1989

Osprey Population Studies

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PERFORMANCE REPORT

STATE:	VIRGINIA	PROJECT NO.:	EW-2-1
PROJECT TITLE:	NONGAME AND ENDANGERED SPECIES INVESTIGATIONS	STUDY NO.:	VII
		JOB NO.:	A-D
STUDY TITLE:	OSPREY POPULATION STUDIES		
PERIOD COVERED:	July 1, 1988 - June 30, 1989		
JOB VII-A OBJECTIVE:	To make a complete aerial and ground survey of active osprey nests in Virginia to determine total breeding population size.		
JOB VII-B OBJECTIVE:	To measure hatching and fledging success of a sample of osprey nests representative of all of the major estuaries as well as the Eastern Shore of Virginia.		
JOB VII-C OBJECTIVE:	To coordinate all transfer of young ospreys from Virginia to other states involved in reintroduction programs for this species.		
JOB VII-D OBJECTIVE:	To make detailed studies at nests in areas of high pre-fledgling mortality and areas of low pre-fledgling mortality to determine causes of differential rates of survival.		

SUMMARY:

Nesting surveys were conducted in the state, utilizing both boats and aircraft Estimated breeding populations of ospreys total about 1600 pairs. Detailed reproductive data were obtained on a sample of 432 nests from the west side of Chesapeake Bay. Production of this sample was 0.77 young per active nest.

JOB VII-A - To make a complete aerial and ground survey of active osprey nests in Virginia to determine total breeding population size.

Surveys by air and by boat were conducted during April and the first half of May to locate active osprey nests. An active nest was defined as one in which there was a bird in incubating postion. Additional active nests were located during the course of bald eagle nesting surveys. Other nests were located as a result of reports received from interested parties. Many nests were located concurrently with the last bald eagle survey.

Nest locations have been plotted on 7 1/2 minute topographic sheets. All breeding records prior to 1988 have been entered into the records of the Breeding Bird Atlas Project, providing that study with a very complete history of the breeding distribution of this species in the state.

Because of heavy rains and a progressive series of violent wind storms during the period. March-June, many osprey nests were either destroyed or subsequently failed to produce young. For these reasons, it was impossible to obtain a definitve count of active osprey nests using the standard definition for activity. This definition assumes the presence of an incubating bird and not just the presence of a pair. Estimates suggest the presence of about 1600 active nests. The estimate of total population numbers also is confounded by the presence of a large number of non-breeding adults.

JOB VII-B - To measure hatching and fledging success of a sample of osprey nests representative of all of the major estuaries as well as the Eastern Shore of Virginia.

The productivity of ospreys in Virginia has been followed for the past 19 years. In 1985, all data for this time period were standardized on the basis of a new set of criteria and the data entered into the William and Mary computer. Data for 1986 and 1987 were recently added.

Data for the breeding season of 1989 are presented in Table 1. For comparative purposes, data for other selected years are included. Nest sample size is based only on nests of known outcome, hence does not reflect total number of nests for any area. Nest sample size in 1984 and again in 1989 are smaller because of heavy nest destruction by severe storms.

For purposes of comparison, the state has been divided into a number of study areas as follows:

York River System - mouth of river to West Point

Mobjack Bay - York River to Piankatank River, including the latter

Rappahannock River - mouth of river to Leedstown

Fleets Bay - Fleets Bay to Great Wicomico River, including the latter

Potomac River - Little Wicomico River west to Nomini Bay

Average production of fledglings per active nest as indicated is probably an over estimate of true fledging rates. Young have been counted as fledglings for this tabulation if they had reached 3 1/2 weeks of age at the time of last nest visitation.

Table 2. Productivity of ospreys from a sample of nests on the western side of Chesapeake Bay for selected years, 1983-1989.

Study Area	No. of Active Nests					No. of Young Fledged					No. of Young Fledged Per Active Nest				
	1983	1984	1985	1986	1989	1983	1984	1985	1986	1989	1983	1984	1985	1986	1989
York River	50	37	50	50	65	58	38	52	92	65	1.16	1.02	1.48	1.84	1.00
Mobjack Bay	92	54	102	93	97	122	81	96	99	72	1.33	1.50	0.94	1.06	0.74
Rappahannock River	96	73	98	109	152	125	85	106	107	121	1.09	1.16	1.08	0.98	0.80
Potomac River	77	53	84	77	65	105	50	87	100	55	1.36	0.94	1.04	1.29	0.84
Fleets Bay	45	16	48	48	53	49	17	39	40	21	1.09	1.06	0.81	0.83	0.40
Totals	360	233	389	377	432	459	271	380	438	334	1.28	1.16	0.98	1.16	0.77

The productivity of ospreys in 1989 was the lowest since 1971 at the height of the DDT problem. This low production is believed to be attributable to inclement weather and not to an environmental contaminant problem. In view of the surplus non-breeding individuals in the populations, an annual low production for one year likely will not be reflected in reduced nest numbers in the future.

JOB VIII-C - To coordinate all transfer of young ospreys from Virginia to other states involved in reintroduction programs for this species.

Osprey nests used in the productivity study were also monitored as possible donor nests from which young could be taken for transfer to other states. Because of the high rate of nest failure in 1989, few young were available. Eight young of 5-6 weeks of age were transferred to West Virginia. Requests from other states were denied.

JOB VII-D- To make derived studies of nests in areas of high pre-fledgling mortality to determine causes of differential rate of survival.

Data derived earlier in this study indicated that ospreys in Virginia were suffering from a severe food stress problem. Numerous chicks were observed between 1984-1987 which showed abnormal feather development. No such chicks were observed in 1989 although there was great disparity in sizes of siblings in some broods.

Study of food delivery rates at three nests on the York River indicated a daily food supply per hour which was greater than that determined at nests in both 1975 and 1986.

Analysis of eight eggs from the Mobjack Bay area indicated moderate contaminant levels although one egg contained an unexpectedly high level of nearly 10 p.p.m. of total DDT.

MANAGEMENT ACTIVITIES:

A number of complaints of ospreys nesting on docks, houses, etc., were investigated. In early July, six ospreys which had been turned in to veterinarians and others were fostered back to nests.

TARGET DATE FOR COMPLETION: Continuing

STATUS OF PROGRESS: On Schedule

SIGNIFICANT DEVIATIONS IN PROGRESS: None

RECOMMENDATIONS: Continue Study

COST THIS SEGMENT: Federal $ 8,512.50 State $ 2,837.50 Total $11,350.00

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