

1997

Trapping and Banding Raptors: Eastern Shore of Virginia, National Wildlife Refuge, Wise Point, September 8, 1997 to December 15, 1997

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TRAPPING AND BANDING OF RAPTORS

EASTERN SHORE OF VIRGINIA

NATIONAL WILDLIFE REFUGE

SEPTEMBER 8, 1997

TO

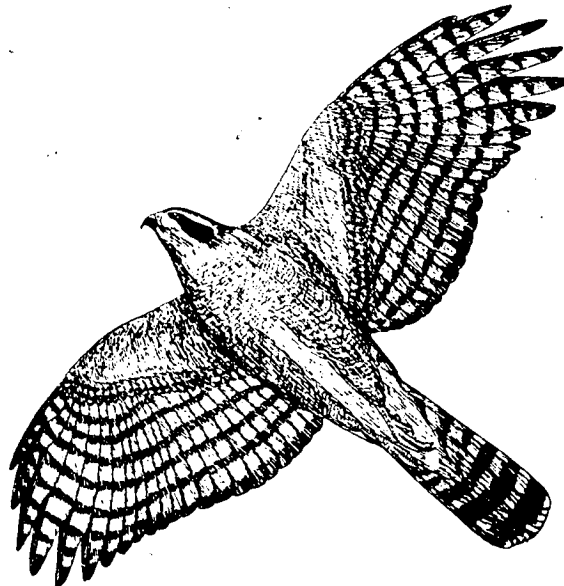
DECEMBER 15, 1997

BY

REESE F. LUKEL, JR.

DR. MITCHELL A. BYRD

THE CENTER FOR CONSERVATION BIOLOGY
THE COLLEGE OF WILLIAM AND MARY



NORTHERN GOSHAWK
(*Accipiter gentilis*)

This project was operated at Wise Point on the Eastern Shore of Virginia National Wildlife Refuge under Special Use Permit #67373 issued to Reese F. Lukei, Jr., volunteer research associate, The Center for Conservation Biology at The College of William and Mary, and U.S. Fish and Wildlife Service volunteer. This project is funded through the Nongame and Endangered Species Program of the Virginia Department of Game and Inland Fisheries, and administered and supervised by Dr. Mitchell A. Byrd, Director Emeritus of The Center for Conservation Biology. The daily operation of the banding site was by Reese F. Lukei, Jr., 1046 Azalea Court, Virginia Beach, Virginia 23452, telephone 757-340-5948, Federal banding permit #09351-H.

The purpose of the project is to trap and band raptors (hawks and falcons) during their fall migration. Data collected is provided to the U.S. Fish and Wildlife Service Bird Banding Laboratory, the Virginia Department of Game and Inland Fisheries, and the Eastern Shore of Virginia National Wildlife Refuge. Emphasis is placed on observations of the movement of the Peregrine Falcon, an endangered species. This project has been undertaken at this location for over fifteen years.

The Eastern Shore of Virginia NWR is a significant site for this activity because of its location at the southern tip of the Eastern Shore of Virginia. The raptors and other birds migrating south during the fall months follow the Atlantic Ocean coastline and the shoreline of the Chesapeake, and upon reaching the 18 miles of open water at the mouth of Chesapeake Bay, sometimes pause and wait for favorable winds before crossing the Bay to Virginia Beach. This is very similar to the situation at Cape May, New Jersey. As a result, a large number of raptors are present from about mid-September through mid-December of each year.

Two types of trapping equipment are used to capture the raptors. Mist nets are very fine nylon, 40 feet long, seven feet high, with four pockets, that are held in place with 3/4 inch metal poles. Five of these nets are used, with two outside nets 2set at about a 30 degree angle with a third and fourth in the middle, and a fifth net across the far open end of the right side of the site. The other type of trap is a bow net, which is an aluminum frame about four feet in diameter, covered loosely with cotton crab netting, which folds in half and is activated by hinged springs. The release of the bow trap is controlled by a pull line from a blind. Two of these traps are used and are placed on the ground between the mist nets as shown on map #2.

