

## PERFORMANCE REPORT

**State:** New Hampshire

**Grant:** W-89-R-6

**Grant Type:** Survey and Inventory

**Period Covered:** July 1, 2005 – June 30, 2006

**Project V:** WATERFOWL RESEARCH AND MANAGEMENT

**Job 1:** MUTE SWAN MANAGEMENT

**Job Objective:** To monitor the distribution and control the abundance of the state's feral mute swan population.

**Procedures:** Population monitoring efforts will include an annual statewide spring breeding survey and a statewide summer survey every 3 years. Summer surveys are conducted under the auspices of the Atlantic Flyway Technical Section. Egg addling, oiling and pithing will be employed in order to maintain a stable statewide population.

**Summary/Results:** In coastal areas between April 26 and May 2, breeding and non-breeding free-flying mute swans were located (Table 1). A total of six pairs nested with non-breeding swans being located at three additional sites. Swan nests were located during the incubation period with a minimum of 34 eggs being produced at the swan nest locations. The average clutch size of the swan nests surveyed was 6.8 eggs/nest with a range of 3-9 eggs/nest. All eggs in the surveyed nests were oiled or pithed to prevent hatching, thus helping to meet the department's objective to stabilize and reduce the feral mute swan population.

**Target Date:** June 30, annually.

**Status of Progress:** On schedule.

**Deviations:** None

**Total Cost:**

**Location:** Statewide

**Recommendations and Remarks:** Continue job as planned.

**Prepared by:** Edward Robinson  
Migratory Game Bird Project Biologist

Table 1.

**MUTE SWAN SURVEY – SPRING 2006**

<b>TOWN</b>	<b>LOCATION</b>	<b>NEST</b>	<b># EGGS</b>	<b># ADULTS</b>	<b>COMMENTS</b>
Concord	Turtletown Pond	No	-	1	Juvenile
Durham	Adams Point	No	-	0	No birds
Durham	Mill Pond	Yes	7	2	-
Durham	Young Drive	Yes	7	2	-
Hampton	Meadow Pond	No	-	-	No birds
Hampton	Taylor River	No	-	-	No birds
Lee	Rt. 125 Marsh	Yes	3	2	-
Newmarket	Lamprey River	No	-	-	No birds
Newington	Great Bay NWR	No	-	1	Non-breeder
Nottingham	Nottingham Lake	No	-	-	No birds
Rollinsford	Salmon Falls	Yes	8	2	-
Rye	Eel Pond	Yes	9	2	-
Rye	Abenaki Pond	No	-	2	Non-breeders
Rye	Fuller Farm	Yes	Unk.	2	Unsuccessful

## PERFORMANCE REPORT

**State:** New Hampshire **Grant W-89-R-6**

**Grant Type:** Survey and Inventory

**Period Covered:** July 1, 2005 – June 30, 2006

**Project V:** WATERFOWL RESEARCH AND MANAGEMENT

**Job 2:** WINTER POPULATION STUDIES

**Job Objective:** To annually inventory New Hampshire's coastal waterfowl resources with respect to wintering populations and to acquire census data which will contribute to Atlantic Flyway population estimates. To inventory known inland locations to determine numbers of waterfowl that winter outside traditional coastal locations.

**Procedures:** An aerial waterfowl census of New Hampshire's coastline, Isles of Shoals, Great Bay, and the Hampton/Seabrook marsh areas will be carried out during early January according to procedures prescribed by the U.S. Fish and Wildlife Service.

Survey information collected includes the number by species of waterfowl observed; a description of weather, tides and ice conditions; a delineation of survey units covered; an account of unusual waterfowl concentrations; and notations concerning participating personnel, survey methods employed and area coverage in miles.

This survey is conducted under the supervision of the U.S. Fish and Wildlife Service. Data will be incorporated with census data from other Atlantic Flyway states by the Office of Migratory Bird Management, U.S. Fish and Wildlife Service, in order to estimate the flyway waterfowl population.

During January and February known inland wintering locations will be surveyed to determine the numbers of mallards, black ducks and Canada geese that winter outside coastal locations. The surveys will be conducted by ground. Data will be summarized by location, town, and county, by species, with the primary object being to monitor "park mallard" populations.

**Summary/Results:** New Hampshire conducted the annual coastal survey on January 12, 2006. The coastal habitats were ice-free with little snow on the ground. The ice-free conditions resulted in the birds being widely distributed and made counting more difficult. All four coastal areas; Great Bay, Hampton/Seabrook saltmarshes, the coastline, and the Isles of Shoals were surveyed. The 2006 winter coastal count of 6,992 waterfowl was 53% above the 55-year average. The Canada goose count (3,413), greater scaup (1,500), and the sea duck count (976) were all higher than in 2005 and substantially above the long-term average. The black duck count was 234, which was one of the lowest recorded and was significantly below the long-term average of 1,385 birds. Great Bay continues to winter the bulk of the waterfowl (83%) and New

Hampshire's count (Table 2) has the most value when incorporated into the total flyway count as winter weather greatly influences the number of waterfowl that winter in the state.

During January and February, known inland wintering locations were surveyed to determine the abundance of mallards, black ducks and Canada geese that winter outside the coastal region. Wintering populations of waterfowl were surveyed by vehicle at 127 inland locations in ten counties. The number of the three primary species targeted was 7,031, which includes 5,088 mallards, 390 black ducks, and 1,553 Canada geese. The 2006 mallard count was above the long-term average, the black duck count was below the long-term average, and the Canada goose count was the highest recorded in fifteen years, which reflects a continued increase in the resident population and a fairly snow-free winter.

Table 3 depicts the number of waterfowl surveyed in each county for 2006 and Table 4 summarizes the species data since 1988.

**Target Date:** June 30, annually

**Status of Progress:** On schedule.

**Deviations:** None

**Total Costs:**

**Location:** Statewide

**Recommendations and Remarks:** An aerial waterfowl census of New Hampshire's coastline, Isles of Shoals, Great Bay, and the Hampton / Seabrook Marsh area will be carried out during early January according to procedures prescribed by the U.S. Fish and Wildlife Service. A vehicle survey of known inland wintering locations will be conducted in January and February. State Fish and Game personnel conduct both surveys. Wildlife Biologist Eric Orff and Wildlife Biologist Julie Robinson conducted the coastal survey through flight arrangements with the Concord Airport. Regional Wildlife Biologists and Technicians conducted the inland survey.

