

2011 Peregrine Falcon Restoration Project New River Gorge National River West Virginia




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A REPORT ON THE NEW RIVER GORGE NATIONAL RIVER 2011 PEREGRINE FALCON RESTORATION PROJECT

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United States Fish and Wildlife Service ("USFW")
The Center for Conservation Biology ("CCB")
National Park Service - New River Gorge National River ("NERI")
West Virginia Division of Natural Resources Wildlife Diversity Program ("WVDNR")
Three Rivers Avian Center ("TRAC")
Virginia Department of Game and Inland Fisheries ("VDGIF")
New Jersey Department of Natural Resources ("NJDNR")
Delaware Department of Natural Resources and Environment Control(DDNREC)
Tri-State Bird Rescue ("TBR")

Front Cover: *Two young Peregrines jockey for position on the rock ledge at the hack box in the early morning. Photo taken by a surveillance camera at the site.*



Three Rivers Avian Center is a private 501(c)3 non-profit organization dedicated to wild bird conservation as well as educating and involving people in ecosystem stewardship.

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*A young peregrine
leaves the feeding station
in the morning mist at
Grandview.*

*Photo taken from the
observation blind by
Wendy Perrone, TRAC.*



Summary

The New River Gorge Peregrine Falcon Restoration Project was originally designed as a five year project. At the end of the fifth year, a results assessment was conducted which led to a decision to extend the Project for a sixth year. The 2011 season is the final year of the Project.

As outlined in Varner (2006) and Watts (2006), the New River Gorge National River provides an ideal location for the rearing and releasing of Peregrine Falcons with the goal of restoring them to the New River Gorge National River ("NERI"), the Gauley River National Recreation Area and the Southern Appalachian region in general. The 2011 releases were executed at the Grandview Park section of the New River Gorge in Raleigh County, West Virginia at the exact location as the previous 2 years (Perrone, Wendy and Perrone, Ron. 2010).

This report is an assessment of the 2011 Hacking Season and includes an overall assessment of the 6 years of effort in The New River Gorge National River.

The Center for Conservation Biology ("CCB") in Williamsburg, Virginia coordinated with the Virginia Department of Game and Inland Fisheries ("VDGIF"), Tri-State Bird Rescue & Research in Delaware, the Delaware Department of Natural Resources and Environment Control ("DDNREC"), and the New Jersey Department of Natural Resources ("NJDNR") to select Peregrine chicks using the same protocols of previous years (Mojica, E.K., B.D. Watts, and S.M. Padgett 2009). A total of 21 chicks were transferred to Three Rivers Avian Center ("TRAC"). One was removed from the program for medical reasons and transferred back to Tri-State Bird Rescue & Research.

Twenty Peregrines were released from the site in 3 separate groups between June 23, 2011 and June 29, 2011, 2011. Of these 13 (65%), remained in the postfledging area for a minimum of 14 days, which was the criterion for a successful release as determined by Varner.

Late in the program, an additional 2 Peregrines were released from the site on July 11, 2011. These birds were both flighted juveniles, and as such did not meet the criteria for inclusion in the Project. While not included in the program data, they are listed at the end of this report as having been released from the site as group #4.

The appearance of 2 adult Peregrines from previous hacks had a significant effect of the project in 2011. These adults did not appear to have an active nest, but their behavior indicates that they seem to have been establishing territory in preparation for next year's season. Interaction with these adults contributed to 7 of the eyasses failing to meet the criteria for successful release.

Funding for the project came from NERI and the West Virginia Division of Natural Resources ("WVDNR"). TRAC Executive Director, Wendy Perrone, continued as the New River Gorge Peregrine Falcon Restoration Project Coordinator for the fourth year.

Methods

Preliminary Surveys

One of the cameras in place for the 2010 Hacking season was kept in place throughout the winter to monitor the hack box outcropping to determine if the location was being visited by returning adult Peregrines. TRAC staff serviced the camera on a weekly schedule. This visit was also used to visually observe the site for an hour to determine if Peregrines were in the area. The site of the 2009 nest attempt at the Cirque near Fayetteville, WV was monitored for signs of another attempt by Peregrines to use the location in 2011. Observations were also carried out under and around the New River Gorge Bridge on Route 19.