Pigeons (rock dove), starlings and brown-headed cowbirds are used as lures. The cowbirds are used under USFWS permit #PRT-688032. The lure birds are placed in leather harnesses which are attached to dacron fish line that runs along the ground through ceramic insulators between the blind and wooden lure poles placed beyond the far ends of the mist nets. These lines are pulled to allow the lure birds to fly, thus attracting the migrating raptors to the banding site.

The blind is a wooden structure ten feet long, four feet wide and seven feet high, with open windows on all sides for viewing. There is a door on each end. It will accommodate four people. The blind sits on a small sandhill and faces NNE. It is shown as letter A on map #1 and arranged in relation to the mist nets as shown on map #2.

The banding site was in operation for 65 days from September 8 through December 15, 1997 and was open most days except for rainy weather. The nets were open for 473 hours, for an average of 7.28 hours per day of operation. The nets were generally opened about sunrise and remained open until raptor activity ceased.

The bands that are used are furnished by the USFWS Bird Banding Laboratory. They are aluminum and numbered according to size. The sizes used and raptors applied to during this project were as follows:

<u>Size #</u>	<u>Raptor</u>
2	Male Sharp-shinned hawk
3	Female Sharp-shinned hawk
3B	Female Sharp-shinned hawk Male and Female American Kestrel Male Merlin
3A	Female Sharp-shinned hawk
4	Female Merlin Male Cooper's hawk Male Northern Harrier
5	Female Cooper's hawk Female Northern Harrier Broad-winged hawk
6	Male Peregrine falcon Male Northern goshawk Broad-winged hawk Red-shouldered hawk
7A	Female Peregrine falcon Female Northern Goshawk Red-tailed hawk
7B	Red-tailed hawk
7D	Red-tailed hawk

The raptors that are usually trapped and banded are:

American Kestrel - *Falco sparverius*

Merlin - *Falco columbarius*

Peregrine falcon - *Falco peregrinus*

Sharp-shinned hawk - *Accipiter straitus*

Cooper's hawk - *Accipiter cooperii*

Northern Harrier - *Circus cyaneus*

Red-tailed hawk - *Buteo jamaicensis*

The raptors that are occasionally trapped and banded are:

Northern Goshawk - *Accipiter gentilis*

Red-shouldered hawk - *Buteo lineatus*

Broad-winged hawk - *Buteo platypterus*

Rough-legged hawk - *Buteo lagopus*

The raptors that are observed but not trapped are:

Bald Eagle - *Haliaeetus leucocephalus*

Golden Eagle - *Aquila chrysaetos*

Osprey - *Pandion haliaetus*

Turkey Vulture - *Cathartes aura*

Black Vulture - *Coragyps atratus*

The results of trapping and banding for 1997:

<u>Raptor</u>	<u>September</u>	<u>October</u>	<u>Nov-Dec</u>	<u>Totals</u>
American Kestrel	20	3		23✓
Merlin	123	29		152✓
Peregrine	6	8		14✓
Sharp-shinned	110	231	66	407✓
Cooper's	43	90	7	140✓
Northern Goshawk		1	3	4✓
Red-tailed	3	16	39	58✓
Broad-winged	1	2		3
Red-shouldered		1		1
Northern Harrier		2	1	3✓
Total banded	<u>306</u>	<u>383</u>	<u>116</u>	<u>805</u>
Foreign retraps:				
Merlin	5	2		7
Peregrine		3		3
Sharp-shinned		3		3
Cooper's	1	3		4
Red-tailed			3	3
Total retraps	<u>6</u>	<u>11</u>	<u>3</u>	<u>20</u>
Total trapped	<u>312</u>	<u>394</u>	<u>119</u>	<u>825</u>
Days nets were open	18	27	20	65
Hours nets were open	140	218	115	473
Raptors trapped per day	17.3	14.6	6.0	12.7
Raptors trapped per hour	2.4	1.8	1.0	1.7
Volunteer hours	218	272	200	690

The age and sex of raptors banded:

