

2010 Peregrine Falcon Restoration Project New River Gorge National River West Virginia




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A REPORT ON THE NEW RIVER GORGE NATIONAL RIVER 2010 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")
Tri-State Bird Rescue ("TBR")

Front Cover: A young male Peregrine from the James River Reserve Fleet in Virginia surveys the feeding area on top of his hack box. He was the first of this Season's young Peregrines out of the hack box on release day, May, 31, 2010. Photograph by Wendy Perrone, Three Rivers Avian Center.



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 from the James River Reserve Fleet in VA proclaims his indignation as he settles in to his new residence in Hack Box 2. Photograph by Jenny Noll, New River Gorge National River.

Summary

The Peregrine Falcon Restoration Project was designed as a five year project with an assessment period after the fifth year to determine the effectiveness of the program and to decide upon continuance of the effort. The 2010 season marks the fifth year of the Project. As outlined in Varner (2006) and Watts (2006), cited at the end of this report, 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 2010 effort was carried out at Grandview Park section of the New River Gorge in Raleigh County, West Virginia at the exact location as the previous year (Perrone, Wendy and Perrone, Ron. 2009).

This report is an assessment of the 2010 Hacking Season only. A separate assessment report on the full span of the five year Project will be available by the end of December 2010.

The young Peregrine chicks (eyasses) for the 2010 season were provided by the Center for Conservation Biology ("CCB") in Williamsburg, Virginia in coordination with the Virginia Department of Game and Inland Fisheries ("VDGIF") and by the New Jersey Department of Natural Resources ("NJDNR"). The chicks were selected by using the same protocols of previous years (Mojica, E.K., B.D. Watts, and S.M. Padgett 2009), transferred to Three Rivers Avian Center ("TRAC") then placed into the hack boxes.

Twenty one Peregrines were released into the New River Gorge between May 31, 2010 and July 10, 2010 in 6 staggered releases. Of these 18 (86 %), remained in the postfledging area for a minimum of 14 days, the criterion for a successful release as determined by Varner. The 3 birds which disappeared from the postfledging area did so within 24 hours of release. The observation of an adult Peregrine in the area may be associated with these disappearances in some way.

No nesting Peregrines were found in the New River Gorge or surrounding areas either prior to or during the 2010 hacking season.

As in the previous years, 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 third year.

Methods

Preliminary Surveys

Starting November 7, 2009 and continuing through the entire hacking season, cameras were placed on the cliffs at Grandview Park to monitor the rock outcrops used for the project. This was done to determine if the locations were being visited by returning adult Peregrines or other animals which could pose problems for the 2010 season. TRAC staff visited the cliffs weekly throughout the Winter and Spring to service the cameras and to survey the area by sight and sound.

The site of the 2009 nest attempt at the Cirque near Fayetteville, WV was monitored by volunteers from March 13th through April 3rd for signs of another attempt by Peregrines to use the location in 2010.

Hack Boxes

The 2 hack boxes used in 2009 (Perrone, Wendy and Perrone, Ron. 2009) were taken from storage and returned to the identical locations and orientations that had been used in 2009. Fresh gravel was installed inside the boxes and landing perches were affixed to the tops of the boxes. Because the eyasses were to arrive at intervals, they would have to be released sequentially in groups over several weeks as they developed and were ready to fly. This meant that Hack Box #1 became the holding box for young Peregrines prior to being moved into Hack Box #2, and all releases were to be done from Hack Box #2. The decision to use one location for all releases was made for 2 reasons. First, in 2009 all Peregrines released from Hack Box #1 showed an immediate and marked preference for feeding at Hack Box #2 (Perrone & Perrone). Second, by releasing birds from one box only, we simplified observations as birds returned to feed. In effect it allowed for the care of up to 3 groups simultaneously, 1 in the air, 1 in preparation for release, and 1 next in line for release. It also reduced external activity, noise, and group competition around the holding box, leaving the youngest birds to spend their days relatively undisturbed.

Feeding

The protocol for feeding the Peregrines both in the boxes and post release were identical to that used in 2009. While in the hack boxes, the chicks were fed freshly thawed out, vitamin-enriched 8 week to 10 week old quail via a 4" tube affixed to the box which 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 had fledged, all birds not still confined to the hack boxes were fed from Hack Box #2. Quail carcasses were tied using short lengths of sisal twine 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. 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

Using the same strategy as in 2009, the eyasses were banded using a redundant system to aid in rapid identification (Figure 1). All birds from Virginia and New Jersey arrived 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. A double ring of plastic poultry ID color rings were placed on the leg above the USFWS band to indicate the origin of the group that the bird came from, and a single strip of colored duct tape was placed directly on the USFWS band to identify the individual bird itself. The alpha-numeric bands remained uncovered to act as a second identifier. The strategy of using 2 systems proved invaluable when part or all of one band was obscured.

