bl/Gr			
McKees Rocks Bridge	M	2206-35777	V/H	Bl/Gr	6/28/1999	Nestling	Terminal Tower, Cleveland, OH
	F	none	none		≤ 2006		
Monaca, E. Rochester Br.	M	none	none		≤ 2005		
	F <sup>d</sup>	1687-10824	75/Y	Bl/Gr	5/24/2006	Nestling	RCSOB, Harrisburg, PA
Montgomery Cliff	M <sup>d</sup>	none	none				
	F	none	none				
Montour PPL plant	M	2206-80627	64/X	Bl/Gr	5/25/2006	Nestling	Campbell's Ledge, PA
	F	none	none		≤ 2005		
Norman Wood Bridge	M	?	?				
	F	?	?				
PA/NJ Turnpike Bridge	M <sup>d</sup>	2206-24692	*4/*R	Bl/Gr	5/19/2003	Nestling	Girard Point bridge, Philadelphia, PA
	F <sup>d</sup>	1807-63442	*S/2	Bl/Rd	5/30/2002	Nestling	Castleton-on-Hudson, NY
Philadelphia, City Hall	M <sup>d</sup>	2206-80665	40/AC	Bl/Gr	4/17/2009	Adult	Comcast Center, Philadelphia, PA
	F <sup>d</sup>	987-95673	60/Y	Bl/Gr	6/13/2006	Nestling	Tuckahoe River tower, NJ
Pittsburgh, Gulf Tower	M <sup>d</sup>	2206-24689	*4/*E	Bl/Gr	6/11/2002	Nestling	Pitt. Cathedral, Pittsburgh, PA
	F <sup>d</sup>	1687-01853	M/93	Bl/Gr	5/24/07	Nestling	Landmark Building, Akron, OH
Pittsburgh, U. Pbg. Cathedral	M <sup>d</sup>	2206-80608	*5/*4	Bl/Gr	5/17/2005	Nestling	Gulf Tower, Pittsburgh, PA
	F <sup>d</sup>	1807-77607	5/*A	Bl/Gr	6/15/1999 <sup>e</sup>	Nestling	Firstar Bldg., Milwaukee, WI
Pittston: Campbell's Ledge	M <sup>d</sup>	2206-24673	*X/L	Bl/Rd	6/02/2000	Nestling	Wilkes-Barre, PA
	F <sup>d</sup>	1687-17684	V/21	Bl/Gr	6/7/2007	Nestling	West Rock cliff, Hamden, CT
Reading, downtown	M <sup>d</sup>	2206-80617	3/T	Bl/Gr	5/26/2005	Nestling	RCSOB, Harrisburg, PA
	F <sup>d</sup>	none	none		≤ 2005		
Scudder Falls Bridge	M <sup>d</sup>	2206-80618	3/U	Bl/Gr	5/31/2005	Nestling	Schuylkill Expy. br., Philadelphia, PA
	F <sup>d</sup>	1807-99741	32/W	Black	6/2/2006	Nestling	Sheraton Hotel, Hamilton, Ontario
Three Mile Island, Middletown	M	none	none				
	F	?	?				
Walt Whitman Bridge	M <sup>d,f</sup>	none	none				
	F <sup>d</sup>	none	none				
Westinghouse Bridge	M	?	?				
	F	1687-01648	66/C	Bl/Gr	6/18/2005 <sup>e</sup>	Nestling	Bank One, Canton, OH

Table 5. cont.

Nest Site	Parent	USFWS Band <sup>a</sup>	Aux. Band <sup>a,b</sup>		Banding (hatch) date <sup>c</sup>	Age at Banding	Banding Site
			Number	Color			
Wilkes-Barre, Market St. Br.	M <sup>d</sup>	none	none		2008		
	F <sup>d</sup>	0987-63774	8/Y	Bl/Rd	5/28/1997	Nestling	Fairlee Palisades Cliff, VT

<sup>a</sup> Present = band present but band number unknown; none = no band present; ? = not known.

<sup>b</sup> Characters marked with an “\*” are in a horizontal position, top to left.

<sup>c</sup> Full date indicates banding date. When only the year is given, it is the hatch year, based on plumage when first observed. ≤ : on or before the year indicated.

<sup>d</sup> Band information reconfirmed 2011.

<sup>e</sup> Fledge date.

<sup>f</sup> New nesting adult 2011.

<sup>g</sup> Possibly from Walt Whitman bridge (Philadelphia, PA), Girard Point bridge (Philadelphia, PA) or PA/NJ Turnpike connector bridge (Bristol, PA). Birds banded at those nests in 2004 (this bird's hatch year), received USFWS band but no auxiliary band.

Table 6. Peregrine falcon band encounters, 2011<sup>a</sup>.