**Prepared by:** Edward Robinson  
Migratory Game Bird Project Biologist

ZONE SUMMARY  
MIDWINTER WATERFOWL SURVEY

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Table 2  
STATE New Hampshire

ZONE: Coast

DATES 01 TO 10 ~~XX~~ 2006

Survey Unit/Area	Great Bay	Hampton/ Seabrook	Coastline	Isle of Sho Shoals	Totals
Observer(s)	E. Orff/ J. Robinson				
Mallard	470	38	30	0	538
Black duck	344	39	25	0	408
Mottled duck					
Gadwall					
Wigeon					
G-W teal					
B-W teal					
Cinn. teal					
Shoveler					
Pintail					
Wood duck					
Whistling duck					
Total Dabblers	814	77	55	0	946
Redhead					
Canvasback					
Scup	1,500	0	0	0	1,500
Ringneck					
Goldeneye	4	0	0	3	7
Bufflehead	30	0	8	2	40
Ruddy duck					
Total Divers	1,534	0	8	5	1,547
Eider	0	0	2	839	841
Scoter	0	0	0	85	85
Oldsquaw	0	0	50	0	50
Harlequin					
Total Seaducks	0	0	52	924	976
Mergansers	69	0	0	0	69
Unident. ducks					
TOTAL DUCKS	2,417	77	115	929	3,538
Brant					
Snow goose					
Blue goose					
Ross' goose					
White-fronted goose					
Canada goose	3,349	0	64	0	3,413
TOTAL GEESE	3,349	0	64	0	3,413
Whistling swan					
Trumpeter swan					
Mute swan	39	2	0	0	41
TOTAL SWANS	39	2	0	0	41
COOT					
GRAND TOTAL	5,805	79	179	929	6,992

Table 3.

**2006 WINTERING WATERFOWL POPULATIONS  
AT INLAND LOCATIONS**

<b>COUNTY</b>	<b>MALLARDS</b>	<b>BLACK DUCKS</b>	<b>CANADA GEESE</b>
Belknap	128	41	79
Carroll	204	2	0
Cheshire	2	0	150
Coos	1	0	0
Grafton	71	8	0
Hillsborough	1,219	35	330
Merrimack	883	40	170
Rockingham	2,083	236	9
Strafford	217	16	815
Sullivan	280	12	0
<b>TOTAL</b>	<b>5,088</b>	<b>390</b>	<b>1,553</b>

Table 4.

**1988 – 2006 WINTERING WATERFOWL POPULATIONS  
AT INLAND LOCATIONS**

<b>YEAR</b>	<b>MALLARDS</b>	<b>BLACK DUCKS</b>	<b>CANADA GEESE</b>
2006	5,088	390	1,553
2005	4,479	505	854
2004	3,466	427	847
2003	5,316	561	371
2002	4,870	802	1,367
2001	6,909	721	281
2000	7,107	809	1,025
1999	4,821	267	297
1998	4,161	520	764
1997	4,306	203	334
1996	5,592	357	195
1995	5,124	262	470
1994	4,336	428	114
1993	4,941	278	827
1992	4,667	296	578
1991	3,713	446	--
1990	3,194	201	--
1989	2,750	--	--
1988	1,800	--	--
<b>19 Yr Avg.</b>	<b>4,560</b>	<b>440</b>	<b>659</b>

## PERFORMANCE REPORT

**State:** New Hampshire **Grant W-89-R-6**

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**Period Covered:** July 1, 2005 – June 30, 2006

**Project V:** WATERFOWL RESEARCH AND MANAGEMENT

**Job 3:** STATEWIDE BREEDING WATERFOWL POPULATION STUDY

**Job Objective:** To annually determine the status, distribution, abundance and ecology of breeding waterfowl populations in New Hampshire.

**Procedures:** A breeding population survey targeting primarily mallards, black ducks, wood ducks and Canada geese will be conducted statewide from April 15 - May 14 each year. The survey is intended to provide an index of breeding waterfowl populations in the Atlantic Flyway; specifically, the northeastern United States. Eleven northeastern states will participate in surveying over 1,500 breeding bird plots. Some 75 plots are assigned to New Hampshire and are distributed throughout 3 physiographic zones. Each plot is randomly selected and is 1 km<sup>2</sup>.

**Summary/Results:** The annual Mallard / Waterfowl Breeding Survey was conducted from April 17 – May 5, 2006. Timing of the survey was similar to past years. Seventy-five randomly established one-kilometer square plots, (Figure 1), were surveyed following guidelines developed by the Mallard Committee of the Atlantic Flyway Waterfowl Council Technical Section. The 2006 survey was the eighteenth consecutive year of the breeding survey conducted in the Northeastern section of the Atlantic Flyway.

The Atlantic Flyway Breeding Waterfowl Survey was conducted for the eighteenth consecutive spring. Data from the survey was summarized and provided to the Atlantic Flyway Technical Section and the U.S. Fish and Wildlife Service for inclusion in the annual Waterfowl Population Trend Report. As in previous years, the mallard continued to be the most abundant breeding waterfowl species in the State, with the wood duck and the Canada goose being the next most common breeders (Table 5). Breeding units for mallards and wood ducks were lower than last year and the black duck units were slightly higher than last year. The Canada goose breeding unit was the highest ever recorded, as was the total number of geese observed. In total, ten species of breeding waterfowl were recorded in the 2006 survey. Long-term data for New Hampshire and the Northeast United States is summarized in Tables 6 and 7.

