

REC'D

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BLACKWATER
NWR



1982

BREEDING SUCCESS OF CHESAPEAKE BAY BALD EAGLES
(sample years since 1936)

Year:	1936	1962	1970	1973	1975	1977	1978	1979	1980	1981	1982
% of Bay re- gion surveyed;	25	50	75	80	80	90	90	95	95	95	95
Active nests: found/rechecked -											
Del.	4/4	1/0	2/2	1/1	1/1	2/2	3/3	2/2	2/2	3/3	4/4
Md.	28/18	26/17	27/25	34/33	41/41	44/44	46/46	47/47	46/45	50/50	56/55
Va.	16/15	33/20	26/24	32/32	33/33	31/31	38/38	36/36	36/36	40/40	45/45
Total:	48/37	60/37	55/51	67/66	80/80	77/77	87/87	85/85	84/83	93/93	105/104
Rechecked active nests: abandoned/hatching young -											
Del.	0/4	-/-	1/1	1/0	1/0	1/1	3/0	0/2	1/1	1/2	1/3
Md.	5/13	16/1	15/10	18/15	17/19	16/27	19/27	21/26	20/25	18/32	20/35
Va.	1/14	16/4	17/6	23/9	24/9	16/17	22/16	20/16	13/23	13/27	16/29
Total:	6*/31	32/5	33/17	42/24	47/33	33/45	44/43	41/44	34/49	32/61	37/67
Number of eaglets: hatched/fledged -											
Del.	8/8	-/-	1/1	0/0	0/0	1/1	0/0	2/2	2/2	3/3	5/3
Md.	26/25	1/1	13/13	28/28	36/36	47/45	38/36	41/38	35/35	53/51	57/56
Va.	33/31	6/6	8/8	13/13	10/10	23/22	21/18	23/22	35/35	41/41	44/40
Total:	67/64	7/7	22/22	41/41	46/46	71/68	59/54	66/62	72/72	97/95	106/99
Number of eaglets banded -											
Del.	6					0	0	2	2	3	3
Md.	6	None between 1936 and 1977				24	29	35	30	41	44
Va.	14					13	15	19	31	32	35
Total:	26					37	44	56	63	76	82
Nests sites with adults present but eggs not laid-											
Del.	0	1	0	0	0	2	0	1	1	1	0
Md.	3	3	2	1	3	3	3	8	12	4	5
Va.	1	4	5	1	4	6	3	9	5	10	5
Total:	4	8	7	2	7	11	6	18	18	15	10

The 1936 survey was done from the ground and by climbing to active nests; the 1962 survey was by US Army UH-1 helicopters + Army reserve birders/observers. All subsequent surveys have been by USF&W aircraft & pilots w/ various observers, supplemented by rented planes & pilots. Bryant Tyrrell did the banding in 1936 and the Raptor Info. Center, Nat'l Wildlife Fed provided the banding team in 1977 and since.

*Eggs from 3 nests robbed by oologists; one nest blew down in a storm and one was abandoned because of farming activity.

1982 Bald Eagle Nest Survey - Chesapeake Bay Region

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The bald eagle is definitely on its way back in the Chesapeake Bay Region!

For the third year in succession we have a marked increase in nesting pairs (84 in 1980, 94 in 1981 and 105 in 1982!) and in the number of young hatched (74 in 1980, 97 in 1981 and 106 in 1982!). Unhappily, seven eaglets met an untimely end before fledging: two in one Delaware nest each fell out of the nest at different times and were found dead on the ground under the tree. One nest in Maryland had two eaglets on 22 April but only one on 3 May. A Virginia nest had two young on 2 May but the nest was empty when visited by the banding team on 26 May. Another Virginia nest had at least one eaglet on 15 April but was empty when visited by the banding team on 24 May and one of two eaglets in another Virginia nest fell (or was pushed) out and was found dead on the ground.