<u>Raptor</u>	<u>Not Sexed</u>		<u>Male</u>		<u>Female</u>		<u>Total</u>	
	<u>HY</u>	<u>AHY</u>	<u>HY</u>	<u>AHY</u>	<u>HY</u>	<u>AHY</u>	<u>HY</u>	<u>AHY</u>
American Kestrel			13		10		23	
Merlin			63	5	73	11	136	16
Peregrine			10		4		14	
Sharp-shinned			203	4	187	13	390	17
Cooper's			81	3	54	2	135	5
Northern Goshawk			3		1		4	
Red-tailed	56	2					56	2
Broad-winged	3						3	
Red-shouldered	1						1	
Northern Harrier			3				3	
Totals	<u>60</u>	<u>2</u>	<u>376</u>	<u>12</u>	<u>329</u>	<u>26</u>	<u>765</u>	<u>40</u>
Percentage							95.03%	4.97%

Comparative data for the raptors trapped and banded during the years 1989-1997:

<u>Raptor</u>	<u>1997</u>	<u>1996</u>	<u>1995</u>	<u>1994</u>	<u>1993</u>	<u>1992</u>	<u>1991</u>	<u>1990</u>	<u>1989</u>	
American Kestrel	23	11	50	9	13	13	12	26	56	avg 24
Merlin	152	77	200	99	64	91	84	81	285	126
Peregrine	14	22	10	8	15	10	23	35	25	18
Sharp-shinned 407	396	466	384	476	518	523	433	405		→ 445
Cooper's	140	136	189	121	190	136	102	150	116	142
Northern Goshawk	4		1				3			
Red-tailed	58	36	39	57	67	46	34	19	24	42
Broad-winged	3		2	1	3	2	2	1		
Red-shouldered	1	1	2		1	3	1	2	1	
Northern Harrier	3	3	5	2	3	2		5	9	4
Total banded	805	682	964	681	832	821	784	752	921	
Foreign retraps	20	22	17	13	9	15	15	19	5	15
Total trapped	825	704	981	694	841	836	799	771	926	
# HY	784	616	939	645	796	796	761	691	870	
% HY	95.0	87.5	95.7	92.9	94.6	95.3	95.2	89.8	94.0	
# AHY/ASY	41	88	42	49	45	40	38	80	56	
% AHY/ASY	5.0	12.5	4.3	7.1	5.4	4.7	4.8	10.2	6.0	
Days site operated	65	65	57	55	52	55	47	48	54	55
Hours nets open	473	424	405	373	416	395	421	386	461	
Hours open per day	7.28	6.52	7.11	6.78	8.00	7.18	8.96	8.04	8.54	
Trapped per day	12.7	10.8	17.2	12.6	16.2	15.2	17.0	16.1	17.1	
Trapped per hour	1.7	1.7	2.4	1.9	2.0	2.1	1.9	2.0	2.0	

Raptors that were trapped at Wise Point in 1997 that had been banded at other locations, foreign retraps, were (there were 8 others that return data is not yet available):

<u>Date</u>	<u>Specie</u>	<u>Sex</u>	<u>Age</u>	<u>Band #</u>	<u>Banded</u>	<u>Where</u>
9-14	Merlin	F	HY	1204-53728	9-15-97	Kiptopeke
9-20	Merlin	F	HY	1204-53811	9-20-97	Kiptopeke
10-04	Peregrine	F	HY	1807-40591	10-03-97	Assateague
10-04	Merlin	M	HY	2003-71534	10-04-97	Kiptopeke
10-06	Peregrine	M	HY	2206-18296	10-03-97	Assateague
10-10	Merlin	F	HY	1204-53950	10-08-97	Kiptopeke
10-11	Cooper's	M	HY	1204-53914	10-08-97	Kiptopeke
10-12	Cooper's	F	HY	1705-18146	10-12-97	Kiptopeke
10-14	Peregrine	F	HY	1807-04252	10-13-97	Assateague
10-29	Sharp-shinned	F	AHY	1373-20043	10-24-96	Cape May, NJ
11-16	Red-tailed	U	HY	1387-91119	11-15-97	Kiptopeke
11-19	Red-tailed	U	HY	1387-91138	11-29-97	Kiptopeke

Raptors that were trapped at Wise Point in 1996 that had been banded at other locations, foreign retraps, were:

