1994

Bald Eagle Studies

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PERFORMANCE REPORT (July 1, 1993 - June 30, 1994)

Project:	Nongame & Endangered Species Investigations	**No:**	WE99R-2
Study:	Bird Conservation	**No:**	IV-1
Job:	Bald Eagle Studies	**No:**	A-F
Personnel:	Mitchell Byrd, Dana Bradshaw, Karen Terwilliger Keith Cline	**Costs** **Total:** **State:** **Fed'l:**	

Status/Recommendations: On schedule, continue study

Summary:

Aerial and ground surveys resulted in the location of 164 active territories and 144 active nests. Of the 143 nests of known outcome, 96 were productive and 48 were unproductive. Many of the failures and inactive nests in active territories are attributed to the severe ice storm of mid-February. A total of 158 young were produced with an average production of 1.10 fledglings per active nest and 1.65 fledglings per productive nest.

Shoreline surveys were continued in the summer on the James and Potomac Rivers.

Landowner lists were compiled for a number of sensitive areas.

Objective A: Conduct aerial surveys to determine nest site locations and hatching or fledging success in Virginia.

Findings:

Aerial surveys were conducted in February and March to locate active nesting territories. Surveys were conducted in May to determine the number of young produced. Surveys were conducted throughout Tidewater Virginia and the Eastern Shore. Results of the aerial survey are shown in Tables 1 and 2.

Aerial surveys resulted in the location of 164 active territories of which 144 were designated as active nests. Twenty nests were considered as active territories since no birds were actually observed incubating. It is believed that the severe ice storm in mid-February caused many nest failures. The number of occupied but inactive territories was actually 26 but six pairs renested, resulting in the production of 4 late broods.

Of the remaining 20 occupied but inactive nests, many were clearly active earlier from their appearance in early March. They are excluded, however, from the calculation, resulting in a reduced number of nests for 1993.

Of the 146 nests of known outcome, 96 were productive and 48 were unproductive. The total number of young produced was 158. Assuming that all young fledged successfully, average production was 1.10 fledglings per active nest and 1.65 fledglings per productive nest. The percentage of successful nests were identical to that of 1993.

Table 1. Bald Eagle productivity in Virginia for the period 1977-1994.

Year	Total Active Nests	Total Prod. Nests	Total Unprod. Nests	Percent Nest Prod.	Total Young Fledged	Fledglings Productive Nest	Fledglings Active Nest
1977	33	13	20	39	18	1.38	0.54
1978	37	14	23	38	18	1.38	0.54
1979	33	15	18	45	20	1.33	0.61
1980	35	23	12	66	35	1.52	1.00
1981	39	27	12	69	40	1.48	1.02
1982	45	28	17	62	41	1.52	0.93
1983	52	31	21	60	51	1.68	0.98
1984	60	34	26	57	58	1.68	0.97
1985	65	47	18	72	84	1.79	1.29
1986	66	43	23	65	83	1.93	1.26
1987	73	61	12	84	107	1.75	1.47
1988	81	65	16	80	118	1.82	1.46
1989	92	52	40	57	88	1.69	0.96
1990	99	75	24	76	142	1.89	1.43
1991	111	94	17	85	157	1.67	1.41
1992	131	82	49	63	140	1.71	1.07
1993	151	99	51	66	173	1.75	1.15
1994	*144(20)	96	48	68	158	1.65	1.10

*One active nest not included in productivity calculations as nest could not be relocated in dense canopy.

20 active territories not included because birds were not observed incubating. Most were probably disrupted as a result of the mid-February ice-storm. There were, therefore 166 active territories.

Objective B: Identify landownership of critical eagle sites (nesting and roosting areas) and provide lists of current landowners to the Department of Game and Inland Fisheries.

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Table 2. Bald Eagle nests and production, 1994, by area.

Unprod Nests	% productive	Total Young Fledged	Fledglings Prod. Nest	Fledgling Active Nest	
2	89	45	1.80	1.67	James River
6	69	22	2.00	1.29	York,Pamunkey, Mattaponi Rivers
17	58	43	1.72	1.00	Rappahannock
16	60	35	1.40	0.85	Potomac River
7	59	13	1.30	0.76	Eastern Shore Reservoir Interior
48	68	158	1.65	1.10	Totals

cluded in productivity calculations because fate unknown.

Findings:

With the exception of the Eastern Shore, land ownership information for 1993 nests was compiled and entered into VDGIF files. Determination of 1994 nest locations will be made by VDGIF personnel.

Objective C: Conduct surveys to regularly monitor the summer

Weekly surveys normally are conducted to conform with high tides, hence occur at different times of the day. Time of day and temperature appear to affect the numbers of eagles seen. The data also suggest that ratios of adults to immatures may fluctuated considerably, probably reflecting real variation in the numbers on the river. Major changes in ratios in 1993 and in previous seasons suggest that there is a regular movement into and out of this concentration area.

On July 19, 1994, a count of 297 eagles was made in the survey area and the 5 miles of river shore up river and down river from it. This would suggest that well over 300 eagles were using this section of the James River on this date. This area continues to be one of the most, if not the most, important areas for eagles on the East Coast.

Objective D: Develop and produce a comprehensive Bald Eagle Management Plan for Virginia. This will include a summary of the existing resources, a prioritization of recommendations and sites, and a comprehensive strategy to provide effective protection to Virginia's bald eagle population and its essential habitat. The report will include maps of the resource and ownership of these sites.

Findings:

A comprehensive report has been completed and is submitted separately.