**Target Date:** June 30, annually.

**Status of Progress:** On schedule.

**Deviations:** None

**Total Cost:**

**Location:** Statewide

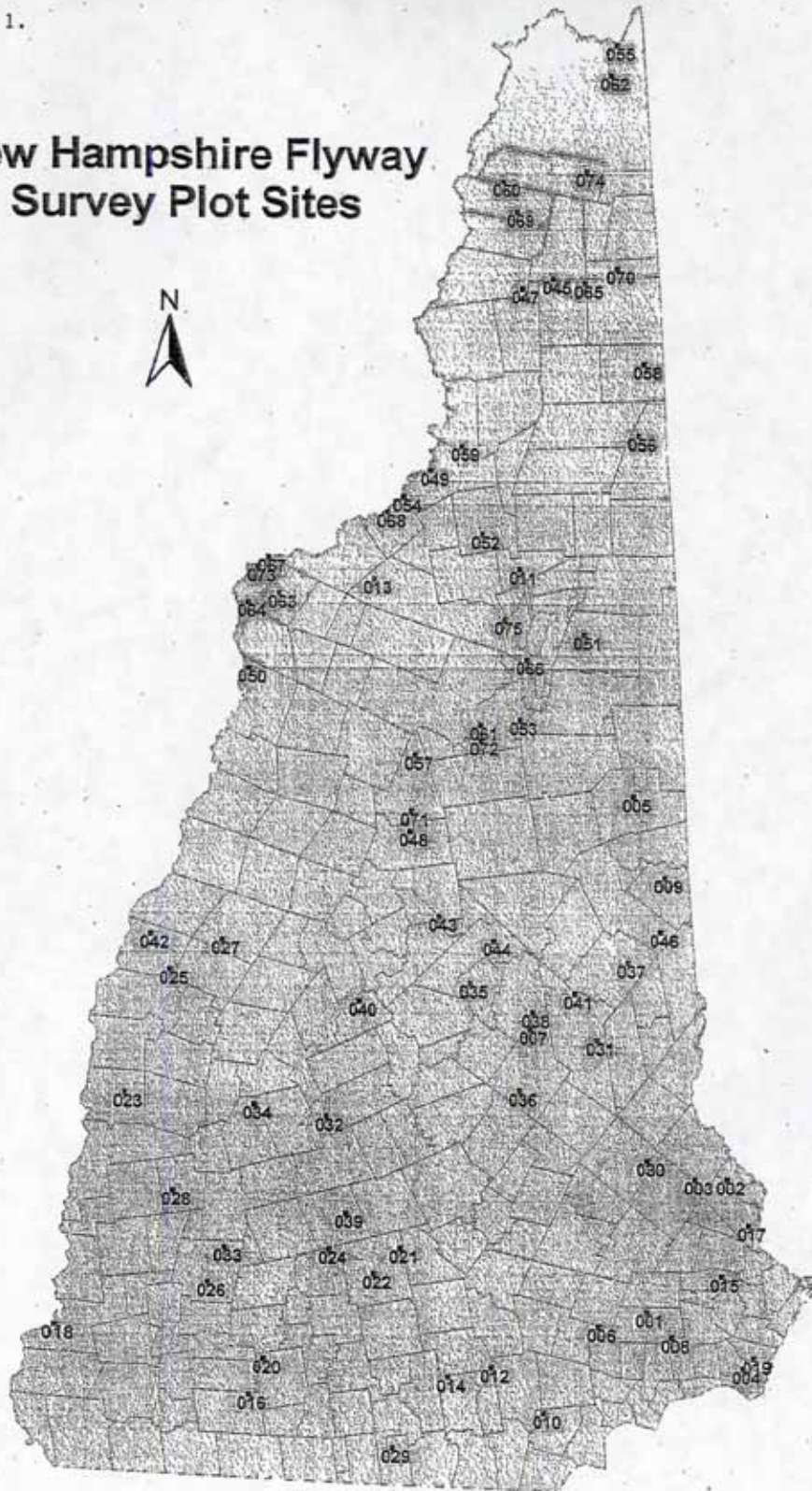
**Recommendations and Remarks:** Continue with job.

**Prepared by:** Edward Robinson  
Migratory Game Bird Project Biologist



FIGURE 1.

# New Hampshire Flyway Survey Plot Sites



**TABLE 5. WATERFOWL BREEDING PAIR INDEX IN NEW HAMPSHIRE BREEDING UNITS,  
APRIL 17-MAY 5, 2006**

PHYSIOLOGICAL ZONE	# OF PLOTS	MALLARD	BLACK DUCK	WOOD DUCK	CANADA GEESE
SM + 12	12	16	7	6	11
27	32	19	5	13	17
28	31	24	6	10	7
<b>TOTALS:</b>	<b>75</b>	<b>59</b>	<b>18</b>	<b>29</b>	<b>35</b>

**TABLE 6. TOTAL NUMBER OF BREEDING PAIRS CALCULATED FOR NEW HAMPSHIRE  
(1989 – 2006)**

YEAR	MALLARD PAIRS	BLACK DUCK PAIRS	WOOD DUCK PAIRS	CANADA GEESE
1989	9,918	5,793	10,451	-
1990	13,389	4,921	9,998	-
1991	16,948	6,567	19,802	-
1992	25,169	7,607	22,385	-
1993	22,555	7,513	11,514	-
1994	18,725	3,118	7,646	898
1995	17,598	7,853	13,361	4,264
1996	20,557	5,785	13,221	6,368
1997	16,060	3,463	7,553	3,408
1998	13,083	4,582	7,692	6,790
1999	18,576	3,836	8,140	4,985
2000	16,724	3,671	10,616	7,591
2001	11,063	1,330	4,407	5,166
2002	16,677	4,151	16,503	5,630
2003	12,570	4,887	11,022	5,728
2004	25,406	4,407	19,496	5,938
2005	24,693	4,606	17,575	6,686
2006	17,788	3,803	9,474	10,112

**TABLE 7. TOTAL NUMBER OF BREEDING PAIRS CALCULATED FOR THE  
NORTHERN ATLANTIC FLYWAY STATES (1989 – 2006)**

YEAR	MALLARD PAIRS	BLACK DUCK PAIRS	WOOD DUCK PAIRS	TOTAL # OF CANADA GEESE
1989	243,552	22,073	119,193	
1990	304,120	27,574	112,546	
1991	360,851	35,144	153,721	
1992	292,614	43,015	176,679	500,388
1993	315,443	39,169	131,637	595,273
1994	418,656	29,457	137,447	608,297
1995	403,588	32,660	166,243	736,708
1996	403,821	31,645	156,160	932,592
1997	383,252	29,780	186,107	1,013,324
1998	374,589	31,817	184,708	970,055
1999	421,369	38,661	194,468	999,469
2000	357,114	36,383	172,931	1,015,920
2001	384,875	31,842	186,142	1,011,264
2002	400,989	28,969	202,157	965,982
2003	347,280	28,863	167,135	1,083,180
2004	388,399	25,052	172,845	980,433
2005	358,214	21,471	195,916	1,064,696
2006	347,584	24,948	196,070	1,149,061