Documentation

Volunteers were mobilized to observe the 2009 nest site at the Cirque on the Endless Wall near Fayetteville.

An observation blind was set up at the identical location at Grandview as in 2009 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. Additionally, a second observation point was established for occasional use some 400 yards across from the boxes at a location known as “North Overlook”. 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 viewshed of the blind.

Cameras continued monitoring the fronts of the hack boxes to monitor any attempted predation of eyasses while in the boxes, and 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.

Two Peregrines at the feeding station on top of Hack Box #2.



Narrative and Results

Preliminary Survey

Although the 2010 hacking site was to be re-established at Grandview for a second season, the old hack site at the Cirque at Endless Wall near Fayetteville was placed under remote camera surveillance to observe possible attempts by Peregrines to nest there. On March 11 2010, a blind was erected on the site of the prior season's observation blind on the top of the Cirque and volunteers were organized to carry out monitoring activities. These volunteers manned the location periodically throughout March and also reported from nearby locations (Figure 1). On March 4th a male and a female were spotted in the Gorge very near the old double hack box location at the Cirque, but were not observed approaching the 2009 nest site. On March 14th a single Peregrine was heard near the New River Gorge Bridge (Lansing side). On March 17th a single Peregrine was again seen in the Cirque. This bird stayed in the area of the Cirque for 45 minutes but did not investigate the old nest site at the crevice. On March 24th a Peregrine was spotted over Long Point, flying toward Fayetteville, and March 25th an adult Peregrine was spotted in the Gorge above the Class VI River Runners facility at Lansing. None of these Peregrines were observed approaching the 2009 crevice nest site.

The cameras installed at Grandview were in constant operation from October 25, 2009 through May 18, 2010. They showed that while the cliffs were occasionally visited by a number of mammals and birds, none were a threat to the project. With the exception of Turkey Vultures, no other raptor was ever observed using the outcrops. On March 12th, a camera at the Grandview hack site photographed an adult Peregrine flying past within 200 yards of the cliff face near North Overlook. A survey of the Grandview location by TRAC staff found no indications of nesting activity there despite the photograph of the adult flying and the decision was made to reuse the location in 2010. Between April 1st and May 13th periodic checks of the location by observers were made to see if the adult Peregrine had returned. He was not seen. This failure to detect the adult in the hack area had consequences for the first two groups of Peregrines released.

Hacking Peregrines at Grandview

On April 1, the 2 hack boxes used in 2009 were taken from storage and restored to their previous locations on the cliff at Grandview. Cameras were positioned to monitor the boxes and a blind for the Hack Site monitoring was replaced in its original 2009 position, 12 feet from Hack Box 2.

On May 31st, the release of Group #1 (5 Peregrines) at 10:28 AM proceeded normally. At 11:05 AM an adult Peregrine¹ suddenly appeared in full speed flight from the woods behind the cliff edge near Hack Box #1 flying out into the air space near Hack Box #2. The adult

¹*In the opinions of the authors, the adult Peregrine is a male and that all instances of an "adult (or male) Peregrine" referred to in this report are considered to likely be the same bird.*

approached the hack box area from the side by flying into nearby trees, and also from below by flying to into the cliff face below the box and climbing upwards below it. While he remained in the area the rest of the day, he did not interact with the fledglings who proceeded to feed and explore the rock outcropping around Hack Box #2 and seemed to ignore his presence. At 12:10 PM a very strong thunderstorm approached and observations had to be terminated at the blind. At 2:00 PM an observer returned briefly to North Overlook and saw the adult with 3 of the fledglings in trees next to the hack box. It was impossible to determine the exact identity of the young birds from their leg bands or to see any leg bands on the adult due to foliage and weather conditions. Observations from that location ended within 10 minutes because of the thunderstorm.

Continuing for the next 10 days, the behavior of the adult male Peregrine had a significant impact on operations. On June 1st and 2nd none of the fledgling Peregrines returned to the hack box to feed. Calling from nearby trees, they appeared to be blocked from flying as the adult made repeated flights through the area and perched in nearby trees.

On June 3rd 1 fledgling from the first release arrived to feed at Hack Box #2. Because of this and the continuous vocalizations from the trees in the area, a foot search for the remaining 4 fledglings was undertaken. The difficulty of the terrain and canopy cover made a count or identification of the young impossible. Calling from the trees continued for the rest of the day. Between June 4th and June 5th, the adult was absent and 3 of the fledglings came in to feed. The adult returned on the 6th and while it did not interfere with the feeding birds, it drove one of the fledglings back into the trees the moment it took to the air.