Hack Boxes

The 2 hack boxes used in 2009 and 2010 (Perrone, Wendy and Perrone, Ron. 2009) were taken from storage and returned to the identical locations and orientations that had been used in 2009 & 2010. The boxes were cleaned and fresh gravel was installed inside the boxes and landing perches were affixed to the tops of the boxes as before.

The method of using one hack box as a “feeder” box to the other (Perrone, Wendy and Perrone, Ron. 2010) was again employed to simplify feeding, reduce disturbance, and imprint all the Peregrines on the exact same location.

Feeding

The protocol for feeding the Peregrines both in the boxes and post release were identical to that used in 2009 and 2010. While in the hack boxes, the chicks were fed freshly thawed out, vitamin-enriched 8 week to 10 week old quail via a 4 inch diameter tube affixed to the back of the box. Feeding the captive eyasses in this manner prevented the hack site attendant from being seen. The boxes were cleaned periodically of pellets and uneaten quail scraps to minimize odors that might attract scavengers.

Once the Peregrines were released from their hack box, all birds were fed from Hack Box #2. To attract the Peregrines to a defined spot for observation, quail carcasses were tied to taunt cords stretched across the top of Hack Box #2 and to cords stretched across the flat rock outcrop between the box and a small tree using short lengths of sisal twine. The quail carcasses were spaced so as to minimize food competition. To eliminate smells that might attract bears and other scavengers, all uneaten quail and debris were removed and the site thoroughly cleaned at the end of each observation session.

Banding

The strategy of banding the chicks using a redundant system to aid in rapid identification was modified to eliminate the use of poultry bands (Figure 1). All birds arrived at the Project banded with a US Fish and Wildlife Service (“USFWS”) color coded aluminum band on their right legs (green for Virginia and black for New Jersey) and an alpha-numeric band on the left. The USFWS band was covered with 2 colored bands of duck tape, one color in a single layer above the other in a pattern unique



to each bird. The alpha-numeric bands remained uncovered to act as a second identifier. The strategy of using the 2 systems proved invaluable when part or all of one band was obscured. A complete chart of all bird data including source data is included in the appendix of this report.

Documentation

An observation blind was set up at the identical location at Grandview as in 2009 and 2010, approximately 15 feet from Hack Box #2. From this location a detailed daily tally was kept of Peregrines returning to the site. The tally sheets documented feeding, behavioral notes, general physical condition of the individual birds, other raptors in the area and other related information. The second observation point known as “North Overlook” (Perrone, Wendy and Perrone, Ron. 2010) was again designated as the second observation point. This was used when a second observer was deployed to watch the larger hack area from a vantage that allowed for gathering information not visible from the blind, such as flying behaviors and individual interactions in the air outside the view-shed of the blind.

Cameras continued monitoring the fronts of the hack boxes to monitor any attempted predation or interaction between the eyasses and adult Peregrines. Once the birds were released, the cameras were re-positioned to monitor the Peregrines as they returned to the feeding stations on top of and near Hack Box #2.



Night drama. An encounter between an Eastern Wood Rat and 2 sleeping Peregrines was documented by one of the hack site cameras. The Peregrines scrambled to catch the Wood Rat, which escaped. The young Peregrines often slept in groups at or near the site or in a tree above the hack box.

Narrative and Results

Preliminary Survey

Because the 2011 hacking site was to be re-established at Grandview for a third season, there was reason to believe that an adult Peregrine might return to the area as it did in 2010. The monitoring camera on the hack box outcrop recorded one instance of an adult Peregrine returning to the site on March 7, 2011 at 9:56 am for 2 minutes and then again at 11:21 am to 11:24 am. This one visit was the only Peregrine picked up by camera. None of the previous or subsequent visitation to the site by observers to service the cameras throughout the Winter and Spring resulted in a sighting of an adult Peregrine.