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**Period Covered:** July 1, 2005 – June 30, 2006

**Project V:** WATERFOWL RESEARCH AND MANAGEMENT

**Job 4:** PROFESSIONAL EXCHANGE AND DISSEMINATION OF PROJECT INFORMATION

**Job Objective:** To participate in programs associated with migratory game bird research and management in New Hampshire. To assist provincial, federal, state, local and private conservation agencies in implementation of the Atlantic Flyway Waterfowl Management Plan, other migratory game bird management plans, and to prepare all associated research reports and annual performance reports.

**Procedures:** Prepare materials and provide technical assistance to the Atlantic Flyway Waterfowl Council, federal, state and private wildlife agencies and attend meetings and conferences that lead to the efficient management of waterfowl and other migratory game birds. Prepare all associated performance reports and research proposals.

Attend annual Atlantic Flyway Waterfowl Council meetings to share research and management findings and opinions, to increase understanding and cooperation between the 17 states and 6 eastern provinces of Canada that comprise the Atlantic Flyway. Information is also provided to town, state and county agencies as well as sportsmen's groups and individuals relative to migratory game bird research and management within the state.

**Summary/Results:** Several waterfowl-related meetings were held or attended during the project segment. These include the Atlantic Flyway Council and Technical Section meetings and one annual waterfowl regulation meeting. Waterfowl hunting seasons were determined through rule-making procedures. Numerous correspondence related to migratory game birds were processed.

The following meetings were attended:

1. Atlantic Flyway Technical Section and Council Meeting, July 21 – 25, 2005, Bar Harbor, ME.
2. New Hampshire Waterfowl Regulations Hearing was held on August 17, 2005 in Concord, NH. The 2005 – 2006 New Hampshire Waterfowl hunting season was adopted through Federal rulemaking from the agenda.
3. Atlantic Flyway Technical Section Joint Meeting, February 18 – 24, 2006, Louisville, KY.

The hunting season dates for all migratory game bird species are described in detail in the 2005-2006 New Hampshire Migratory Bird Hunting Regulations leaflet.

**Target Date:** June 30, annually.

**Status of Progress:** On schedule.

**Deviations:** None

**Total Cost:**

**Location:** Statewide

**Recommendations and Remarks:** Continue with job.

**Prepared by:** Edward Robinson  
Migratory Game Bird Project Biologist

## 2005 - 2006 NEW HAMPSHIRE MIGRATORY BIRD HUNTING REGULATIONS

### NOTICE: A New Hampshire Waterfowl Stamp, a Hip Validation Number, and a Federal Migratory Bird Hunting Stamp are required. Only a Hip Validation Number is required for hunting Woodcock or Snipe. To obtain a Hip Validation Number call 1-800-307-6183 or www.wildlife.state.nh.us

Nontoxic Shot Requirement: No person shall have lead shot in their possession while in the act of waterfowl hunting. Nontoxic Shot is required statewide. The U.S. Fish and Wildlife Service has approved Steel Shot, Bismuth-In Shot, Tungsten - Iron Shot, Tungsten - Polymer Shot, Tungsten - Matrix Shot, Tungsten - Nickel - Iron Shot, Tungsten - Iron - Nickel - Tin Shot, Tungsten - Bronze Shot and Tungsten - Tin - Bismuth Shot.

Shooting hours are 1/2 hour BEFORE SUNRISE to SUNSET.

### DUCKS, Mergansers, Coots and Canada Geese

**Season Dates:** INLAND ZONE: October 4 through November 13, November 23 through December 11.

COASTAL ZONE: October 5 through October 15, November 23 through January 9.

### CANVASBACK RESTRICTION

INLAND ZONE: November 23 through December 11.

COASTAL ZONE: November 23 through December 22.

### BRAUNT

**Season Dates:** INLAND ZONE: October 4 through November 2.

COASTAL ZONE: October 5 through October 16, November 23 through December 10.

CANADA GEESE (September Season) **Statewide:** September 6 through September 25.

### SNOW GEESE

**Season Dates:** INLAND ZONE: October 4 through December 11.

COASTAL ZONE: October 5 through October 30.

WOODCOCK **Season Dates:** October 1 through October 30.

COMMON SNIFE **Season Dates:** September 15 through October 30.

	DUCKS	MERGANSERS	COOT	SNOW GEESE	BRAUNT	WOODCOCK	COMMON SNIFE
Daily Bag Limit	6	5	15	15	2	3	8
Possession Limit	12	10	30	No Limit	4	6	16

### EXCEPTIONS

Bag Limit 4 (includes 2 hens) Possession Limit 6 (includes 4 hens)

Species	Bag Limit	Possession Limit
Mallard	4	8
Scoter	4	8
Elder	4	8
Long-tailed Duck	4	8
Sculp	2	4
Wood Duck	2	4
Redhead	2	4
Black Duck	1	2
Hooded Merganser	1	2
Pintail	1	2
Canvasback	closed	closed
Harlequin Duck	2	4
Canada Geese (Regular Season)	5	10
Canada Geese (September Season)	5	10

**Sea Ducks (scoter, elder, & long-tailed duck):** Season from October 1 through January 15 in all coastal waters & rivers & streams seaward from the first upstream bridge.

**Bag limit:** 7 of which no more than 4 shall be scoters, or elders, or long-tailed ducks. Possession limit: 14 of which no more than 8 shall be scoters, or elders, or long-tailed ducks. In all other areas of the state, sea ducks may be taken only during the regular open season for ducks and shall be included in the regular season daily bag and possession limit.

**Falconry:** The inland zone season shall be October 4 - January 16. The coastal zone season shall be January 25 - March 10. The Falconry daily bag limit shall not exceed 3 migratory game birds in the appropriate.