A meeting between the authors, Shawn Padgett, and Libby Mojica was called to decide upon a strategy for continuing the project. It was fairly certain that the adult Peregrine had no mate but did appear to be defending territory from other passing birds, especially Turkey Vultures. He appeared to be vacillating between acting defensively and aggressively toward the young birds. It is important to note that while he made several close approaches to fledglings in the air at great speed, he never made harmful contact. His actions could be interpreted as either driving them off or just pushing them in to cover. On one occasion he was observed flying in with prey to where fledglings were calling, but no direct visual siting could be made as to what happened. It was decided to go ahead with the second group release in the hope that increasing the numbers of fledglings would make it harder for him to control the situation, whatever his motivation.

On June 7th at 8:30 AM, with 3 birds from Group #1 reliably feeding at the site, an adult Peregrine aggressively drove off a Turkey Vulture from the air space and was seen again at 10:18 AM flying past the hack box. The young Group #1 Peregrines did not react to his presence, but continued to feed on top of Hack Box #2. At 10:40 AM, the 3 Peregrines of Group #2 were released. They immediately began to feed along with the 3 birds from the first hack. The adult was not seen again for the rest of the day.

On June 8th the adult Peregrine was seen chasing one of the young Peregrines into the trees at the top of the cliff near Hack Box #1. On the 10th, his attitude appeared to become

less assertive and the birds he chased were no longer retreating to the cover of the trees. The adult made periodic appearances continuing through June 17th in the general area and air space surrounding the hack site, but never attempted to interfere with any of the fledglings while they fed at Hack Box #2.

One of the 3 Peregrines released on June 7th did not return to feed after that first day. After June 7th, the adult was not seen until July 10th, a hiatus of 13 days. During this time, 5 of the 8 Peregrines released continued to return to feed, the other 3 (2 from Group #1 and 1 from Group #2) were not seen again and were presumed lost to the Project. After his July 10th appearance, the adult was not seen again.



Release day for the final group of the 2010 Hacking season. Note ropes that allow the Hack box door to be remotely opened. Photo also shows both feeding stations: on top of the hack box and on the rock below the door. Photo by Wendy Perrone, TRAC.

On June 18th the 5 birds comprising Group #3 were released. One of this group (07/AE) refused to leave Hack Box #2. The decision was made to hold this bird back and release it at a later date. The bird was released on June 21st and was the sole bird of group #4. On June 23rd, Group #5, consisting of 4 birds, was released and on July 10th the final group, Group #6, consisting of 4 birds, was also released. All these releases were without incident.

On July 27th, the Peregrines were placed on an every-other day feeding schedule to minimize any remaining dependence on the feeding site at Hack Box #2. When the project ended on August 6th, 3 of the 4

Peregrines in Group #6 (54/AU, 55/AU, and 18/AS) were still returning to the hack box area, but not always to feed. The decision to end feeding was based on the fact that they had already doubled the time in the hacking area needed to meet the successful release criterion of 14 days, and their erratic feeding at the site demonstrated that they were capable of providing their own food.

On September 7, 2010 the hack boxes were dismantled and moved to a storage facility at Grandview. On this day an immature Peregrine Falcon was observed to dive through the hack box environs and vanished somewhere on the cliff face below North Overlook. No vantage point was discovered from which the bird could be observed, and its identity is unknown.

In all, 18 of 21 birds met the 14 day criterion for release (Figures 3 & 4). All of the 3 birds lost became unaccounted for within 24 hours of release and occurred in the first 2 groups when the adult was present and most active during the first 10 days. Of the remaining 18 Peregrines, the shortest stay was 24 days (1 bird) and the longest was 44. The mean length of stay was for these 18 birds was 33.5 days.

Discussion and Recommendations

The Hack Location at Grandview

The individual hack box locations used in 2009 and again in 2010 (Figure 5.) proved to be excellent in several ways. They were easy to access and maintain, did not conflict with established public uses in the Gorge, produced no wildlife conflicts, provided an opportunity to the public to observe the hacking process from a distance, and produced excellent survival results for the Peregrine chicks raised there. Together with last year's releases, 35 of 38 Peregrines released at Grandview exceeded the criterion for successful release by wide margin and the location is considered by the authors as unquestionably excellent.