The cameras installed at Grandview began constant monitoring from the end of the 2010 Hack season and remain in operation. They showed again, as in the 2009-2010 off season, that while the cliffs were occasionally visited by a number of mammals and birds, none was a threat to the Project. With the exception of Turkey Vultures and Black Vultures, no other raptor was ever observed using the outcrops except on March 7, 2011. In an effort to lure any adult in the area, pre-recorded calls of adult peregrines were played at various points along the cliff line from Main Overlook to Turkey Spur (Figure 4) on several different days. No peregrines were seen or heard in these surveys. In 2010, the failure to detect adult Peregrines in the hack area had consequences for the first two groups of Peregrines released (Perrone, Wendy and Perrone, Ron. 2010). In 2011, the same failure to detect adult Peregrines had an even greater effect.



The adult Peregrine preens after arriving at the hack site on March 9, 2011 .

Hacking Peregrines at Grandview

On May 6, 2011 the 2 hack boxes used in 2009 and 2010 were taken from storage and restored to their previous locations on the cliff at Grandview. Cameras were repositioned to monitor the boxes and a blind for the Hack Site monitoring was replaced in its original 2010 position, 15 feet from Hack Box 2.

On May 24th, the first 2 eyasses of Group #1 went into Hack Box 2. On May 30, 2011 at 2:15 PM, while one of the cameras was being serviced, an adult female Peregrine flew through the airspace close to the hack site. This Peregrine made several passes watching the proceedings and calling. One of these calls elicited a response from the eyasses before the adult disappeared into nearby trees. It was decided to once again play pre-recorded sounds of adult and juvenile Peregrines from North Overlook to try to elicit a response from the adult. This continued intermittently from 2:40 PM to 3:30 PM with no result. During this time another adult Peregrine, a second year male, flew into view from below, circled up and left the site. Observations ended at 6:30 PM. Later observations of the female adult indicated that the bird was wearing project bands (Black over Bright Green) making her a 2009 female USFWS band # 1807 02794, project band Z/29. No identification of the male was possible.

It was concluded that there was no indication that the adults had a nearby nest, but might have been scouting for one. The decision was made to make the initial release a large one in an effort to diffuse any possible aggressive behavior by the adults if they should still be in the area at the time of the releases. This had been a successful strategy in 2010. Because the age spread of the 3 groups in the 2011 program was small, it would be possible to release them all over a short time period, hopefully presenting the adults with an overwhelming task if they were intent on suppressing them. On June 7, 2011 8 more were placed in the box for a total of 10 birds in Group 1. These were released June 23, 2011. On June 26, 2011, 7 more were released as Group 2. On June 29, 2011 Group 3, comprised of 3 more Peregrines, was released. This put 20 birds in the air in just a 7 day period.

The strategy was only partially successful. 2 of the first group of 10 were never seen after the first day and are presumed lost. 3 in the second group were likewise lost after only one day. Group 3 suffered 2 of the 3 lost. In every case observations were that adult Peregrines were seen pursuing the newly released fledglings. No physical contact was ever observed. At times it appeared to the observers the adult appeared to break off the chasing as soon as the young had retreated to sit in trees. Nonetheless, 6 of the fledglings were not observed again after only 1 day out of the hack box. A 7th was last seen at 13 days, which is 1 day short of the required 14 to be considered properly hacked. Unlike in 2010, when a problematic adult peregrine left the site for a substantial period of time after only a few days of chasing the juveniles, the female adult Peregrine continued to interact with the young throughout the Summer of 2011, with occasional additional interactions from the adult male peregrine as well. 13 of the young Peregrines continued to return to the hack site to feed substantially beyond the 2 week mark (figure 2).

Two adult Peregrines were recorded at the site at the same time on May 30, June 19, and June 20. On June 20, one of the adult Peregrines appeared to chase the other from the site. Between June 23 and July 30, 1 adult Peregrine, usually the female, was seen in the immediate environs of the hack box on 22 separate days. (Figure 3).

