

1992

Bald Eagle Investigations

M. A. Byrd

The Center for Conservation Biology

D. S. Bradshaw

The Center for Conservation Biology

K. Terwilliger

K. W. Cline

Follow this and additional works at: https://scholarworks.wm.edu/ccb_reports

Recommended Citation

Byrd, M. A., D. Bradshaw, K. Terwilliger, and K. Cline. 1992. Bald Eagle Investigations. CCBTR-92-01. Wildlife Division Annual Report, Nongame and Endangered Species Program. Virginia Commission of Games and Inland Fisheries. 6 pp.

This Report is brought to you for free and open access by the Center for Conservation Biology (CCB) at W&M ScholarWorks. It has been accepted for inclusion in CCB Technical Reports by an authorized administrator of W&M ScholarWorks. For more information, please contact scholarworks@wm.edu.

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:	Bald Eagle Investigations	No:	I
Job:	Bald Eagle Studies	No.	A-F
Personnel:	Dr. Mitchell Byrd, Dana Bradshaw, Karen Terwilliger, Keith Cline	Costs	
		Total:	\$25,750
		State:	\$ 3,938
		Fed'l:	\$21,812

Status/Recommendations: On schedule, continue study

Summary:

Aerial and ground surveys resulted in the location of 131 active nests. Of the 131 nests of known outcome, 82 were productive and 49 were unproductive. A total of 142 young were produced with an average production of 1.08 fledglings per active nest and 1.73 fledglings per productive nest.

Studies of environmental variables on the James River roost and foraging area and their effects on eagle distribution were completed.

Landowner lists were completed for new and relocated nests from 1991 and 1992.

An aerial mid-winter survey of eagles was conducted in January resulting in the location of 373 birds. This wintering population consisted of 215 (58%) immatures and 158 (42%) adults.

A. Objective: To conduct a winter inventory of bald eagle numbers including age composition of this population.

Findings:

Winter Surveys: Project personnel conducted an aerial survey throughout Eastern Virginia in January to locate wintering eagles. All major tributaries in Eastern Virginia were covered. For purposes of comparison, data for 1990, and 1991 are included with those for 1992. Data for inland impoundments, the Eastern Shore and lower Tidewater, were provided by volunteers.

Table 1. Bald eagles observed during mid-winter surveys, January, 1990, 1991, and 1992.

Area	<u>Immatures</u>			<u>Adults</u>		
	1991	1991	1992	1990	1991	1992
James-Chickahominy Rivers	32	34	59	28	103	63
Rappahannock-Piankantank Rivers	71	47	74	107	75	65
Potomac River	21	39	45	19	43	6
York, Pamunkey, Mattaponi Rivers	12	17	26	6	23	6
Eastern Shore - Lower Tidewater	9	5	6	4	8	4
Inland Impoundments	7	9	5	8	19	9
	152 (47%)	151 (36%)	215 (58%)	172 (53%)	271 (64%)	158 (42%)

A total of 373 eagles was observed on the mid-winter eagle count between January 8 and January 16, 1992. This represents a 16 percent increase over numbers seen in 1991. Annual fluctuations in wintering eagle numbers are to be expected in view of annual differences in weather patterns. Mid-winter counts continue to provide information on significant concentration areas.

B. Objective: To determine hatching and fledgling success of eagles in Virginia.

Findings:

Aerial surveys were conducted in February, March, and May to locate active nesting territories and to determine the number of young produced. May surveys were conducted after young were large enough to be observed with more certainty from the air. Surveys

were conducted throughout Tidewater Virginia and the Eastern Shore.

Aerial surveys resulted in the location of 131 active nests. All active nests were plotted on 7 1/2 minute topographic sheets. Data on the 131 nests and productivity trends for 1977-1992 are presented in Table 2. Productivity by river systems are shown in Table 3.

Table 2. Bald eagle productivity in Virginia for the period 1977-1992.

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

Table 3. Bald eagle productivity in Virginia for 1989-1991 by river system or area.

River System or Area	No. of Active Nests			Percent Nests Productive			No. of Fledglings Produced			Fledglings per Productive Nest			Fledgling per Active Nest		
	'90	'91	'92	'90	'91	'92	'90	'91	'92	'90	'91	'92	'90	'91	'92
York, Pamunkey, Mattaponi Rivers	10	12	14	90	92	71	19	20	18	2.11	1.82	1.80	1.90	1.67	1.29
James, Chickahominy Rivers	18	20	26	89	80	73	32	28	37	2.00	1.75	1.95	1.78	1.40	1.42
Potomac River	31	32	38	61	84	63	37	43	37	1.95	1.59	1.54	1.19	1.34	0.97
Rapahannock, Piankatank Rivers	32	37	43	75	54	56	44	54	58	1.83	1.70	2.41	1.38	1.47	1.34
Eastern Shore Reservoirs Interior	8	10	10	88	80	50	10	12	8	1.43	1.50	1.60	1.00	1.25	0.80
TOTALS	99	111	131	76	85	63	142	157	142	1.89	1.67	1.71	1.43	1.41	1.08

Of the 131 nests of known outcome, 82 were productive and 49 were unproductive. The total number of young produced was 142. Assuming that all young fledged successfully, average production was 1.08 young per active nest. The number of fledglings per productive nest was 1.73, essentially unchanged from 1991.

The percentage of successful nests (63%) was the lowest since 1989. In both of these years, the high percentage of failures was thought to be attributable to long periods of inclement weather during the incubation and hatching periods. Of the 82 productive pairs, 6 produced 3 young each, 46 produced 2 young each, and 30 produced 1 young each.

C. Objective: To identify ownership of nesting areas and concentration areas of bald eagles during the summer and winter season and to develop management agreements and protection strategies where possible for these areas. These areas will be monitored regularly as deemed necessary.

Findings:

A land ownership list was completed for all new and relocated nest sites for the 1991 breeding season. A list also has been compiled for most new and relocated nests from the 1992 breeding season. Ownership plats of properties surrounding each active nest were identified in court records and drawn on a map for each 1991 and 1992 site. These maps reflect nest locations as well as surrounding properties in order that management plans reflect all properties involved in protection of nest sites.

D. Objective: To monitor eagle concentration areas on the James, Rappahannock, and Potomac Rivers and to determine the influence of human activity where possible.

Findings:

Shoreline surveys have been conducted for several years along concentration areas on the James and Potomac Rivers to delineate high use areas. In 1992, counts on the James have ranged from 106 to 129 individuals. Counts for the Potomac are being conducted by collaborators and are not available at this time.

Summer counts on the Rappahannock area have been conducted by a collaborator for the first time. These data also are not available at this time.

E. Objective: To make an intensive study of the bald eagle population and occupied habitat on the James River and to develop an overall management

strategy for the area.

Findings:

Detailed studies of the shoreline habitat on the James River roost area were conducted and management plans proposed for this area.

A detailed separate report may be found in Clark, K.H. 1992. Shoreline habitat selection by bald eagles (*Haliaeetus leucocephalus*) in a non-breeding eagle concentration area on the James River, Virginia. M.A. Thesis, College of William and Mary, Williamsburg, Virginia. 106pp.