Banding Site	Banding Date	USFWS Band	Aux. Band		Sex	Recovery		Status
			Number	Color		Date	Recovery Site	
PA/NJ Turnpike Br., PA	5/24/2005	2206-80614	3/P	B/G	M	6/8/2011	Betsy Ross Bridge, NJ	Nesting successfully
Christian Sci. Church, Boston, MA	6/1/2006	1807-76455	8/Z	B/G	F	11/20/2011	Downtown Scranton, PA	Alive – sight record
Statler Towers, Buffalo, NY	5/29/2007	1687-01203	72/U	B/G	F	3/17/2011	Penelec Stack, Erie, PA	Nesting unsuccessfully
U. Pitt. Cathedral, Pittsburgh, PA	5/31/2007	2206-79709	70/X	B/G	M	(1) 3/5/10 (2) 7/22/11	(1) Warren, OH (2) Water tower, Warren, OH	(1) Paired with female at possible nest site (2) Nesting successfully
Pittston Br., Pittston, PA	5/28/2008	2206-79715	77/X	B/G	M	12/8/2011	Downtown Scranton, PA	Alive – sight record
I-90 Bridge, Cleveland, OH	5/28/2008	1126-06438	B/79	B/G	M	3/28/2011	Penelec Stack, Erie, PA	Nesting unsuccessfully
Monaca Bridge, PA	6/2/2008	1687-10845	A/42	B/G	F	5/17/2011	Ironton-Russell Br., Ironton, OH	Nesting successfully
U. Pitt. Cathedral, Pittsburgh, PA	5/26/2009	1687-10872	40/AE	B/G	F	5/17/2011	Killen Power Station, Wrightsville, OH	Nesting successfully
Harrisburg RCSOB, PA	5/27/2009	1687-10881	49/AE	B/G	F	3/6/2011	Rocky River Metropark, Brookpark, OH	Nesting unsuccessfully
Scudder Falls Bridge, PA	5/29/2009	1687-10889	57/AE	B/G	F	(1) 6/20/11 (2) 12/23/11	(1) Otis Elevator Bldg., Bristol, CT (2) Middle Creek WMA, Stevens, PA	(1) Nesting successfully (2) Alive – sight record
McKees Rocks Br., PA	6/5/2009	1687-10877	45/AE	B/G	F	6/26/2011	Hilliard Road Bridge, Rocky River, OH	Nesting
Luzerne Co. Cliff, PA	5/19/2010	1687-00512	A/92	B/G	F	1/21/2011	Bunkie, LA	Dead
Riverfront Plaza Bldg., Richmond, VA	6/1/2010	1126-11844	10/AS	B/G	M	5/25/2011	Amtrak Station, Harrisburg, PA	Dead

<sup>a</sup> Including status updates on previously-reported birds.

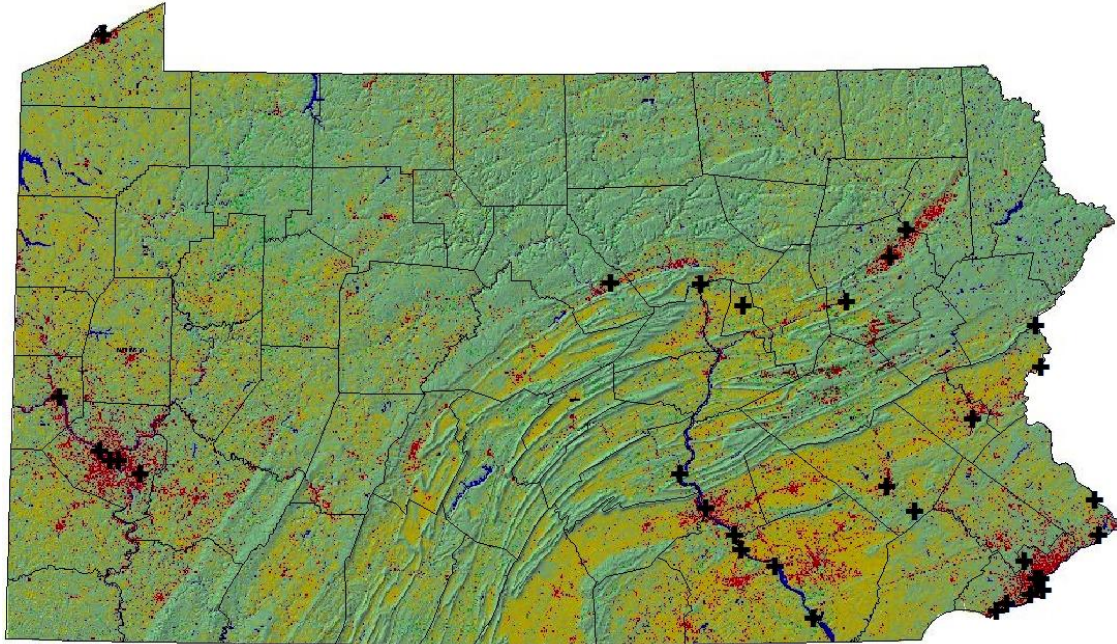


Figure 1. Locations of peregrine falcon nests in Pennsylvania, 2011.