Discussion and Recommendations

The Hack Location at Grandview

The Grandview locations (Figure 4) has now been used for 3 consecutive years and is an ideal place to release Peregrines. The site is easy to access and maintain, did not conflict with established public uses in the Gorge, produced no wildlife conflicts, and continued to provided an opportunity for the public to observe the hacking process from a safe distance. Together with the previous 2 year's releases, 48 of 58 Peregrines released at Grandview exceeded the criterion for successful release by wide margin. However, the same attributes that make the site good for releasing Peregrines has apparently attracted adult Peregrines seeking territory and perhaps a place to nest for 2 consecutive years. This situation mirrors what happened at the site previously used at the Cirque (Perrone, Wendy and Ron Perrone. 2009) near Fayetteville.

In 2010 the single adult Peregrine at Grandview was observed to be a male. In 2011, both a male and a female were seen, the female being the 2009 Project's bird (band Z/29). A Peregrine was also repeatedly seen at the New River Gorge Bridge throughout the Summer, which is approximately 15 miles down stream from Grandview. Observers saw two separate Peregrines there, one of the Peregrines was identified as a male from the 2008 Project, hatched from the Berkley Bridge nest in Virginia (green anodized USFWS band on his right leg, black/green project band X/28). The other Peregrine was unbanded. The Peregrines were hunting the pigeons that were roosting on the Bridge's superstructure, there was no nesting activity. In addition, there was a credible report of a possible nest site at nearby Summersville Lake, which is approximately 25 air miles North of Grandview.

There is no way to know if any of these Peregrines can be linked to the adults at Grandview, but in the opinion of the authors, it is dubious because of the distance. The adults at Grandview were on site throughout the hack process and never left for more than 3 days. They stayed at the site before, during and after the hacking season. We believe that Grandview is probably theirs, pending their survival through the 2010-2011 Winter and that after 6 years of releasing Peregrines into the New River Gorge at both at Lansing and Grandview, there is a growing likelihood that adult Peregrines are returning to other places along the New River, its connecting waterways and possibly elsewhere within the wider scope of the region. This is, of course, the purpose of the project. Due to the ongoing presence of the adult Peregrines at Grandview, the authors consider the hacking phase of the New River Gorge Peregrine Restoration Project ended, and have begun planning for follow-up observations of the region for Peregrine nests.

Site Monitoring Via Camera

The use of cameras at the hack site continued to provide visual data during and after human observations ended each day, giving clues to the identities of the fledgling Peregrines. On several occasions, they provided the only indication of the appearance of specific birds on those days. The cameras failed to provide enough information concerning the appearance of the adult Peregrines. The fact that an adult was only spotted once sitting on the ledge prior the beginning of the Hack season belied the fact that adult Peregrines were probably in the area regularly. Even during the hacking process, when adults were seen in the air and interacting with the fledgling project birds, they never approached the boxes either to harass the eyasses in the hack boxes or to take food from the feeding station. Subsequently, they were never photographed by the cameras at the hack site. More cameras set up in more areas might have been beneficial, especially if they were

combined with more observers in more places prior to the hacking season. Together these methods might have alerted us to the presence of the adult birds.

Other Peregrine Notes

On July 7, 2011, 2 Peregrines were transferred to the Three Rivers Avian Center from New Jersey and released at the hack site on July 11. These birds did not meet the criteria of the hacking program. They were banded as a female 20/AN (Red/White) and a male 11/AM (Turquoise/White). They were not included in the hacking program because these birds exceeded the age requirements needed to properly imprint on the location and because they were fully flighted. Upon release, they immediately left, as expected, not even stopping to eat the food prepared for them outside the hack box.

On July 26, 2011, a female Peregrine from the Season's hack (07/AV) was recovered in Monroe County suffering from severe aspergillosis with a secondary infection of trichomoniasis. These conditions had debilitated the bird to the point where it was no longer capable of hunting. It was treated at the Three Rivers Avian Center and re-released on December 2, 2011 at Grandview Park North Overlook.

On June 11, 2011, a fledgling Peregrine Falcon was turned in to Three Rivers Avian Center from an active nest at AEP's Philip Sporn Power Plant at New Haven, WV, on the Ohio River. This nest has been there for several years. The fledgling died but two other siblings did successfully fledge from that location.