**STATE RESTRICTION - RETRIEVAL OF CRIPPLES:** The shooting of crippled waterfowl from a craft or motorboat under power is prohibited in all inland and coastal waters of the state including coastal and sea duck areas.

### Areas Closed to Duck Hunting:

Certain areas are closed to duck hunting by State rule or law, such as Back Channel, which is located in Portsmouth, Pike and New Castle. For Detailed information about this closure or other closures, contact the New Hampshire Fish and Game Department at 271-3271.

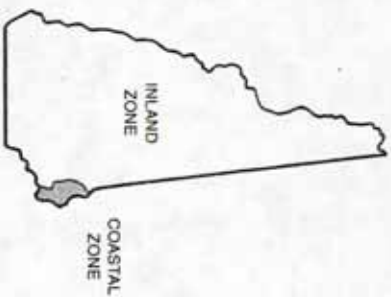
**Special Youth Waterfowl Hunting Days:** September 24 and 25 shall be the New Hampshire's youth waterfowl hunting days. Youth shall be 15 years of age or younger and shall be accompanied by a licensed adult over 18 years of age. Adults who accompany youth hunters during the special youth waterfowl hunting days shall possess a current hunting license and shall not take waterfowl. Youth hunters shall take waterfowl in accordance with the 2005-2006 New Hampshire Migratory Bird Hunting Regulations.

## NEW HAMPSHIRE

**Coastal Zone -** Beginning at the Maine-New Hampshire line in Rollinsford, that portion of the State east of a boundary formed by State Highway 4 west to the city of Dover, south to the intersection of State Highway 108, south along State Highway 108 through Madbury, Durham, and Newmarket to the junction of State Highway 85 in Newfields, south to State Highway 101 in Exeter, east to Interstate 95 (New Hampshire Turnpike) in Hampton, and south to the Massachusetts Line.

**Inland Zone -** That portion of the State west of the above boundary, including the Vermont portion of the Connecticut River Zone which is that area east of Interstate 91 beginning at the Massachusetts border; Interstate 91 north to Route 2; Route 2 north to Route 102; Route 102 north to Route 253; and Route 253 north to the border with Canada. A person holding a New Hampshire hunting license which allows taking of migratory waterfowl may take migratory waterfowl and coots form the Connecticut River Zone.

The Connecticut River Zone in New Hampshire shall include that portion of New Hampshire lying west of the line defined by New Hampshire Route 63 from the Massachusetts border north to Route 12; Route 12 north to Route 12-A; Route 12-A north to Route 10; Route 10 north to Route 135; Route 135 north to U.S. Route 3; U.S. Route 3 north to the intersection with the Connecticut River. A person holding a Vermont resident hunting license which allows the taking of migratory waterfowl may take migratory waterfowl and coots from the Connecticut River Zone.



DELINEATION OF INLAND-COASTAL BOUNDARY

## SUMMARY OF FEDERAL REGULATIONS

In addition to State regulations, the following Federal rules apply to the taking, possession, shipping, transporting, and storing of migratory game birds. This is only a summary. Each hunter should also consult actual Federal regulations, which may be found in Title 50, Code of Federal Regulations, Part 20.

**RESTRICTION.** No person shall take migratory game birds:

- With a trap, snare, net, crossbow, rifle, pistol, swivel gun, shotgun larger than 10-gauge, punt gun, battery gun, machine gun, fishhook, poison, drug, explosive, or stupefying substance.
- With a shotgun capable of holding more than three shells, unless it is plugged with a one-piece filler which is incapable of removal without disassembling the gun.
- From a sink box (a low floating device, having a depression affording the hunter a means of concealment beneath the surface of the water).
- From or with the aid or use of a car or other motor-driven land conveyance, or any aircraft, except that paraplegics and single or double amputees of the legs may take from any stationary motor vehicle or stationary motor-driven land conveyance. "Paraplegic" means an individual afflicted with paralysis of the lower half of the body with involvement of both legs, usually due to disease or injury to the spinal cord.
- From or by means of any motor boat or sail boat unless the motor has been completely shut off and/or the sail furled, and its progress therefrom has ceased.
- By the use or aid of live decoys. All live, tame or captive ducks and geese shall be removed for a period of 10 consecutive days prior to hunting, and confined within an enclosure which substantially reduces the audibility of their calls and totally conceals such tame birds from the sight of migratory waterfowl.
- Using records or tapes of migratory bird calls or sounds, or electrically amplified imitations of birds calls.
- By means or aid of any motorized conveyance or any sail boat used for the purpose of or resulting in the driving, rallying, chasing, or stirring up of birds.
- By the aid of baiting, or on or over any baited area, where a person knows or reasonably should know that the area is or has been baited. Baiting means the direct or indirect placing, exposing, depositing, distributing, or scattering of salt, grain, or other feed that could serve as a lure or attraction for migratory game birds to, on, or over any areas where hunters are attempting to take them. Any such area will remain a baited area for ten days following the complete removal of all such salt, grain or other feed.

**CLOSED SEASON.** No person shall take migratory game birds during the closed season.

**SHOOTING OR HAWKING HOURS.** No person shall take migratory game birds except during the hours open to shooting and hawking as prescribed.

**DAILY BAG LIMIT.** No person shall take in any one day more than one daily bag limit.

**TAGGING.** No person shall give, put or leave any migratory game birds at any place or in the custody of another person unless the birds are tagged by the hunter with the following information:

1. The hunter's signature.
2. The hunter's address.
3. The total number of birds involved, by species.
4. The dates such birds were killed.

**CUSTODY OF BIRDS OF ANOTHER.** No person or business shall receive or have in custody any migratory game birds belonging to another person unless such birds are properly tagged.

**FIELD POSSESSION LIMIT.** No person shall possess more than one daily bag limit tagged or not tagged while in the field or while returning from the field to one's car, hunting camp, home, etc.

**WANTON WASTE.** No person shall kill or cripple any migratory game bird without making a reasonable effort to retrieve the bird and retain it in their actual custody.

**POSSESSION OF LIVE BIRDS.** Wounded birds reduced to possession shall be immediately killed and included in the daily bag limit.