Of the 105 active eagle nests found all but one were rechecked for final results. That one was in the Patuxent Navy restricted zone and could be flown over only on a weekend when the Navy wasn't doing its thing. The weekend is a difficult time to spring a hard-working pilot loose from his time off. That particular nest, however, has an annual history of hatching young eagles so we can reasonably assume that at least one eaglet was hatched but we have not included it in our figures for 1982.

Thirty-seven of the 105 active nests were abandoned and we know the reasons why for a few of them. A usually successful nest in Chantilly, Va., blew out of the tree in February and the pair built a new skimpy nest in the same crotch in March. One egg was in the nest, abandoned, on 15 April. This agrees with other data that a second nesting attempt in the same season by a pair of bald eagles is usually unsuccessful. A nest on the South River in Anne Arundel County, Md., which normally raises one or more eaglets each year, was abandoned in 1982 because people performed logging and soil percolation test operations around the nest site while the eagle was incubating.

A nest in Dorchester County, Md., had an adult bald eagle incubating on 5 March and a Great Horned Owl incubating on 24 March! Raccoon hairs were found in one abandoned nest from which egg shells were collected and 'coon scat and a pile of eagle egg shell fragments were found on the ground under another abandoned eagle nest.

Unhatched eggs were seen by aerial observers in three abandoned nests but they were not collected. Seven unhatched eggs were collected by the banding team from six abandoned nests and one from a Virginia nest which also contained two eaglets which were banded. Egg shell fragments were collected from another seven abandoned nests and one broken egg from a Virginia nest containing two eaglets (three eggs were seen in this nest by an air observer before any had hatched). A nest in Talbot County, Md., was seen to have two eggs by an air observer but only one hatched and apparently fledged. Unfortunately, the egg could not be collected for analysis since the land owner would not permit the tree to be climbed. Six nests in Maryland produced three eaglets each (one in Calvert, one in Kent, one in Talbot, one in Caroline and two in Dorchester Counties). As mentioned above, at least two Virginia nests each had three eggs but one failed to hatch in both nests.

A very happy sign that there is improvement in the eagle's environment is that two Virginia and two Maryland pairs which have been unsuccessful in raising young despite annual attempts, finally produced young! A pair in extreme NW Westmoreland County, Virginia, was first found in 1974 (unsuccessful) and has built four other nests over the eight years since then, the last one in 1978 which has been used annually since. They finally raised two young in 1982 which were banded on 28 May. Another pair, near Oak Grove, also in Westmoreland County, was first found in 1969 (unsuccessful). They have had a total of four nests, the last one built in 1977 and used annually but unsuccessfully since then until 1982 when they raised their first eaglet which was banded on 13 May. A pair

near Mallows Bay, Charles County, Md., has been observed annually since 1962, the first year we conducted aerial surveys of eagle nests. This pair has built five different nests, the last one in 1975 and has had no success until this year when it raised one eaglet, which was banded. Now that is persistence! Another pair which has nested near Ordinary Point on the N side of the Sassafras River, Cecil County, Md., since at least 1962 has built 10 different nests over the years and was successful in raising an eaglet in 1967 but none before or since until 1982, when one eaglet was raised in a new nest built this season.

For the first time since the banding program started in 1977 a banded adult bald eagle was sighted (King George's County, Va.), one of a mated pair which is believed to have built its first nest in 1980 and, after two unsuccessful seasons, raised their first eaglets (two) in 1982.

For the first time since 1936 there were four active nests in Delaware. One of these was a Sussex County nest built in 1981 by a pair including a subadult female. No eggs were laid in 1981 but in 1982 one young was hatched, banded and fledged. The female still showed subadult plumage features in 1982 with a dark band of feathers through the eyes from the base of the bill to the ears, a dark patch of feathers on the nape (head otherwise white) and a dark terminal tail band shaped like an inverted V. Paul Burns of the Delaware Department of Natural Resources watched this nest from the ground for many hours. One time he saw the male fly to the nest with a road killed striped skunk (*mephitis m.*) where he and the female proceeded to feed on it; the male also fed some to the eaglet. This is the first recorded instance to my knowledge of a skunk being a prey item of the bald eagle.