Recommendations

In light of the fact that funding for future hacking projects in the New River Gorge is unlikely, it is never-the-less time to gather evidence to determine to what extent the goals of the 6 years of Peregrine hacking project have been met. We suggest the following:

- Monitor the known nesting locations such as the Belpre Bridge at Parkersburg, Seneca Rocks, North Fork Mountain, the rock quarry at Harpers Ferry, and the Philip Sporn power plant at New Haven
- Search for new potential nests at Grandview, Summersville Lake, Charleston and up the Elk River towards Elkview.
- Maintain a dialog with the birding community in the upcoming year for the purpose of updating future locations to search.
- Maintain contact with the interested agencies in other states who are keeping records of Peregrine nests.

The river system comprised of the New, the Bluestone, the Gauley, the Elk, and the Kanawha rivers have miles of cliff faces littered with remote, suitable sites for nesting Peregrines. While these cliffs may not be associated with what is traditionally considered good Peregrine hunting environs they all are very near habitats that are. The Peregrines raised in the New River Gorge have now had between 1 to 6 years to discover these places.



*Hack site Attendant, Andrew Woodruff and TRAC Intern Rebecca Pollard help TRAC Executive Director Wendy Perrone to place color bands on the eyasses prior to putting them into their Hack box.
Photos by Ron Perrone, TRAC.*

Figures

| Group #1 | |
|--------------|---------------------|
| Project Band | Color Band |
| 12/AV | Pink |
| 24/AS | Blue |
| 04/AV | Yellow |
| 05/AV | Green / Turquoise |
| 52/AS | Green / Pink |
| 53/AS | Green / Red |
| 06/AV | Pink / Bright Green |
| 07/AV | Pink / Purple |
| 55/AS | Pink / Turquoise |
| 75/AD | Bright Green |

| Group #2 | |
|--------------|--------------------|
| Project Band | Color Band |
| 05/AK | Red |
| 06/AK | Turquoise |
| 18/AC | Purple / Turquoise |
| 08/AN | Purple / Yellow |
| 09/AN | Purple / Red |
| 01/AM | Turquoise / Yellow |
| 12/AN | Turquoise / Red |

| Group #3 | |
|--------------|----------------|
| Project Band | Color Band |
| 16/AN | Black / Pink |
| 15/AN | Black / Yellow |
| 06/AM | Black |

| Group #4 | |
|--------------|-------------------|
| Project Band | Color Band |
| 20/AN | Red / White |
| 11/AM | Turquoise / White |