<u>Retrapped</u>	<u>Banded</u>	<u>Band #</u>	<u>Specie</u>	<u>Location</u>
9-21-96	9-21-96	1204-47409	Merlin	Kiptopeke
9-26-96	9-23-96	922-73509	Sharp-shinned	Cape May, NJ
9-27-96	9-27-96	1204-47447	Merlin	Kiptopeke
9-28-96	9-25-96	2206-17628	Peregrine	Cape May, NJ
9-30-96	6-10-96	1807-08454	Peregrine	New Brunswick
10-03-96	10-03-96	1705-26412	Cooper's	Kiptopeke
10-05-96	10-04-96	1204-59920	Cooper's	Cape May, NJ
10-06-96	10-04-96	1433-87960	Sharp-shinned	Kiptopeke
10-07-96	10-05-96	1807-34589	Peregrine	Assateague
10-09-96	10-05-96	1204-59925	Cooper's	Cape May, NJ
10-17-96	10-16-96	987-19992	Northern Goshawk	Kiptopeke
10-17-96	10-15-96	1204-43364	Cooper's	Cape May, NJ
10-17-96	10-13-93	1453-47581	Sharp-shinned	Cape May, NJ
10-18-96	10-18-96	1043-86749	Sharp-shinned	Kiptopeke
10-22-96	7-26-96	4083498 (Denmark)	Peregrine	Greenland
10-22-96	10-07-91	1204-05524	Cooper's	Cape May, NJ
10-23-96	10-18-96	1043-86750	Sharp-shinned	Kiptopeke
10-30-96	10-01-96	872-13137	Sharp-shinned	Nova Scotia
11-15-96	11-15-96	1207-62111	Red-tailed	Kiptopeke
11-15-96	11-15-96	1387-06880	Red-tailed	Kiptopeke
11-16-96	10-04-96	872-13168	Sharp-shinned	Nova Scotia
11-17-96	11-15-96	1387-06889	Red-tailed	Kiptopeke

Raptors that were banded at Wise Point in years prior to 1997 that have been recovered at other locations:

<u>Raptor</u>	<u>Date Banded</u>	<u>Date Recovered</u>	<u>Location Recovered</u>
Merlin	09-28-82	05-04-86	Baffin Island, Canada
Merlin	09-29-82	04-22-84	Solon, Maine
Peregrine	10-04-83	10-10-83	Villa Clara, Cuba
Merlin	10-09-83	12-01-85	Adelaide Beach, Florida
Cooper's	10-27-83	05-09-84	Cambridge, New York
Merlin	09-21-84	04-09-85	Guarare, Panama
Sharp-shinned	09-28-84	01-24-89	Charleston, South Carolina
Sharp-shinned	10-12-84	10-08-86	Kittatinny Mountain, New Jersey
Sharp-shinned	10-19-84	01-05-85	Courtland, Virginia
Red-tailed	11-03-84	02-19-85	Virginia Beach, Virginia
Sharp-shinned	09-26-85	05-04-89	Randolph, New Jersey
Cooper's	10-26-85	03-04-88	Meadowbrook, Pennsylvania