The adult male Peregrine who returned to the site sporadically throughout the 2010 Spring and Summer could affect the 2011 season in some manner, or he may not be seen again. He has not been observed in or around the hack site since July 10th, on-site cameras will facilitate further monitoring through the Winter months as they did in 2009. His observed behaviors with the first 2 groups of released Peregrines was not aggressive, but at the same time 3 of the young birds from those two groups were not seen after their first day out of the hack box. Surveys of cliff areas from North Overlook around and under the hacking area do not show cliffs that have been historically suitable for Peregrine nest sites.

Since we could not determine if the adult was banded, we could not establish if he had been one of the birds released earlier in the project, a bird from outside the project, or if he was the same adult male who had attempted to nest at the Cirque near Fayetteville in 2009. All of these scenarios are possible. In any event, Peregrines nesting near the hack site would require that the hack site be moved again. After 5 years of releasing Peregrines into the New River Gorge at Fayetteville and Grandview, the authors believe there is a growing likelihood that returning adult Peregrines will play a role in shaping how the Restoration Project proceeds.

Site Monitoring Via Trail Camera

As mentioned earlier in this report, two Moultrie Game Spy trail cameras (models I-45 and I-65) were deployed at the Hack Box #2 site beginning in late October 2009 and continuing throughout much of the hacking season. The cameras were set up to monitor the cliff surface and surrounding air space, including the air space towards North Overlook. These cameras documented visits to the cliff of turkey vultures mainly, although there were the occasional pictures of black vultures as well. Single visits were also documented of a bear, 2 Canadian geese and a grey fox, an opossum visited several times, and mice and both a male and female deer were photographed on several visits. No raccoon was photographed during the monitoring time. The camera that was focused out on the air space towards North Overlook did record one fly-through visit of an adult Peregrine on March 12, 2010. The quality of the pictures from these cameras was very high, and the decision was made to purchase modems for each of the two cameras so that photographs

of the young Peregrines at the hack site could be uploaded to a web site for public viewing. The modems were attached and put into use beginning in May. Immediately there were troubles. The biggest recurring problem was that the modems were designed to be used with AT&T's 3G mobile phone network, and coverage at the hack site turned out to be erratic and often unavailable for hours at a time. We also ran into problems with Moultrie, the camera manufacturer. Their website that the modems reported to did not perform as advertised. Uploads from the camera to the website, when AT&T allowed the modem to communicate to it, were often not posted on the Moultrie site for hours, and sometimes the updates were as much as 24 hours late. In addition, the Moultrie web site did not allow the general public to view the photographs, or to link to our section on their website, contrary to the information given when the contract for their service went into effect. The modem contract with Moultrie was cancelled in July.

The cameras continued to be used, with pictures being recorded on removable memory chips. One of the cameras was deployed on the lower ledge below the hack box to gather further data on the young Peregrines that would come in to the feeding area but would not come up on the top ledge or hack box top to feed. Often the pictures from the camera would allow the hack site attendant to read color bands or numbers, enough to sometimes pick up a sighting of an otherwise elusive returnee.



A young Peregrine is captured on camera investigating the ledge for scraps of food.

Other Considerations

A first year unbanded Peregrine was found injured (struck by a vehicle) on the New River Gorge Bridge on July 7, 2010, very near the 2006-2008 hack site. It was turned in for care with a broken pelvis, concussion and internal bruising. The young Peregrine's feathers were dull and somewhat brittle at intake, indicating less than optimum nutrition in this young bird's history. It was rehabilitated by TRAC and released at Hinton, WV on October 8, 2010.

The appearance of this young Peregrine may be evidence of an undiscovered successful nest in the New River Gorge, or the bird may have been following the already documented Peregrine flyway route from Charleston, up through the New River Gorge and over to the Gauley River and Summersville Lake area. Anecdotal and survey evidence from the birding community has Peregrine sightings in Charleston and Nitro WV, and along the Gauley and Elk Rivers in Kanawha and Fayette counties. A nest could easily go undetected in much of this remote river related area. While the New River Gorge between Fayetteville and Grandview possesses numerous cliff outcroppings and crevices suitable for nesting, the Gorge is narrow there and the River is generally shallow and swift. Much better hunting habitat exists just both up stream near Hinton and down stream at

Charleston. Sightings of Peregrines persist throughout the region especially during the Spring, so it is possible that surviving Project birds or other Peregrines are beginning to establish home ranges here or they might just be migrating through.

Other Peregrines in West Virginia

The Peregrine released from the New River Gorge 2007 that flew up to the Harpers Ferry area (aka "Ross") mated this season and had 2 chicks in a large quarry located south of town. Photographs of the two chicks were taken, and plans were set in motion to put USFWS bands on them when they matured enough. On June 3rd banders scaled the quarry wall to the crevice to find the entire nest gone, chicks and all. There was no sign of either of the adults. Later on, Ross' transmitter provided data indicating he was still alive and moving around in the area.