**DRESSING.** No person shall completely field dress any migratory game bird (except doves and band-tailed pigeons) and then transport the birds from the field. The head or one fully feathered wing must remain attached to all such birds while being transported from the field to one's home or to a migratory bird preservation facility.

**SHIPMENT.** No person shall ship migratory game birds unless the package is marked on the outside with: (a) the name and address of the person sending the birds, (b) the name and address of the person to whom the birds are being sent, and (c) the number of birds, by species, contained in the package.

**IMPORTATION.** For information regarding the importation of migratory birds killed in another country hunters should consult 50 CFR 20.61 through 20.66. One fully-feathered wing must remain attached to all migratory game birds being transported between the port of entry and one's home or to a migratory bird preservation facility. No person shall import migratory game birds belonging to another person.

### **MIGRATORY BIRD HUNTING AND CONSERVATION STAMP.**

The law requires that each waterfowl hunter 16 years of age and over must carry on their person a valid Migratory Bird Hunting and Conservation Stamp, or duck stamp, signed in ink across the face.









**DUAL VIOLATION.** Violation of State migratory bird regulations is also a violation of Federal regulations.

**CAUTION:** More restrictive regulations may apply to National Wildlife Refuges open to public hunting. For additional information on Federal regulations, contact Resident Special Agent, U.S. Fish and Wildlife Service, P.O. Box 1101, Portsmouth NH 03802, (603) 433-0502. Great Bay National Wildlife Refuge, (603) 431-7511. Lake Umbagog National Wildlife Refuge, (603) 482-3415.

**BANDED WATERFOWL:** Please report all banded waterfowl by calling the new toll free number: 1-800-327-BAND.

This publication is intended for information purposes only. The officially filed rules may be examined at Administrative Procedures Division - Office of Legislative Services, State House, Concord, New Hampshire 03301.

# NEW HAMPSHIRE WATERFOWL HUNTING ZONES

- NH Waterfowl Hunting Zones
-  Inland
  -  Coastal
  -  Connecticut River
  -  State
  -  County
  -  Town
  -  US Route
  -  State Route
  -  Rivers and Streams
  -  Lakes and Ponds

## Coastal Zone

Beginning at the Maine-New Hampshire border in Rollinsford, that portion of the State east of a boundary formed by Route 4 west to the city of Dover; south to the intersection of Route 108; south along Route 108 through Madbury, Durham and Newmarket to the junction of Route 85 in Newfields; south to Route 101 in Exeter; east to Interstate 95 (NH Turnpike) in Hampton; and south to the Massachusetts border.

## Inland Zone

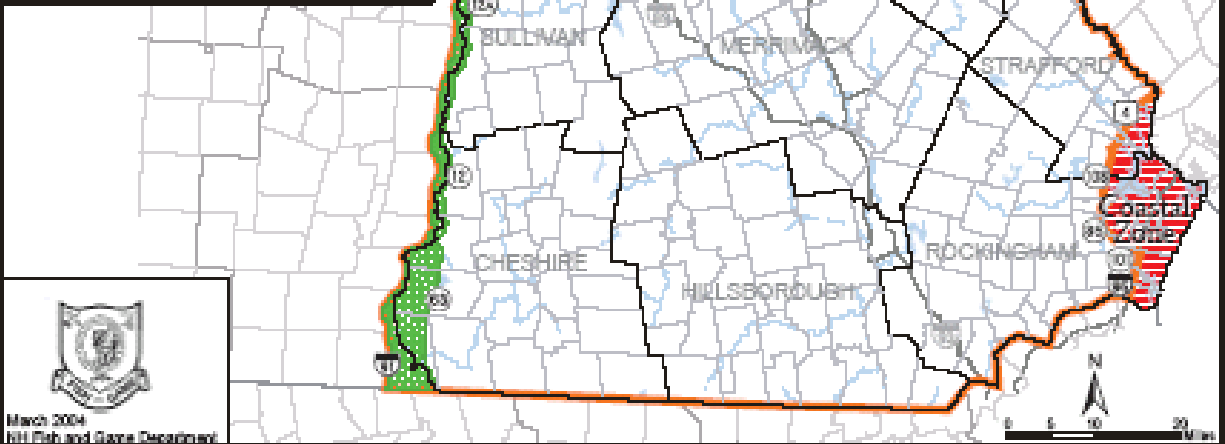
That portion of the State west of the above boundary, including the Vermont portion of the Connecticut River Zone which is the area east of Interstate 91 beginning at the Massachusetts border; Interstate 91 north to Route 2; Route 2 north to Route 102; Route 102 north to Route 253; and Route 253 north to the border with Canada.

A person holding a New Hampshire hunting license which allows taking of migratory waterfowl may take migratory waterfowl and coots from the Connecticut River Zone.

The Connecticut River Zone in New Hampshire shall include that portion of NH lying west of the line defined by NH Route 83 from the Massachusetts border north to Route 12; Route 12 north to Route 12-A; Route 12-A north to Route 10; Route 10 north to Route 135; Route 135 north to Route 3; Route 3 north to the intersection with the Connecticut River.

A person holding a Vermont resident hunting license which allows the taking of migratory waterfowl may take migratory waterfowl and coots from the Connecticut River Zone.

Regulations for the New Hampshire Inland Zone apply to the Vermont portion of the Connecticut River Zone.



## PERFORMANCE REPORT

**State:** New Hampshire **Grant W-89-R-6**

**Grant Type:** Survey and Inventory

**Period Covered:** July 1, 2005 – June 30, 2006

**Project V:** WATERFOWL RESEARCH AND MANAGEMENT

**Job 5:** STATEWIDE WATERFOWL BANDING

**Job Objective:** To annually band puddle ducks and Canada geese to obtain data on mortality, survival, and general information on migration and distribution of the kill.

**Procedures:** Banding of puddle ducks will be conducted primarily on Department management areas through the use of bait traps, cannon nets and capture of box-nesting females. Primary species will be wood ducks, mallards and black ducks. Efforts will be made to band both pre-hunting season and wintering populations. Banding of Canada geese will be conducted during the summer molt at select sites throughout the state. The objective is to band from 300 to 500 Canada geese each year. Banding data is supplied to the U.S. Fish and Wildlife service for detailed analysis on a flyway-wide basis.

