Peregrine Falcon Restoration, Monitoring and Tracking

Introduction

Prior to the DDT era, there were approximately 24 peregrine aeries in the Virginia Appalachians (Watts, 2002). Following the initiation of a peregrine reintroduction program in the 1970s, peregrines nested successfully in Virginia in 1980 for the first time since the DDT era. Over the last 25 years, the Virginia coastal populations of American peregrine falcons have made a slow and steady recovery while the mountain populations have lagged behind. In fact, the number of mountain breeding pairs over the last 15 years, have only met 40% of the recovery goal set by the U.S. Fish & Wildlife Service (USFWS) for the Southern/Central Appalachians. The peregrine falcon is currently listed as Threatened under Virginia law.

Female adult falcon (8/5) fitted with a 20-gram solar-powered satellite transmitter. This bird was released in 2001 at Hawksbill Mt. She nested successfully and fledged two young in New York in 2004.

Management Needs

Despite past recovery efforts, peregrines have been slow to re- colonize the mountains of Virginia. Until 2005 the only documented nesting in the Virginia Mountains took place from 1994- 1998 in Shenandoah National Park where eight young were fledged over five years. To address this need, in 2000, Shenandoah National Park began working cooperatively with the Center for Conservation Biology at William and Mary (CCB) and Virginia Department of Game and Inland Fisheries (VDGIF) to boost peregrine populations in the Virginia Mountains via relocation and release. Then from 2005- 2006 three additional young were fledged by a new pair at the same location as in the 1990's.

Current Procedures

The Foster Falcon Program is a peregrine restoration partnership between the CCB, the VDGIF, Virginia Department of Transportation (VDOT) and Shenandoah National Park that involves removing at- risk peregrine chicks from Virginia coastal bridge nests (where fledgling survival rates have been poor due to premature fledging over open water), relocating them to the park, and hacking and releasing them in the park at historic aeries.

Hacking, the controlled release of young falcons from an artificial or natural aerie provides a means of building flight skills, independence, and strength prior to release. This technique has proven to be useful for the reintroduction of peregrines and many other species to the wild. The hacking process involves the use of a hack box (protective box) to house birds during the preflight period, the release of birds, the provisioning of birds before and after fledging, and the monitoring of young falcons to independence. The hackbox is placed on a high cliff ledge that mimics a natural peregrine falcon nest scrape. The boxes are constructed so that the young birds can view and acclimate to their environment as they mature, but are protected from predators such as raccoons (they are also designed to minimize contact with humans). Ultimately, the intent is that hacked falcons will imprint on Shenandoah's prominent cliffs and return as breeding adults in two to three years. All management activities are performed by a small team of hacksite attendants (primarily volunteers).

This male sub-adult peregrine returned to the Hawksbill hacksite in 2008. His extended presence during the summer of 2008 bodes well for possible pair establishment in the future.

What We Have Learned

Very few peregrine falcons have been sighted during spring cliff surveys from March- May from 2000- 2004 at Shenandoah National Park. Those that were sighted were all solitary birds. The Park hacked, released, and successfully fledged 37 young peregrine falcons from 2000 to 2004. However, in June 2004, a sub- adult male falcon (hacked at the park in 2003) returned to the Hawksbill hacksite. This male sub- adult interacted favorably with the fledgling falcons at Hawksbill. His continued presence

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during the post- fledge period and his interaction with several female fledglings bodes well for possible pair- bond establishment in spring 2005 and future nesting in the park. Park staff plan to continue annual spring cliff surveys targeting probable peregrine nesting areas. Continued restoration work is planned for future years to promote the long- term recovery and viability of this state- threatened population.

Stony Man Nesting Summary

2005 Successful nest: Pair fledged one young.

2006 Successful nest: Pair fledged two foster chicks after their eggs were flooded.
2007 Unsuccessful nest attempt: Eggs from two attempts were predated by raccoons in late March, and the pair dissolved.
2008 No nesting activity: Same male with a new female seen in the area but no nesting activity was detected.

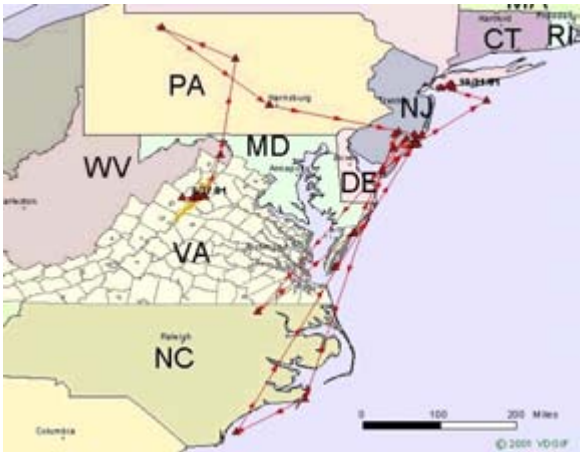
More information: http://www.nps.gov/shen/falcons/

Falcon Cam Findings

After instaling solar powered webcameras near the nest in Spring 2006, staff were able to monitoring the nests remotely with less disturbance to the nesting pair. The cameras proved invaluable in 2006 in being able to provide foster chicks to the pair after their eggs were flooded. The cameras also documented the pair in the nest area 11 out of 12 months from April 2006 through March 2007, only dispersing from the mountain site for one month in the winter. There was a lot of public interest in the falcon webcams and they proved to be a good education al tool, particularly with nesting activity in 2006 and 2007.

FalconTrak

FalconTrak – A Multi- agency Peregrine Tracking Study The FalconTrak Partners (US Fish and Wildlife Service, Center for Conservation Biology, Virginia Department of Game and Inland Fish, Dominion, NASA, Harpers Ferry National Historical Park, Shenandoah National Park, and the Virginia Department of Transportation) undertook a satellite tracking study between 2001 and 2004 to understand more about the ecology of the emerging Virginia peregrine population (e.g. dispersal routes, wintering areas, mortality rates, nesting success, etc.). Based on results from this study, first- year peregrine mortality rates were 60- 70%. Dispersal from their natal (or hack) sites occurred between early July and early August. 2002 and 2003 tracking data showed that many peregrines used major rivers and mountain ranges for early dispersal in summer. Fall 2003 migration routes and wintering destinations varied. One falcon wintered in coastal Delaware (released Harpers Ferry, 2003). Others went on long migrations to Florida (released Harpers Ferry, 2002 & Wallops Island, 2002) and Panama (released Watts Island, 2002). Two falcons migrated northeast and wintered in coastal New York (released Shenandoah, 2003). One falcon wintered in Pittsburgh, Pennsylvania (released Shenandoah, 2002). Most falcons used coastal areas for wintering, presumably for the reliable prey. 2001-2004 results indicate that roughly half the falcons went on long migrations (>500 miles) and half dispersed short distances in fall.



This map shows this falcon's early dispersal in fall 2001. She made several southern trips in October, but changed strategy and traveled north to Long Island, NY where she wintered.

References

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