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Peregrine Falcon Investigations

M. A. Byrd

The Center for Conservation Biology

K Terwilliger

The Center for Conservation Biology

D Bradshaw

The Center for Conservation Biology

R Reynolds

The Center for Conservation Biology

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Virginia Department of Game and Inland Fisheries
PERFORMANCE REPORT (July 1, 1991 - June 30, 1992)

Project:	Nongame & Endangered Species Investigations	No:	EW-2-4
Study:	Peregrine Falcon Investigations	No:	IV
Job:	Peregrine Falcon Studies	No.	A-D
Personnel:	Dr. Mitchell Byrd, Karen Terwilliger, Dana Bradshaw, Rick Reynolds	Costs	
		Total:	\$29,669
		State:	\$ 7,418
		Fed'l:	\$22,251

Status/Recommendations: On schedule, continue study.

Summary:

Eight pairs of peregrines produced eggs at Tidewater sites on Virginia's coastal plain. Five pairs were successful and produced 9 young, 2 of which subsequently disappeared. All of the eleven birds released at hack sites dispersed successfully.

Helicopter surveys were conducted in May in Shenandoah National Park and the George Washington National Forest. Potential nesting cliffs were searched, identified, and plotted on topographic sheets.

Two hundred and sixty-two peregrines were observed from two stations on the Eastern Shore during the fall migration.

Coordination with landowners, evaluation of environmental impacts, and technical assistance continued to be major tasks in the protection of this species in Virginia.

A. Objective: To census migrant peregrines in the fall and to locate wintering birds.

Results

Since a strong coastal migration pattern has been documented for raptors, two stations were operated to monitor peregrine falcon and other raptor movements during the fall migration on the mainland and a barrier island of Virginia's Eastern Shore for a total of 132 man days during the months of September, October, and November. A total of 262 falcons was observed. This was a decrease from the 355 falcons observed in 1991.

The area at Wise Point has become progressively less suitable for foraging by migrating raptors. The pine canopy has become so high that most of the good foraging areas for peregrines, merlins, and accipiters have been lost. Management for the creation of open areas needs to be implemented if this area is to continue serving as an important focal point for migrating raptors. Recommendations will be provided to the landowner.

Twenty-nine peregrines were trapped at these two sites during the fall, two of which were recaptures. One of them birds had been banded at Assateague Island and one at Kiptopeke Beach a day earlier.

Wintering Populations: Single birds and pairs were found at a number of locations along the coastal plain during the winter. Pairs were regularly observed at Fisherman Island, downtown Norfolk, Newport News, and Assateague. Other barrier islands were not regularly monitored during this period.

In western Virginia, a single adult female wintered in downtown Roanoke. Several immature peregrines were observed during the winter in the northern Virginia counties of Loudoun and Fauquier.

B. Objective: To introduce captive-reared peregrine falcons at mountain hack sites as recommended by the Eastern Peregrine Falcon Recovery Team.

Results

Two peregrine falcon hack sites were operated in the mountains of Virginia during the spring-summer of 1992. One of these sites was located in Shenandoah National Park. The second was an urban release in downtown Roanoke.

Hawksbill Mountain: This has been one of the most successful hacking sites in Virginia. For this reason, it was again used in 1992. Five falcons, 4 males and 1 female, were introduced to a hack box on the mountain in May. All five birds survived and dispersed successfully.

Downtown Roanoke: This is an ideal urban site for peregrine releases. It is surrounded by mountains and is located a short distance from a historical site. Additionally, there was a great deal of public, local, private, and business interest.

Three males and 2 females were introduced to a hack box on a building in downtown Roanoke. Following the release, an additional female from the Delaware Memorial Bridge was placed in the hack box for 2 days and subsequently released. The original five birds as well as the Delaware bird have been flying for five weeks. All are still in the area of the release.

Eastern Population: The established population of peregrines in Tidewater Virginia was monitored for nesting success. Pairs were observed at seven former hack towers on

Fisherman, Cobb, Metomkin, Wallops, Parramore, Assateague, and Great Fox islands. In addition, a pair was located on the Norfolk Southern Railroad Bridge, on the York River Bridge, Newport News City Hall Building, an abandoned Coast Guard Tower on Hog Island, and a ship in the James River Mothball Fleet.

The female of the pair at Fisherman Island was lost during the winter. The male of the pair at Great Fox Island was lost during the spring of 1991. Both of these individuals had been replaced by the breeding season of 1992.

Of the 13 pairs indicated above, eight pairs produced eggs. Of the eight pairs which

Table 1. Fate of nesting attempts of peregrine falcons in Tidewater Virginia.

<u>Site</u>	<u>Young Produced</u>	<u>Young Fledged</u>
York River Bridge	2	1
James River Fleet	0	0
Norfolk S. Bridge	2	2
Fisherman Island	0	0
Cobb Island	1	1
Metomkin Island	3	3
Wallop Island	0	0
Assateague Island	1	0

	9	7

produced eggs, five pairs produced one or more young. The fate of these nesting attempts is shown in Table 1.

Table 2. Contaminant levels of peregrine falcon eggs from Virginia, 1991.

Although the percentage of pairs nesting was about as high as usual, production was very low. Average production was 0.88 fledglings per active nest and 1.75 fledglings per productive nest.

Contaminant Levels: Eleven unhatched eggs were collected from Virginia and Maryland for contaminant analysis. Results of analysis of eggs from 1991 showed total DDT levels ranging

<u>Site</u>	<u>Contaminant Level - ppm. wet weight</u>	
	<u>Dieldrin</u>	<u>Total DDT</u>
Metomkin	1.021	4.933
Cobb	0.415	7.817
Cobb	0.276	8.592
Cobb	0.326	10.279
Wallops	0.623	15.786
Ship	0.063	2.073
Ship	0.207	2.190

from 2.073 ppm. wet weight to 15.786 ppm. wet weight at Wallops Island. Contaminant levels for Virginia eggs are shown in Table 2.

Levels from the ship nesting location as well as those from bridge sites were consistently lower than those of marsh nesting pairs. This pattern existed also from eggs analyzed in 1986, 1987, and 1988. These differences are thought to reflect differences in the prey base utilized by peregrines in the two nesting situations.

Mountain Population: Several sightings of single peregrines were made in the spring of 1991. Only one documented pair was observed in the mountains. This pair was located on Little Stony Man Cliffs in Shenandoah National Park. The pair consisted of a subadult male and an adult female. Copulation was observed but apparently a firm pair bond was not established. A subadult, probably from this pair appeared several times at the Hawksbill hack site.

C. Objective: To monitor likely potential nest sites on cliffs through the various mountain ranges in the state to locate active breeding pairs.

Results

A volunteer effort was organized to monitor cliff sites in Shenandoah National Park, George Washington National Forest, and the Jefferson National Forest. Volunteers reported a number of sightings of single birds as well as the pair from Shenandoah National Park. Helicopter surveys were flown in May of the George Washington Forest and Shenandoah National Park. Approximately one hundred cliffs were mapped as potentially good peregrine nesting sites.

D. Objective: To evaluate additional mountain release sites for future releases of peregrine falcons.

Results

Dr. Byrd, through aerial surveys, photographs, and ground work, has produced a list and maps of potential breeding sites to search in the future, if not for releases, then for naturally returning pairs.

Further releases are not contemplated at present, and the recovery team has not recommended further releases at this time.