

1988

Shorebird Studies

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PERFORMANCE REPORT

STATE: VIRGINIA PROJECT NO.: W-77-R-5

PROJECT TITLE: NONGAME AND ENDANGERED SPECIES INVESTIGATIONS

STUDY TITLE SHOREBIRD INVESTIGATIONS STUDY NO.: VIII

JOB TITLE: SHOREBIRD STUDIES JOB NO.: A-D

PERIOD COVERED: July 1, 1987 - June 30, 1988

JOB VIII-A OBJECTIVE: To determine and monitor piping and Wilson's plover populations along the barrier islands and Tidewater, Virginia.

JOB VIII-B OBJECTIVE: To determine reproductive success of the plovers as possible.

JOB VIII-C OBJECTIVE: To determine flushing distances of the plovers.

JOB VIII-D OBJECTIVE: To determine habitat requirements of piping and Wilson's plovers on the barrier island beaches.

SUMMARY:

A breeding survey was conducted along Virginia's barrier islands during the first week in June. A total of 103 breeding pairs of piping plovers was recorded. Wilson's plovers numbered 24 pairs. Intensive study of breeding ecology and nesting success were conducted on Metomkin and Assateague Islands to complete this 2 year comparison of productivity between islands.

JOB VIII-A - To determine and monitor piping and Wilson's plover populations along the barrier islands and in Tidewater Virginia.

Results of the coastal breeding survey are reported in Table 1. This survey was conducted by Byrd, Cross, Cashwell, Bradshaw, Terwilliger, and Ailes. Grandview Beach was closely monitored by Ruth Beck in conjunction with the colonial bird surveys there.

In general the 1988 nesting season was a late one. Tides and storms precluded successful nesting for weeks. Assateague had incubating birds through July.

JOB VIII-B - To determine reproductive success of plovers as possible.

Table 1. 1988 Breeding piping plover survey results.

ISLAND	PAIRS	SINGLES	NESTS	EGGS	YOUNG
Fisherman	2	-	2	-	-
Smith	6	0	3	9	1
Myrtle	9	1	7	25	0
Ship Shoal	2	1	1	4	4
Cobb	4	3	2	4	3
Hog	6	0	4	15	3
Parramore	1	-	-	-	-
Cedar	4	-	4	11	1
Cedar Sandbar	5	0	3	9	1
Metomkin	25	0	19	59	49
Assawoman	5	-	-	-	-
Wallops	0	0	0	0	0
Grandview	4	-	-	11	9
Assateague	30	-	34	-	25
TOTAL	103	5	79	147	96

Please note: data reflect results as of 7/1/88. Fledging will not be complete until 8/10/88.

In the Metomkin Island study area, including Metomkin Island and Cedar Sandbar, nineteen piping plover nests were closely monitored in 1987. On the basis of data from these nests, reproductive success was estimated at a range of 1.05 - 2.2 young fledged per breeding pair. Data from 21 nests in the same area for the 1988 breeding season are still being collected, and are expected to yield similar results.

A total of 16 adult and 14 pre-fledged piping plovers were banded, flagged, and color marked in the Metomkin Island study area.

Potential piping plover nesting habitat on Chincoteague National Wildlife Refuge was surveyed from 1 April 1987 through 15 July 1987. Plovers were observed nesting in three areas: Tom's Cove hook, a 4.3 km section of the wild beach, and on the wash flats north of the cross dike. A total of 72 nests were found. The estimated population was 46 pairs.

Overall, nest success was only 43%, however, success in the separate nesting areas ranged from 92% on the wash flats to 13% on the hook. The leading cause of nest loss on the hook and wild beach was nest predation. The primary predators were foxes and raccoons. No predation was observed on the wash flats.

Average brood size during the first observation after hatch was 2.3 chicks (N=28). On the hook, 3 of 6 young (50%) fledged. On the wild beach only 1 of 12 young (8%) fledged. Due to the difficulty in identifying and observing broods on the wash flats, it was not possible to estimate fledging success in this area. Factors responsible for chick mortality could not be identified, but analysis of data from the entire island indicates that chick survival was related to brood foraging habitat. This relationship may be caused by differences in the abundance or quality of prey, differential predation rates, different levels of human disturbance, or some combination of these factors.

JOB VIII-C - To determine flushing distances of plovers.

Adult piping plovers on Metomkin Island were observed through the summer, and flushing distances recorded. Preliminary analysis of flushing distances from twelve nests indicates a range of 20M - 215M and an average flushing distance of 107M for incubating adults. Further analysis of flushing distances collected from other barrier islands will be included in a later report.

JOB VIII-D - To determine habitat requirements of piping and Wilson's plovers on the barrier island beaches.

Habitat parameters for piping plovers including distance to nearest dune, distance to nearest vegetation, distance to nearest surf or mud flat foraging site, inter-nest distances, and proximity to other beach nesters have been measured on Metomkin Island in 1987, and are currently being measured for the 1988 breeding season.

Piping and Wilson's plover nest locations will be accurately plotted in quadrats on aerial photographs and topographic maps, and analyzed to determine spatial patterns of plover nests and characterize preferred plover nesting habitat on the barrier islands.

Detailed observations are being made to determine the effects of predation and human disturbance on plover nesting success in the Metomkin Island study area.

These data are still being collected and analyzed at this time.

TARGET DATE FOR COMPLETION: Continuing

STATUS OF PROGRESS: On Schedule

SIGNIFICANT DEVIATIONS IN PROGRESS: None

RECOMMENDATIONS: Continue Study

COST THIS SEGMENT: Federal \$12,811.50 State \$4,270.50 Total \$17,082.00

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