Figure 1. Group Bands

Figure 2. Length of stay in days within the hack area of individual Peregrines

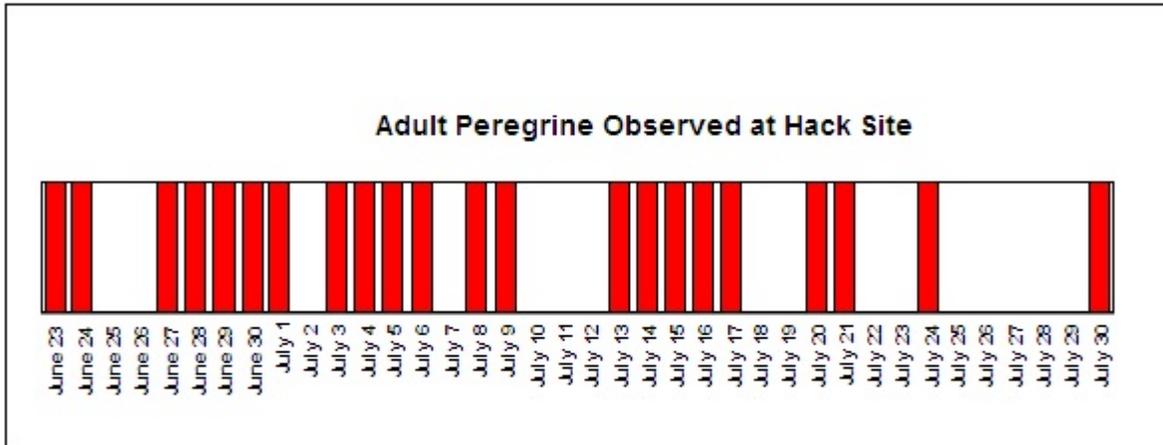
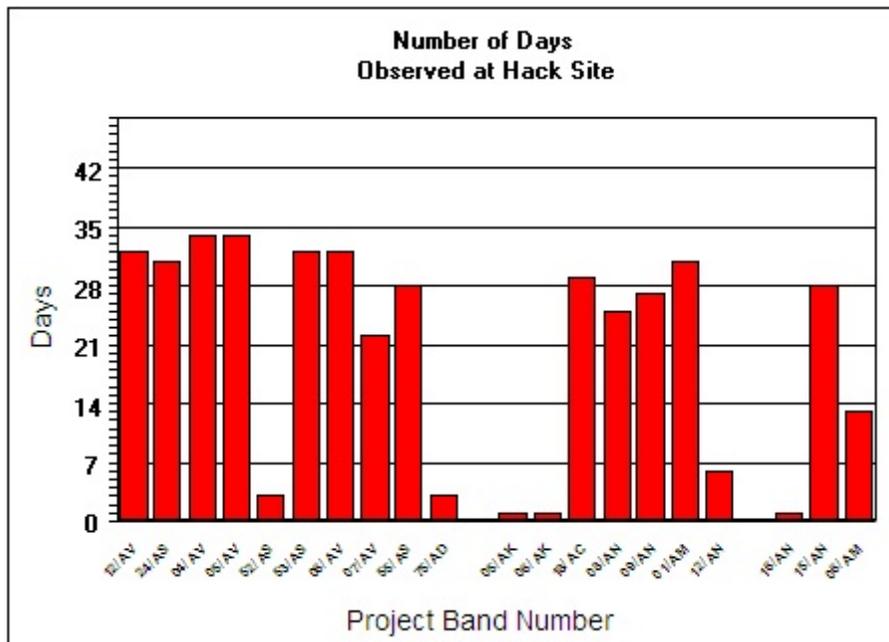