Merlin	09-16-86	09-20-86	Ponce Inlet, Florida
Merlin	09-22-86	08-01-96	Azua, Dominican Republic
Sharp-shinned	10-04-86	11-27-86	St. Augustine, Florida
Sharp-shinned	10-04-86	12-20-86	Bokeeiia, Florida
Sharp-shinned	10-04-86	12-29-86	Hendry County, Florida
Sharp-shinned	10-10-86	10-10-86	Kiptopeke Beach, Virginia
Merlin	10-10-86	10-15-87	St. Johns, Newfoundland
Merlin	10-10-86	08-10-88	Cupids, Newfoundland
Merlin	10-11-86	10-11-86	Kiptopeke Beach, Virginia
American Kestrel	09-18-87	01-20-88	Anquillia, British West Indies
Merlin	09-18-87	11-30-88	La Sierpa, Cuba
Merlin	09-30-87	05-14-88	Amherst, Virginia
Sharp-shinned	10-06-87	10-05-88	Lehigh Furnace, New Jersey
Sharp-shinned	10-06-87	10-11-88	Cape May, New Jersey
Cooper's	10-10-87	10-13-88	Cape May, New Jersey
Cooper's	10-10-87	10-15-90	Branchville, New Jersey
Sharp-shinned	10-11-87	10-18-88	Fisherman Island NWR, Virginia
Merlin	09-12-88	04-01-91	St. Honore, Quebec, Canada
Merlin	09-23-88	10-02-88	Belhaven, North Carolina
Merlin	09-23-88	11-28-88	Guimaro, Cuba
Sharp-shinned	09-29-88	11-28-88	Lake City, Florida
Merlin	10-01-88	05-12-94	Lac St. Francis, Quebec, Canada
Sharp-shinned	10-01-88	11-05-88	Jacksonville, Florida
Cooper's	10-08-88	02-03-89	Swanadell Acres, Delaware
Merlin	10-14-89	02-22-90	Holguin, Cueto, Cuba
Cooper's	10-22-89	10-25-90	Fisherman Island NWR, Virginia
Sharp-shinned	10-30-89	04-20-92	Colebrook, New Hampshire
American Kestrel	09-25-90	07-01-91	Phillipsburg, New Jersey
Sharp-shinned	10-02-90	01-20-91	Dagsboro, Delaware
Cooper's	10-06-90	10-06-90	Fisherman Island NWR, Virginia
Cooper's	10-09-90	10-10-90	Fisherman Island NWR, Virginia
Cooper's	10-10-90	10-12-90	Fisherman Island NWR, Virginia
Cooper's	10-11-90	10-12-90	Fisherman Island NWR, Virginia
Cooper's	10-14-90	01-16-92	Melitota, Maryland
Sharp-shinned	11-03-90	04-30-91	Skowhegan, Maine
Cooper's	11-03-90	00-00-92	Littleton, New Hampshire
Sharp-shinned	11-11-90	12-10-90	Chesapeake, Virginia
Merlin	09-18-91	02-08-92	Banao, Cuba
Merlin	09-18-91	02-01-97	Gibara, Cuba
Peregrine	10-02-91	04-26-95	Santos, Brazil
Cooper's	10-04-91	01-03-96	Miami, Florida
Sharp-shinned	10-05-91	04-22-94	St. Redempter, Quebec, Canada
Sharp-shinned	10-08-91	01-20-95	Norcross, Georgia
Sharp-shinned	10-15-91	12-24-91	Key West, Florida

Cooper's	09-18-92	10-23-95	Cape May, New Jersey
Merlin	10-05-92	08-28-96	St. Pierre, Quebec, Canada
Cooper's	10-08-92	02-27-93	Accomac, Virginia
Peregrine	10-10-92	10-10-92	Fisherman Island NWR, Virginia
Sharp-shinned	10-10-92	02-25-95	Santee Cooper Lakes, South Carolina
Cooper's	10-11-92	10-22-92	Cape May, New Jersey
Cooper's	10-15-92	10-29-94	North Round Hill, West Virginia
Sharp-shinned	10-16-92	02-14-93	Charleston, South Carolina
Sharp-shinned	10-18-92	10-18-92	Kiptopeke State Park, Virginia
Sharp-shinned	10-25-92	10-26-92	Kiptopeke State Park, Virginia
Northern Harrier	11-04-92	04-19-95	Braddock Bay, New York
Red-tailed	11-13-92	07-21-95	Philadelphia, Pennsylvania
Merlin	10-01-93	06-04-94	Antigonish, Nova Scotia, Canada
Merlin	10-09-93	11-24-93	Holguin, Cueto, Cuba
Cooper's	10-11-93	05-06-95	Center Tuftonboro, New Hampshire
Sharp-shinned	10-28-93	11-17-93	Kiptopeke State Park, Virginia
Red-tailed	11-11-93	11-12-93	Cape May, New Jersey
Red-tailed	10-11-94	10-12-94	Kiptopeke State Park, Virginia
Sharp-shinned	10-12-94	12-21-94	Tuckahoe, New Jersey
Red-tailed	10-12-94	11-26-94	Mechanicsburg, Pennsylvania
Sharp-shinned	10-19-94	01-01-95	Smyrna, Delaware
Cooper's	10-23-94	10-24-95	Cape May, New Jersey
Red-tailed	10-25-94	10-25-94	Kiptopeke State Park, Virginia
Sharp-shinned	10-29-94	07-15-97	Gatineau, Quebec, Canada
Cooper's	10-29-94	06-08-97	Stillwater Reservoir, New York
Cooper's	11-02-94	11-08-94	Kiptopeke State Park, Virginia
Sharp-shinned	11-02-94	11-09-94	Kiptopeke State Park, Virginia
Red-tailed	11-12-94	11-14-94	Kiptopeke State Park, Virginia
Red-tailed	11-12-94	05-03-97	Westminster, Massachusetts
Merlin	09-16-95	12-03-95	Los Palos, Cuba
Merlin	09-16-95	05-02-96	Sandy River, Maine
Cooper's	09-28-95	09-28-95	Kiptopeke State Park, Virginia
Merlin	09-29-95	06-13-97	Troy, Maine
Cooper's	10-08-95	10-09-95	Kiptopeke State Park, Virginia
Cooper's	10-19-95	10-20-95	Kiptopeke State Park, Virginia
Red-tailed	11-22-95	11-24-95	Kiptopeke State Park, Virginia
Merlin	09-13-96	05-07-97	Centreville, New Brunswick, Canada
Sharp-shinned	10-04-96	10-04-96	Kiptopeke State Park, Virginia
Cooper's	10-27-96	10-28-96	Kiptopeke State Park, Virginia
Red-tailed	11-15-96	11-15-96	Kiptopeke State Park, Virginia