A lone peregrine spent October through March in the Nitro area and was seen on a regular basis chasing pigeons around the Nitro bridge and near the John Amos Power Plant nearby. On June 22nd an adult Peregrine was found at the base of one of the power plant's towers with a broken humerus. The bird was not turned in to TRAC for care. As of December 1st the bird's wounds relating to the original fracture have not healed and the Peregrine may not be releaseable. The bird was banded with a purple anodized USFWS band # 1687-011909, and was banded as a hatch year bird at LG & E Power Plant in West Point, KY.

The Peregrines that were using the Oakwood Road bridge in Charleston as a hunting perch were not observed in that area this year. The bridge was being repainted beginning in late Spring and was covered with paint-controlling drapes much of the time.

The Parkersburg WV -Belpre, OH bridge was the site of another successful nest this year. Three chicks fledged from the nest in June.

No nesting pairs of Peregrines were found at North Fork Mountain, although there was a reliable report of a pair of Peregrines in the Seneca Rocks area: "This morning I was lucky enough to be among a group from the 4th Annual Southern Boreal Birding Festival to enjoy lengthy observations of a Peregrine Falcon couple in the air above the footbridge over Seneca Creek at Seneca Rocks in Seneca Rocks/Spruce Knob National Recreation Area. The falcons were engaging in aerobatics with a pair of American Kestrels and a Sharp-shinned Hawk (who looked mighty small next to the falcons). About three and a half hours later, participants observed one of the Peregrines as we drove by on the way back from Spruce Knob." Casey Rucker, Dry Fork, WV, June 5, 2010.

Recommendations

The authors have placed a trail camera at the Grandview hack location to document activity at the site throughout the Winter 2010 and the Spring of 2011. It is proposed that additional periodic visual observations should be made as often as possible to detect returning adult Peregrines within the NERI environs, concentrating on the Grandview and

Cirque locations, especially as Spring approaches.

It is also proposed that a concerted effort be made to follow up on the anecdotal information from the birding community concerning any 2010 sightings, and be prepared to synthesize this information with new observations once the Spring 2011 migration begins.

Additionally, since it is unknown how hacking Peregrines repeatedly in the same location might effect established bird life in the immediate area, the authors recommend a search of available literature and discussions with other established Peregrine hack sites on the subject. The goal would be to determine if monitoring of the hack site for such possible effects is warranted, and if so, how that monitoring should proceed.

The lack of a web-cam for the Grandview Hacksite continues to be an issue that TRAC heard about repeatedly from the public throughout the Season. Watching the chicks grow up has broad public interest and appeal, and the ability to show others the young birds' activities at the Hack Site via the Internet has become a matter of pride for many. Although the terrain and geographical layout of the area is very different from the Cirque, research of the topic has lead the authors to believe that placement of web cams at the Grandview sites should be possible without being too expensive. We recommend further exploration of this topic with the goal of implementing such a web cam service for the 2011 Hacking season.

Lastly, we recommend that scouting for a new hack site location be undertaken well in advance in the event that the hack site needs to be moved in the future.



Two newly released Peregrines at the end of the day.

Figures

Group 1	07/AD	Black/Purple
Group 1	02/AS	Black/Yellow
Group 1	03/AS	Black/Blue
Group 1	06/AD	Black/Red
Group 1	00/AS	Yellow/Turquoise
Group 2	04/AD	Green/Purple
Group 2	08/AS	Green/Red
Group 2	09/AS	Green/Yellow
Group 3	04/AC	Pink/Yellow
Group 3	03/AC	Pink/Bright Green
Group 3	01/AC	Blue/Yellow
Group 3	02/AC	Black
Group 4	07/AE	Blue/Pink
Group 5	79/W	Pink/Turquoise
Group 5	06/AC	Pink/Purple
Group 5	07/AC	Pink/Black
Group 5	11/AE	Red
Group 6	17/AS	Bright Green
Group 6	54/AU	Pink
Group 6	55/AU	Turquoise
Group 6	18/AS	Silver

Figure 1. 2010 Project and Color Bands.

<i>Date</i>	<i>Location</i>	<i>Results</i>
March 4	Cirque - Endless Wall	2 adults, M & F observed
March 7	Cirque - Endless Wall	None observed
March 8	Cirque - Endless Wall	None observed
March 13	Cirque - Endless Wall	None observed
March 14	New River Gorge Bridge	1 Peregrine heard
March 17	Cirque - Endless Wall	1 adult Peregrine observed
March 18	Cirque - Endless Wall	None observed
March 20	Cirque - Endless Wall	None observed
March 24	Cirque - Endless Wall	None observed
March 24	Long Point - Endless Wall	1 adult Peregrine observed
March 25	Class VI - Mountain River (Lansing)	1 Adult Peregrine observed

Figure 2. 2010 Peregrine Monitoring results at the Cirque environs.