Figure 3. Days on which an adult Peregrine Falcon was observed at the hack site



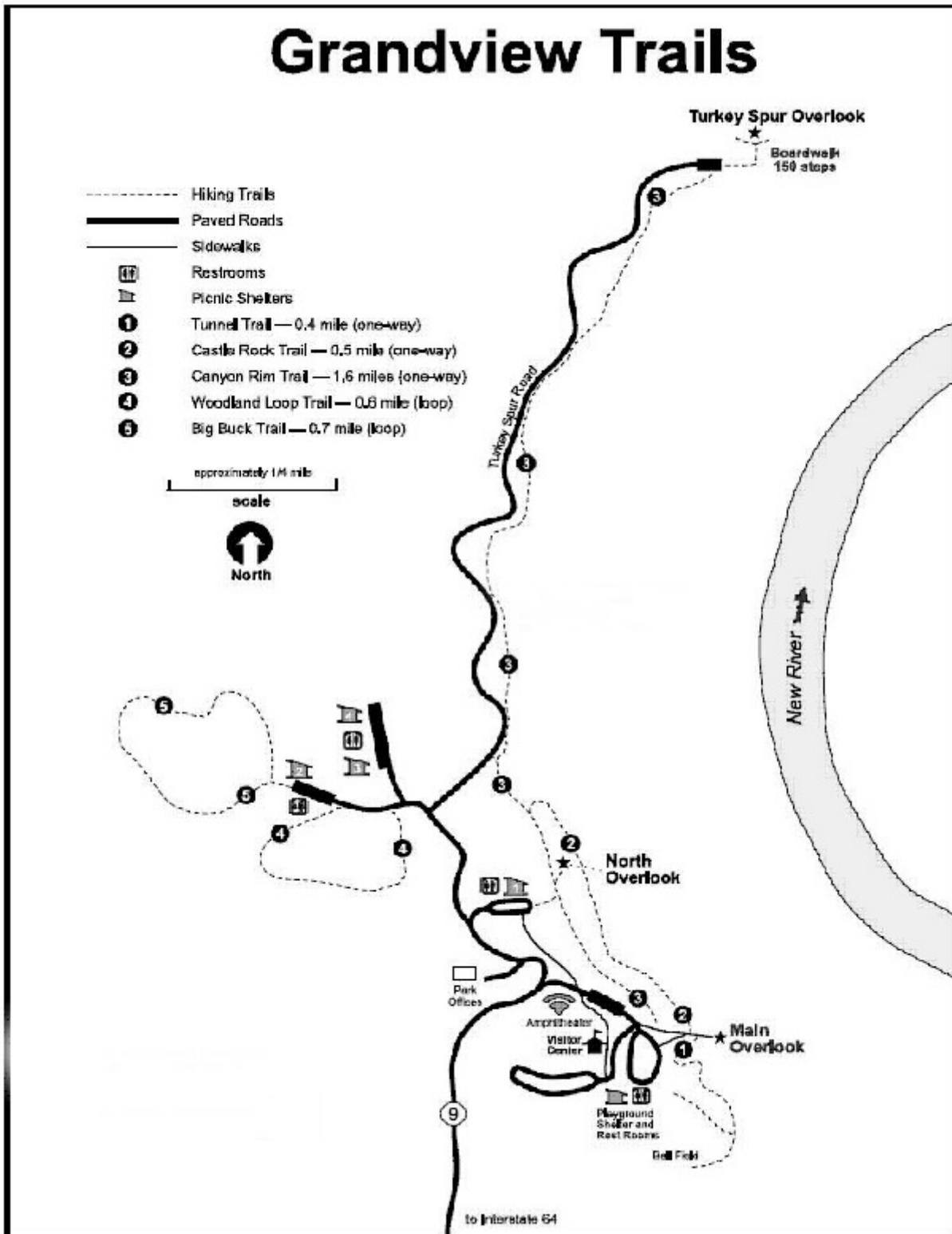


Figure 4. Location of the Hack Site at Grandview Park, 2009, 2010, 2011

Appendix

Acceptance dates, Release dates, 2 week dates for 2011 PEFA @ New River Gorge

Group #1

Norris Bridge, VA: Pick up date 5/25/2011, released 6/23/2011, 2 weeks out @ 7/6/2011 :

USFWS Band # 1807-65051 (Green) Left band: 12/AV Female TRAC color bands: *Pink*

USFWS Band # 1126-11858 (Green) Left band: 24/AS Male TRAC color bands: *Blue*

Godwin Bridge, VA Pick up date 6/6/2011, release 6/23/2011, 2 weeks out @ 7/6/2011

USFWS Band # 1807 - 65043 (Green) Left band: 04/AV Female TRAC color band: *Yellow*

Godwin Island, VA Pick up date 6/6/2011, release 6/23/2011, 2 weeks out @ 7/6/2011

USFWS Band # 1807-65044 (Green) Left band: 05/AV Female TRAC color bands:
green/turquoise

USFWS Band # 1126-11874 (Green) Left band: 52/AS Male TRAC color bands: *:Green/pink*

USFWS Band # 1126-11875 (Green) Left band: 53/AS Male TRAC color bands: *Green/red*

Elkins Shack, VA Pick up date 6/6/2011, release 6/23/2011, 2 weeks out @ 7/6/2011

USFWS Band # 1807-65045 (Green) Left band: 06/AV Female TRAC color bands: *Pink/bright green*

USFWS Band # 1807-65046 (Green) Left band: 07/AV Female TRAC color bands: *Pink/purple*

USFWS Band # 1126 -11877 (Green) Left band: 55/AS Female TRAC color bands: *Pink/turquoise*

Brandywine Building, Wilmington, DE Pick up date 6/8/2011, release 6/23/2011, 2 weeks out @ 7/6/2011

USFWS Band # 1907-03522 (Silver) Left band: 75/AD Female TRAC color bands: *Bright green*
aka "Green Girl"

Group #2

Brandywine Building, Wilmington, DE Pick up date 6/8/2011, release 6/26/2011, 2 weeks out @ 7/9/2011

USFWS Band # 1907-03529 (Silver) Left band: 05/AK Female TRAC color bands: *Red*

Old Saint George's Bridge, DE Pick up date 6/8/2011, release 6/26/2011, 2 weeks out @ 7/9/2011