OBSERVATIONS:

The 1997 season began as if it would set a number of records, but in the end was an average season. There was a strong flight of Merlin and Peregrine, but the flight of other raptors except Northern Goshawk was average or below. A new station record of four Northern Goshawk was set. The average number of raptors banded during the 1989-1997 seasons is 805, which is exactly the number banded in 1997. September 20 was the day that the highest number of raptors were trapped, 59 banded and 2 foreign retraps.

Peregrine Falcon

The Peregrine Falcon, a Federal and Virginia endangered species, is the focus of this project. Records are kept daily of all sightings of this specie. 1997 saw the highest number of sightings since 1990. As in sightings in past years, the adult pair of Peregrine that reside at Fisherman Island were frequently seen and those sightings are included in the numbers below.

<u>Year</u>	<u>Sightings</u>	<u>Trapped</u>
1997	204	17
1996	161	26
1995	127	13
1994	130	9
1993	96	16
1992	70	12
1991	150	25
1990	300+	39
1989	300+	25

As has been noted in prior years, the most frequently used migration route for the Peregrine is from north to south along U.S. Route 13. Approximately 75% of the Peregrine use this route. The pine trees to the north and west of the blind have grown to such height that many Peregrine cannot be seen from the blind or are not sighted until they are past the banding site. 1997 saw new records for Peregrine sightings at the Kiptopeke State Park Hawk Watch Station, and the Peregrine banding operation at Assateague National Seashore set a new record of 254 Peregrine banded.

Bald Eagle

Bald Eagles continue to be seen at Wise Point, especially early in the fall season. On an almost regular basis, two adult and two immature Bald Eagles were observed arising or landing into the east end of the tree line denoted as "C" on map #1.

<u>Year</u>	<u>Days Site Open</u>	<u>Days B. E. Sighted</u>
1997	65	35
1996	65	41
1995	57	23
1994	55	21
1993	52	18
1992	55	30