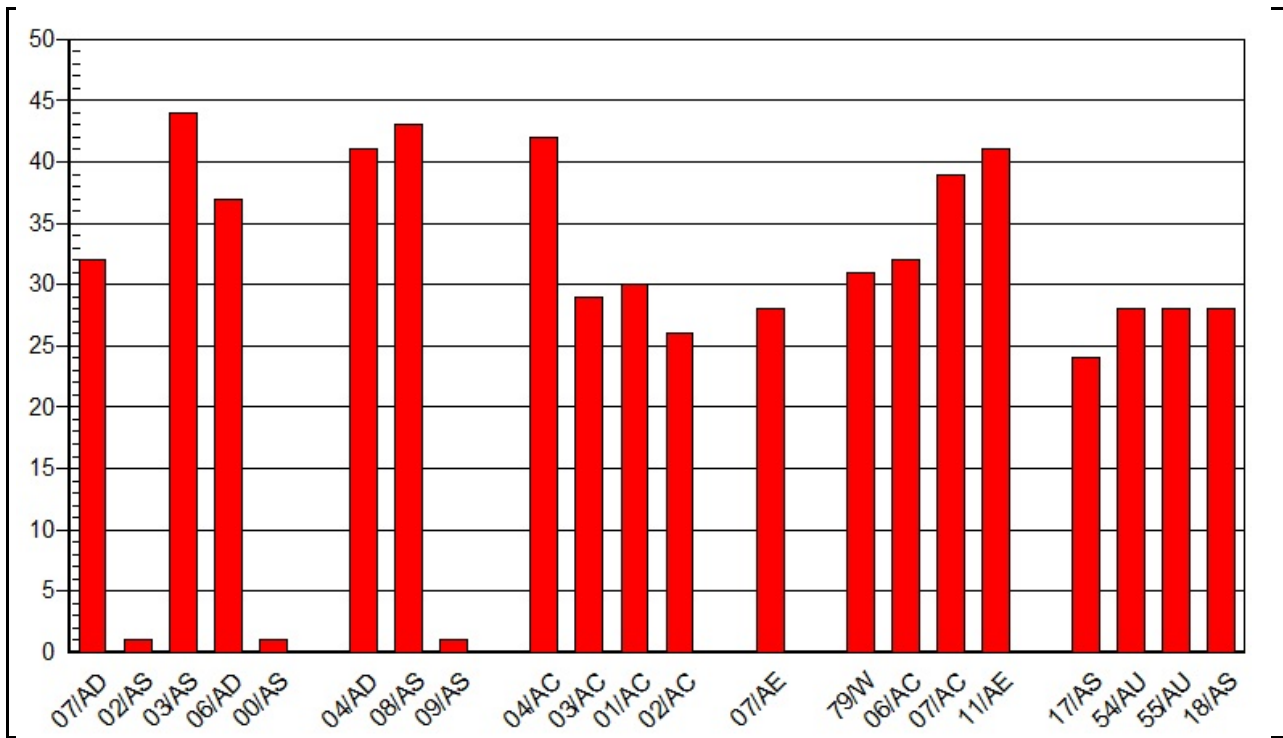


Figure 3. Length of stay in days within the hack area of individual Peregrines

<u>Group</u>	<u>Band</u>	<u>State</u>	<u>Sex</u>	<u>PU Date</u>	<u>In Box</u>	<u>Released</u>	<u>Success</u>	<u>Last Observed</u>	<u>Days</u>
1	07/AD	VA	F	5/13/10	5/18/10	5/31/10	6/14/10	7/11/10	32
	02/AS	VA	M	5/13/10	5/18/10	5/31/10	6/14/10	6/14/10	1
	03/AS	VA	M	5/13/10	5/18/10	5/31/10	6/14/10	7/13/10	44
	06/AD	VA	F	5/13/10	5/18/10	5/31/10	6/14/10	7/6/10	37
	00/AS	VA	M	5/13/10	5/18/10	5/31/10	6/14/10	6/14/10	1
2	04/AD	VA	F	5/27/10	5/31/10	6/7/10	6/21/10	7/17/10	41
	08/AS	VA	M	5/27/10	5/31/10	6/7/10	6/21/10	7/19/10	43
	09/AS	VA	M	5/27/10	5/31/10	6/7/10	6/21/10	5/27/10	1
3	04/AC	NJ	M	6/3/10	6/3/10	6/18/10	7/2/10	7/29/10	42
	03/AC	NJ	M	6/3/10	6/3/10	6/18/10	7/2/10	7/16/10	29
	01/AC	NJ	M	6/3/10	6/3/10	6/18/10	7/2/10	7/17/10	30
	02/AC	NJ	M	6/3/10	6/3/10	6/18/10	7/2/10	7/13/10	26
4	07/AE	NJ	F	6/3/10	6/3/10	6/21/10	7/5/10	7/17/10	28
5	79/W	NJ	M	6/3/10	6/3/10	6/23/10	7/7/10	7/23/10	31
	06/AC	NJ	M	6/3/10	6/3/10	6/23/10	7/7/10	7/24/10	32
	07/AC	NJ	M	6/3/10	6/3/10	6/23/10	7/7/10	7/31/10	39
	11/AE	NJ	F	6/3/10	6/3/10	6/23/10	7/7/10	7/7/10	41
6	17/AS	VA	M	6/22/10	6/23/10	7/10/10	7/24/10	8/2/10	24
	54/AU	VA	F	6/22/10	6/23/10	7/10/10	7/24/10	8/6/10	28
	55/AU	VA	F	6/22/10	6/23/10	7/10/10	7/24/10	8/6/10	28
	18/AS	VA	M	6/22/10	6/23/10	7/10/10	7/24/10	8/6/10	28

Figure 4. Chart of all birds, bands, sex, project dates, and length of stay at the site.