USFWS Band # 1907-03530 (Silver) Left band: 06/AK Female TRAC color bands: *Turquoise*

Burlington-Bristol Bridge (Delaware River, NJ) Pick up date 6/8/2011, release 6/26/2011, 2 weeks out @ 7/9/2011

USFWS Band # 2206-75820 (Black) Left band: 18/AC Male TRAC color bands: *Purple / turquoise*

USFWS Band # 1687-02866 (Black) Left band: 08/AN Female TRAC color bands: *Purple /yellow*

USFWS Band # 1687-02867 (Black) Left band: 09/AN Female TRAC color bands: *Purple/red*

Dividing Creek, NJ Pick up date 6/8/2011, release 6/26/2011, 2 weeks out @ 7/9/2011

USFWS Band # 2206-75823 (Black) Left band: 01/AM Male TRAC color bands:
turquoise/yellow

USFWS Band # 1687-02870 (Black) Left band: 12/AN Female TRAC color bands: *turquoise/red*

Group #3

Betsy Ross Bridge, NJ Pick up date 6/8/2011, release 6/29/2011, 2 weeks out @ 7/13/2011

USFWS Band # 1687-02874 (Black) Left band: 16/AN Female TRAC color bands: *Black/pink*

USFWS Band # 1687-02873 (Black) Left band: 15/AN Female TRAC color bands: *Black/yellow.*

USFWS Band # 2206-75827 (Black) Left band: 06/AM Male TRAC color bands: *Black (No tape)*

Group # 4

Newark, NJ Pick up date 7/7/2011, release 7/11/2011, 2 weeks out @ 7/25/2011 (from The Raptor Trust)
USFWS Band # 1687-02878 (Black) Left band: 20/AN Female TRAC color bands: *red/white*

Kearny, NJ Pick up date 7/7/2011, release 7/11/2011, 2 weeks out @ 7/25/2011 (from The Raptor Trust)
USFWS Band # 2206-75832 (Black) Left band: 11/AM Male TRAC color bands: *turquoise/white*

Notes:

Group #3's 06/AM male has no tape on his black US Fish and Wildlife Service Band.

All color bands from TRAC are duck tape applied over the USFWS band (right leg). Double colors are achieved by carefully wrapping 2 different colors of duck tape around the band. All colored tape is a single layer.

Purple/Yellow's color bands fell off between 7/5 and 7/9, 2011.

One young peregrine was not releaseable and was ultimately returned to the care of Tri-State:
Jersey City, NJ Pick up date 6/8/2011, returned to Tri-State 7/7/2011
USFWS Band # 2206-75817 (Black) Left band: 05/AM Male

2011 Project Volunteers and Partners

We would like to express our appreciation for the volunteer efforts of these individuals. Together they provided everything from potential nest site surveys, monitoring nesting areas, feeding young Peregrines, providing hack site observation data, and so much more. This Season's success was due in large part to their dedication:

Thank you to Jon Benedetti in Vienna, WV for notes on the falcons on the bridge between Parkersburg, WV and Belpre, OH and to Casey Rucker for the notes on the Peregrines at Seneca Rocks.

Thank you to David and Lynn Pollard for their observational skills at North Overlook and the New River Gorge Bridge, and to Rebecca Pollard, TRAC's Intern for 2011, who assisted us in all phases of our work.

These individuals helped search the Cirque and other areas for active Peregrine nesting sites prior to the beginning of the hacking season: Allen Waldron, Mindy Waldron and Brian Hirt.

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New River Gorge National River: Scott Stonum, Mark Graham, Frank Sellers, NERI Law Enforcement Rangers, Interpretive Rangers, and a big thanks for all their hard work to the NERI-Grandview Maintenance staff.

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John Frink of Tri-State Bird Rescue for help in transporting young Peregrines.

The Virginia Department of Game and Inland Fisheries' Sergio Harding.

The New Jersey Department of Natural Resources' Kathleen E. Clark.

Thank you also to Andy Woodruff, the Hack Site Attendant for 2011.



Hack box # 2 (Main hack box) at Grandview from North Overlook

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