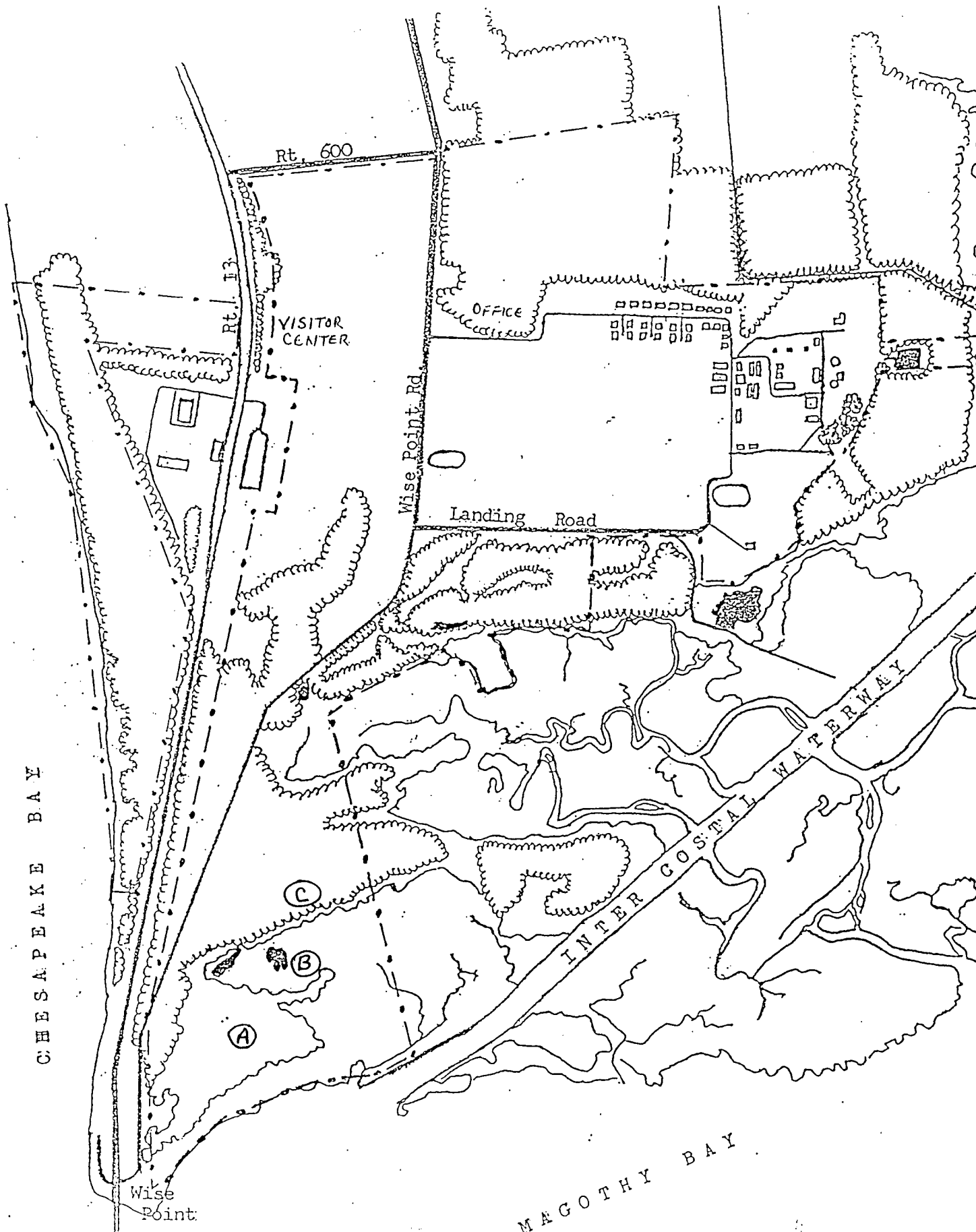
ACKNOWLEDGEMENTS:

I wish to thank those who assisted at the banding station during the season: Shawn Padgett, Rudy Cashwell, Susan Rice, Walter Conrad, Lexie Caswell, Florence James, Alan Feyerherm, Melinda Lukei and Jerry Cobleigh. Earl Hodnett, who operates the raptor banding station at Kiptopeke State Park, provided cowbirds throughout the season.

Susan Rice, refuge manager, and her staff provided assistance in clearing the banding site and the path to it, and with other support throughout the season. Dr. Mitchell Byrd continues to provide administrative support to the project. Bill Woodfin and David Whitehurst of the Virginia Department of Game and Inland Fisheries continue to provide encouragement and financial support to the project. I would not be able to carry out this project without the assistance and support of my wife, Melinda.