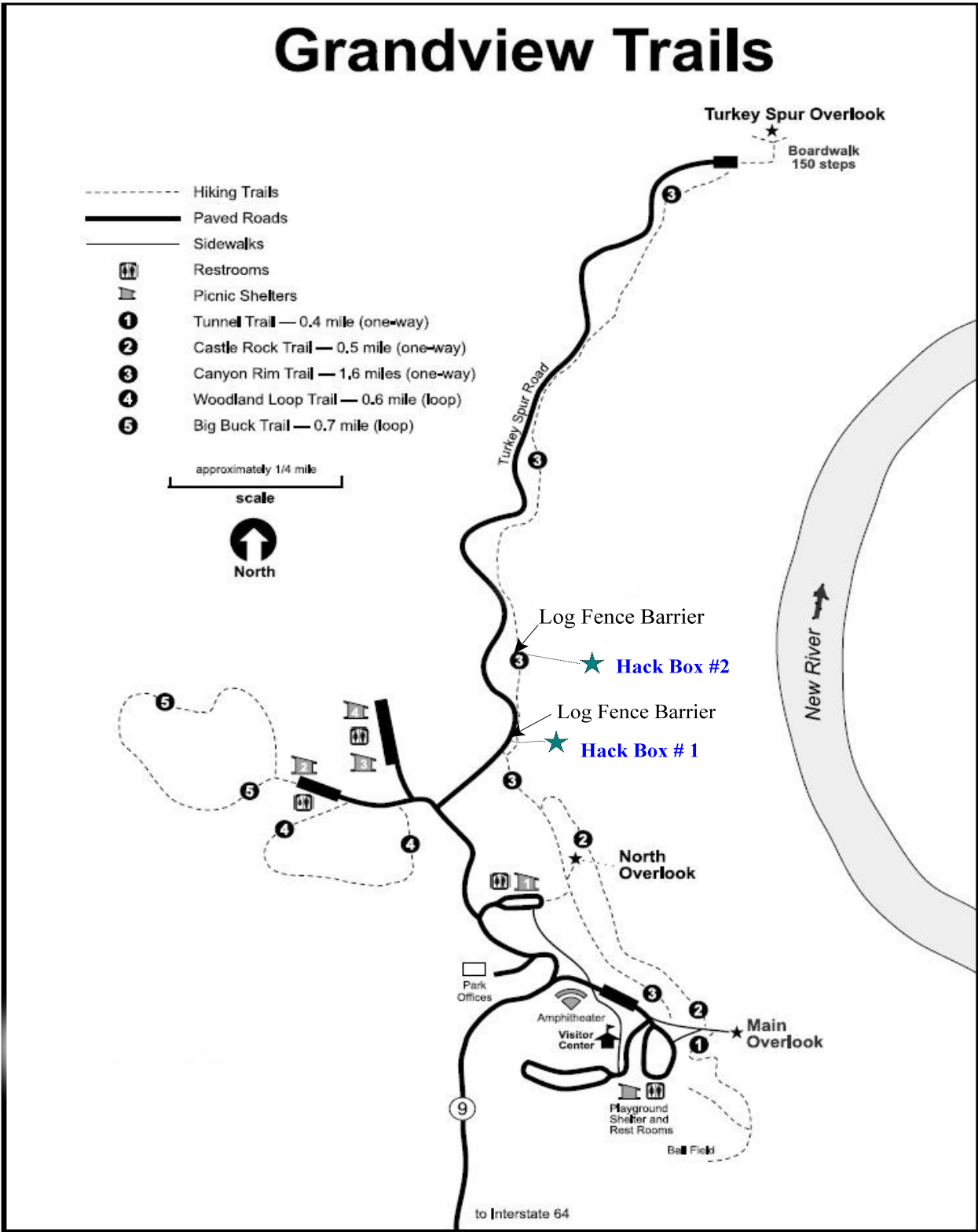


Figure 5. Location of hack site at Grandview Park, NERI

Figure 6. Acceptance dates & Release dates for 2010 PEFA @ New River Gorge

James River Reserve Fleet, VA: Pick up date 5/13/2010, released 5/31/2010,

USFWS Band # 1807-65012 Left band: 07/AD Female TRAC color bands: black/purple
USFWS Band # 1126-11836 Left band: 02/AS Male TRAC color bands: black/yellow (AWOL)
USFWS Band # 1126-11837 Left band: 03/AS Male TRAC color bands: black/blue
USFWS Band # 1807-65011 Left band: 06/AD Female TRAC color bands: black/red

Watts Island VA: Pick up date 5/13/2010, released 5/31/2010

USFWS Band # 1126-11834 Left band: 00/AS Male TRAC color bands: yellow/turquoise (AWOL)

Norris Bridge, VA: Pick up date 5/27/2010, released 6/7/2010, 2 weeks out @ 6/21/2010 :

USFWS Band # 1807-65009 Left band: 04/AD Female TRAC color bands: Green / Purple
USFWS Band # 1126-11842 Left band: 08/AS Male TRAC color bands: Green / Red
USFWS Band # 1126-11843 Left band: 09/AS Male TRAC color bands: Green / Yellow (AWOL)

Atlantic City Hilton hotel/casino, NJ Pick up date 6/3/2010, released 6/18/2010

USFWS Band # 2206-75803 Left band: 02 / AC Male TRAC color bands: black (plain NJ band)

Sea Isle City tower (Atlantic side), NJ Pick up date 6/3/2010, released 6/18/2010

USFWS Band # 2206-75804 Left band: 03 / AC Male TRAC color bands: pink / bright green
USFWS Band # 2206-75805 Left band: 04 / AC Male TRAC color bands: pink /yellow

Walt Whitman Bridge (Delaware River), NJ Pick up date 6/3/2010, released 6/18/2010,

USFWS Band # 2206-75802 Left band: 01 / AC Male TRAC color bands: blue / yellow

Walt Whitman Bridge (Delaware River), NJ Pick up date 6/3/2010, released 6/21/2010