Among a wide variety of prey items found in some active eagle nests by the banding crew were other apparent firsts. A foot and fur of a white-tailed deer (*Odocoileus virginianus*) were found in a Dorchester County, Maryland nest. As explained to me several years ago by the manager of the Blackwater National Wildlife

Refuge in Dorchester County, they place the carcasses of road-killed and poached deer out in the open for the eagles to feed on. The tail feathers of a sharp-shinned hawk (*Accipiter striatus*) were found in a Middlesex County, Va., nest and feathers from a wild turkey (*Meleagris gallopavo*) were in a nest in Richmond County, Va.

The banding team flushed flying squirrels from the base of two active nests containing eaglets and a grey squirrel had a nest in the side of an eagle's nest which had been abandoned.

Five active nests with young and one inactive nest were found to contain fresh green sprigs of trees, including tulip poplar, red oak, chestnut oak and loblolly pine. These are believed to be attempts to keep lice and parasites away. One King William County, Va., nest with one eaglet was found to be badly infested with parasites; the nest did not contain any green sprigs.

One pair of eagles nests annually (usually unsuccessfully except in 1970 and 1976 when one and two young were raised) at Bombay Hook National Wildlife Refuge, Kent County, Del. Analysis of unhatched eggs from this pair over the years indicate high concentrations of chemical pollutants such as DDE (a derivative of DDT), dieldrin and polychlorinated biphenols (pcb's). Also, the shells of these eggs are 15-20% thinner than normal. The USF&W biologists decided to introduce a captive-raised eaglet (from a captive pair at Patuxent Wildlife Research Center) in exchange for their unhatched egg. The 16-day old eaglet was exchanged for the egg in the morning of 15 April 1982. About 28 minutes after introducing the eaglet and taking an observation post about 1/3 mile away the observers saw an adult return to the nest, hop to the center where the chick was and lower its head into the nest several times. After about ten minutes it flew off with an object in its talons. The second adult arrived at the nest a few minutes later and descended into the bowl. The first adult reappeared a few minutes later with something in its talons: the observers agreed the object was not a fish or a stick but was a dark, compact mass. At least one adult stayed at the nest in an incubating posture for the remainder of the day; no food was brought to

the nest. On 16 April, at first light, the eagles were gone from the nest and did not return. Paul Burns climbed to the nest and found it empty except for a few bits of adult down. Strange as it seems, it appears that the first adult to return to the nest after the eaglet/egg exchange killed the eaglet - for what reason only the eagle knows.

Adult bald eagles were seen at nine nests during the nesting season (four in Virginia, five in Maryland) but did not lay eggs and were therefore presumed to be inactive pairs for 1982 (this happens with some pairs every year). Another pair of adults was frequently seen at a site on the James River where no nest was found.

Thus, counting our non-active nest sites where adults were present (ten) the Chesapeake Bay area bald eagle breeding population is now at least 115 pairs, up from 107 in 1981 and 100 in 1980.

The success of this survey is due in great measure to the support provided by the US Fish and Wildlife Service with their Cessna aircraft and pilots Jim Goldsbury and Greg Stover. Most of the aerial observations of Maryland nests were obtained by Ken D'Loughy of the Maryland Department of Natural Resources, Delaware nests by Paul Burns of the Delaware Department of Natural Resources and Environmental Control and of Virginia nests by Dr. Mitchell Byrd representing the Virginia Commission of Game and Inland Fisheries. Keith Cline headed the banding team from the Raptor Information Center, National Wildlife Federation. The accompanying map shows the approximate location of the nests found in 1982. The accompanying table compares 1982 results with the previous five years and selected prior years.

Chesapeake Bay Region