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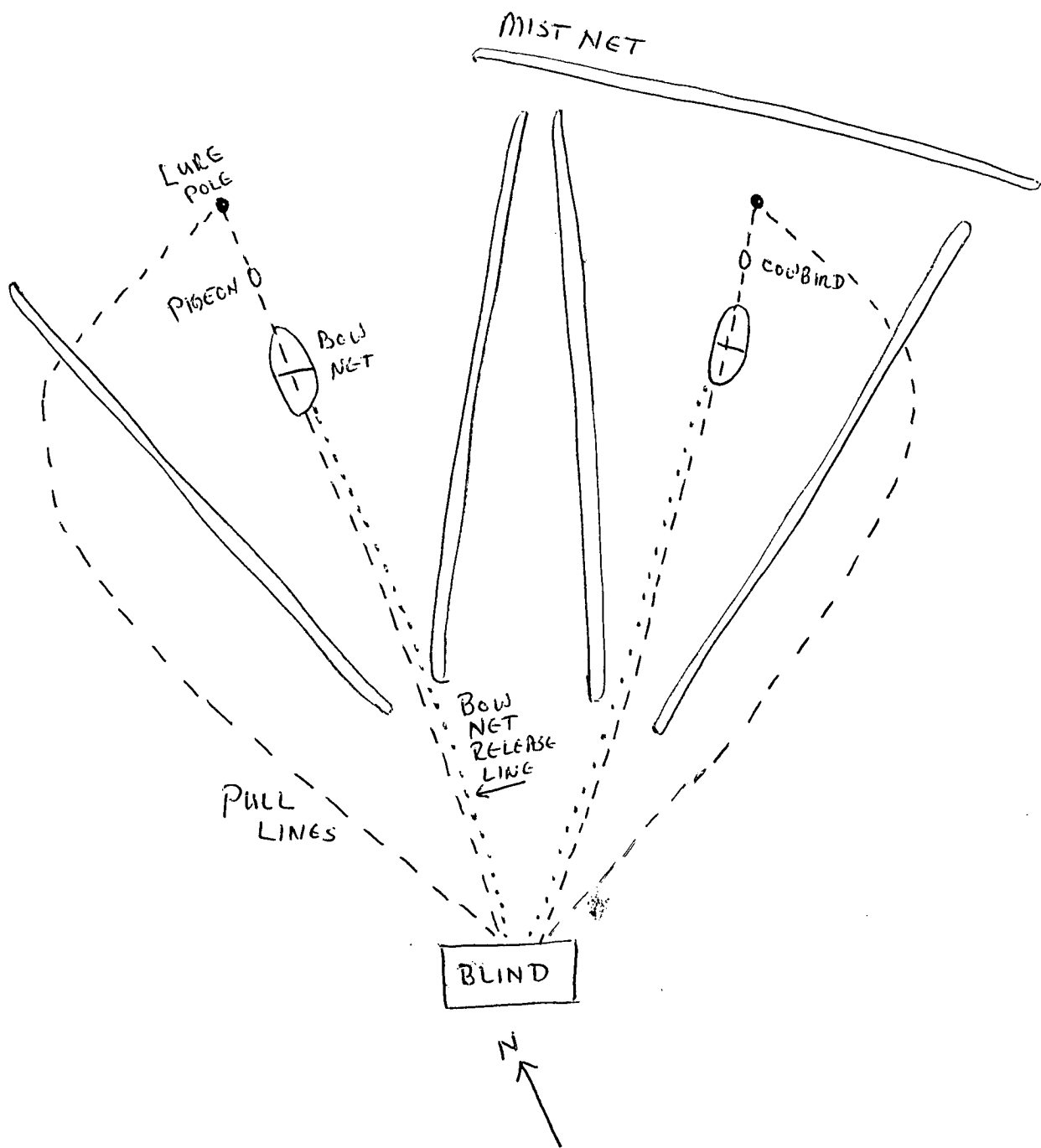
CHESAPEAKE BAY

MAGOTHY BAY

- (A) WISE POINT BLIND SITE
- (B) MARSH
- (C) TREE LINE

MAP # 1

— • — Refuge Boundary
 wavy Woodlots



BANDING SITE ARRANGEMENT
MAP #2