USFWS Band # 1687-02844 Left band: 07 / AE Female TRAC color bands: blue / pink

Heislerville Tower (Delaware Bay) NJ Pick up date 6/3/2010, released 6/23/2010

USFWS Band # 2206-75807 Left band: 06 / AC Male TRAC color bands: pink / purple
USFWS Band # 2206-75800 Left band: 79 / W Male TRAC color bands: pink / turquoise

Burlington-Bristol Bridge (Delaware River, NJ Pick up date 6/3/2010, released 6/23/2010

USFWS Band # 2206-75808 Left band: 07/AC Male TRAC color bands: pink / black
USFWS Band # 1687-02848 Left band: 11 / AE Female TRAC color bands: red (single color)

Godwin Bridge, VA Pick up date 6/22/2010, release 7/10/2010

USFWS Band # 1126 -11851 Left band: 17 / AS Male TRAC color band: bright green (single color)
USFWS Band # 1807 - 65029 Left band: 54 / AU Female TRAC color band: pink (single color)
USFWS Band # 1807 - 65030 Left band: 55 / AU Female TRAC color band: turquoise (single color)
USFWS Band # 1126 - 11852 Left band: 18 / AS Male TRAC color band: silver (single color)

Appendix

2010 Project Volunteers and Partners Appreciation

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.

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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.

We would also like to recognize the additional support from these Project Partners:

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.

WV Division of Natural Resources Wildlife Diversity Program: Craig Stihler, Jack Wallace, Jeff Hajenga, Rick Doyle, Patty Fordyce.

The Center for Conservation Biology, the College of William & Mary and Virginia Commonwealth University: Libby Mojica, Shawn Padgett, and Bryan Watts.

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

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