**Summary/Results:** In September, mallards, black ducks, and wood ducks were captured and banded at three sites, one each in Coos County, Strafford County, and Rockingham County. Rocket nets were used to capture ducks at two sites and bait traps were used at one site.

In winter 2006, banding occurred at the historical Fresh Creek site in Dover in an effort to target mallards and black ducks.

Spring nest box checks to band adult hen wood ducks and hooded mergansers did not occur due to extremely heavy and persistent rain during the month of May.

In late June and early July, Canada geese were captured during the molt for leg banding. A total of 21 capture drives were conducted in Belknap, Cheshire, Coos, Hillsborough, Rockingham and Strafford counties.

### Ducks

A total of 577 ducks were captured during the project segment. This includes 533 newly banded ducks and 44 previously banded ducks.

Pre-hunting season banding efforts in late summer 2005 resulted in 392 ducks being banded. Rocket netting accounted for the capture of 206 ducks while bait traps were used to capture 186 ducks. A total of 260 mallards, 109 wood ducks, and 23 black ducks were banded (Table 8). The Department participated in the North American Harvest Reporting Rate Study with 84 ducks (61 mallards and 23 black ducks) being banded with “special” bands.



Statewide, the ratio of juveniles banded to adult females banded for wood ducks was 2.9 j/a and for mallards and black ducks combined the ratio was 6.4 j/a.

Winter banding continued at one coastal site at Fresh Creek in Dover. On March 1, 2006, 185 ducks were captured and all the birds were mallards. New bands were placed on 141 mallards and 44 were recaptured birds; of which most were banded on site in previous years.

### **Canada Geese**

In 2006, 754 Canada geese were captured during the molt. Leg bands were placed on 633 geese and 121 previously banded geese were recaptured (Tables 9 and 10). Most of the recaptured geese were banded in the state in previous years.

A total of 82 complete broods of geese were captured. The average brood size was 4.8 goslings per brood, which was slightly less than the 2001-2005 average of 5.1 goslings/brood. It suggests that the extremely wet spring did not have a significant negative impact on gosling survival as would have been expected.

New Hampshire's banding effort for ducks and geese is part of the New England Zone Cooperative effort and the data is forwarded to the U.S. Fish and Wildlife Service for analysis with other Atlantic Flyway banding data.

**Target Date:** June 30, annually.

**Status of Progress:** On schedule.

**Deviations:** None

**Total Cost:**

**Location:** Statewide

**Recommendations and Remarks:** Continue with job and efforts to meet Atlantic Flyway banding quotas.

**Prepared by:** Edward Robinson  
Migratory Game Bird Project Biologist

Table 8.

**2005 PRE-HUNTING SEASON  
WATERFOWL BANDING SUMMARY**

COUNTY	SPECIES	HYM	HYF	AHYM	AHYF	TOTAL
Coos (1 Site-Rocket Nets)	Mallard	0	0	0	2	2
	Black Duck	0	0	1	0	1
	Wood Duck	15	16	42	14	87
<b>County Total</b>						<b>90</b>
Strafford (1 site-Rocket Nets)	Mallard	39	28	32	10	109
	Black Duck	1	1	4	1	7
<b>County Total</b>						<b>116</b>
Rockingham (1 Site -Traps)	Mallard	60	50	22	17	149
	Black Duck	8	6	1	0	15
	Wood Duck	8	2	12	0	22
<b>County Total</b>						<b>186</b>

HY = Hatch Year (Juvenile)

AHY = After Hatch Year (Adult)

State Totals:	Mallard	260
	Black Duck	23
	Wood Duck	<u>109</u>
		392

Region Totals:	Region 1	90
	Region 3	302

Crew Totals:	Steve Wheeler	186
	Julie/Eric	116
	Will/Andy	90

Table 9.

**2006 CANADA GOOSE BANDING**

<b>DATE</b>	<b>COUNTY</b>	<b>TOWN</b>	<b>LOCATION</b>	<b>HY</b>	<b>SY</b>	<b>ASY</b>	<b>RECAP.</b>	<b>TOTAL</b>
6-23-06	Hillsborough	Bedford	Hardy Road	20	5	4	15	<b>44</b>
6-23-06	Hillsborough	Bedford	School House Road	10	0	13	0	<b>23</b>
6-23-06	Hillsborough	Amherst	Country Club	15	3	10	7	<b>35</b>
6-26-06	Strafford	Rochester	Garland Farm	19	7	18	12	<b>56</b>
6-26-06	Rockingham	Epping	County Farm	17	0	4	4	<b>25</b>
6-26-06	Rockingham	Atkinson	Bryant Woods	13	2	8	7	<b>30</b>
6-26-06	Hillsborough	Danville	Iron Wheel	19	7	12	5	<b>43</b>
6-27-06	Cheshire	Rindge	Chamberlain's	37	2	13	6	<b>58</b>
6-27-06	Cheshire	Fitzwilliam	Bowkerville Pond	0	10	24	4	<b>38</b>
6-27-06	Cheshire	Winchester	Kelley Farm	34	3	6	9	<b>52</b>
6-28-06	Belknap	Barnstead	Suncook River	11	1	12	1	<b>25</b>
6-28-06	Belknap	Gilmanton	Grade School	17	1	10	0	<b>28</b>
6-28-06	Belknap	Tilton	J. Jill Co.	15	0	6	7	<b>28</b>
6-28-06	Belknap	Center Harbor	Waukewan C.C.	29	0	4	12	<b>45</b>
6-29-06	Cheshire	Westmoreland	McAdam Road	15	0	5	1	<b>21</b>
6-29-06	Cheshire	Walpole	Whitcomb Pond	19	0	0	5	<b>24</b>
6-29-06	Hillsborough	Hillsborough	Jones Farm	21	0	9	1	<b>31</b>
6-30-06	Rockingham	Auburn	Route 121	11	0	3	3	<b>17</b>
6-30-06	Hillsborough	Merrimack	Fidelity Company	8	15	10	16	<b>49</b>
7-11-06	Coos	Northumberland	Connecticut River	60	0	3	4	<b>67</b>
7-11-06	Coos	Northumberland	Upper Ammo. River	7	2	4	2	<b>15</b>
	<b>TOTALS:</b>	<b>21 Capture Drives</b>		<b>397</b>	<b>58</b>	<b>178</b>	<b>121</b>	<b>754</b>

Table 10.

**2006 CANADA GOOSE BANDING  
COUNTY SUMMARY**

<u>County</u>	<u>New Bands</u>	<u>Recaptures</u>	<u>Total Geese</u>
Belknap	106	20	126
Cheshire	168	25	193
Coos	76	6	82
Hillsborough	181	44	225
Rockingham	58	14	72
Strafford	44	12	56
<b>TOTALS</b>	<b>633</b>	<b>121</b>	<b>754</b>

## PERFORMANCE REPORT

**State:** New Hampshire **Grant W-89-R-6**

**Grant Type:** Survey and Inventory

**Period Covered:** July 1, 2005 – June 30, 2006

**Project V:** WATERFOWL RESEARCH AND MANAGEMENT

**Job 6:** **WEBLESS MIGRATORY GAME BIRD MANAGEMENT AND INVENTORY**

**Job Objective:** To determine annually the relative distribution and density of breeding woodcock and mourning doves in New Hampshire.

**Procedures:** Instructions for conducting the Woodcock Survey are described in detail on the U.S. Fish and Wildlife Service survey form. Essentially, they call upon participants to: 1) run the routes in New Hampshire during the 3-week period beginning April 25 and ending May 15; 2) begin counts approximately 22 minutes after sunset (15 minutes if cloud cover exceeds 75 percent); 3) make counts during a 30- to 35- minute period following the recommended starting time; 4) count singing male woodcock for two minutes at each of 10 listening stops along a 3.6 mile route at a 0.4 mile spacing interval; 5) do not make counts during heavy rain, snow, high wind, or temperatures below 40F; 6) counts by new observers are not included when determining changes in the population index between consecutive years.

A total of 18 routes have been established throughout New Hampshire - eight of which are designated as "constant zeros", run only once every five years because no birds were heard during two consecutive previous years. The state migratory bird biologist coordinates this federally-supervised survey. The U.S. Fish and Wildlife Service issues coordinators the necessary forms, maps, instructions and materials for conducting the survey. The state coordinator then distributes the materials to the cooperators. The cooperators of the survey are state wildlife biologists.

Instructions for conducting the Mourning Dove Call County Survey are described in detail on the reverse side of the federal survey form utilized while conducting the census. Essentially, the instructions call for survey participants to: 1) run routes between May 20 and May 31; 2) begin counts one-half hour before sunrise; 3) count cooing male doves heard and doves which are seen during 3-minute stops at each of 20 listening stations situated at one-mile intervals along 20-mile census routes and; 4) cancel the survey if wind velocities exceed 12 mph or when rain or snow is falling. The state Fish and Game Migratory Game Bird Project Biologist coordinates this federally supervised survey. The U.S. Fish and Wildlife Service issues state coordinators the necessary forms, maps, instructions and materials for conducting the survey. The state coordinator then distributes the materials to the cooperators. The cooperators of the survey are state wildlife biologists. Maps showing route locations are available at Fish and Game

Department headquarters at 11 Hazen Drive, Concord, New Hampshire.

**Summary/Results:** The Woodcock Singing Ground Survey and Mourning Dove Call Count Survey were coordinated by the Department's migratory bird biologist who issued cooperators the necessary forms and materials supplied by the U.S. Fish and Wildlife Service.

Twelve of the 18 New Hampshire Woodcock Singing Ground routes were surveyed during April 25 – May 15, 2006, seven of the eight Mourning Dove Call Count routes were surveyed during May 20 – 31, 2006.

### **Woodcock**

The annual breeding population index for the Eastern Region was 1.69 singing males per route for 2006. This year's index was slightly lower than the 2005 index. The New Hampshire index of 4.37 singing males per route increased slightly from 4.21 singing males per route in 2005. Generally, northern routes in the state have higher numbers of singing males per route than more southern routes. In 2006, the northern routes averaged 3.8 singing males per route, the central routes averaged 4.25 singing males per route, and the southern routes averaged 1.8 singing males per route.

The index of daily hunting success for 2005 in the Eastern Region was 1.8 woodcock per successful hunt, which was slightly lower than the 2004 index of 2.1. Seasonal hunting success in the Eastern Region in 2005 was 8.4 woodcock per successful hunter compared to 11.6 woodcock per successful hunter in 2004.

Overall, the long-term trend (1968-2006) from the singing ground survey continues to be negative in the Eastern Region (-1.9% per year). The major causes of the decline are thought to be degradation and loss of suitable habitat on both the breeding and wintering areas.

### **Mourning Dove**

The average number of doves heard per route did not change significantly in the Eastern Management Unit. The 2006 population index of 16.3 doves heard per route for the unit was essentially the same as the 2005 index of 16.2. The long-term population trend (1966-2006) for the unit continues to decline, but for the New England states as a group the long-term population trend is more stable. In 2006, the average number of doves heard per route increased from 7.6 in 2005 to 8.7 for the New England states as a group.

In New Hampshire, seven dove routes were surveyed this year; two in the north, three in the central sections, and two in the southern section of the state. In 2006, the northern routes averaged 0.5 doves heard and seen per route, the central routes averaged 10.3 per route and the southern routes averaged 23.0 per route. The statewide average of 11.1 doves heard and seen for all routes combined in 2006 was higher than the 8.9 doves heard and seen in 2005.

Literature cited:

Dolton, D.D. and R. D. Rau. 2006. Mourning Dove Population Status, 2006. U.S. Fish and Wildlife Service, Laurel, Maryland. 19pp.

Kelly, J.R., Jr. and R.D. Rau. 2006. American Woodcock Population Status, 2006. U.S. Fish and Wildlife Service, Laurel, Maryland. 15pp.

**Target Date:** June 30, annually.

**Status of Progress:** On schedule.

**Deviations:** None

**Total Cost:**

**Location:** Statewide

**Recommendations and Remarks:** Continue with job.

**Prepared by:** Edward Robinson, Migratory Game Bird Project Biologist