

ON THE ATLANTIC FLYWAY

*Keeping track of New Hampshire's waterfowl
is an international affair.*

One of the best parts of fall is hearing the cacophony of honking, high-flying geese as they pass overhead. Have you ever wondered where that “V” of geese fly to in the fall, or where those ducklings you watched last spring went after they hatched? New Hampshire has a wealth of waterfowl – many species of ducks and two populations of Canada goose migrants, as well as resident goose populations. Resident geese hatch their young here and in the fall travel only as far as they need to in order to find open water and food (southern New England usually works out). The migrants are long-haul flyers that travel many miles to reach here.

HIGHWAY IN THE SKY

Two distinct migrant waterfowl populations wing their way over New Hampshire – the Maritime (North Atlantic Population) and the Atlantic Population. The Maritime birds breed in eastern Canada's provinces of Labrador and Newfoundland from June to August. Come fall, these birds travel along our coastal waters, spending the winter on waters from Great Bay south to New Jersey. The Atlantic Population birds nest in far northern Canada on Ungava Bay; they travel south through New Hampshire along the Connecticut River Valley on their way to winter quarters on the Chesapeake Bay.

How do N.H. Fish and Game biologists keep track of this wandering wildlife? They

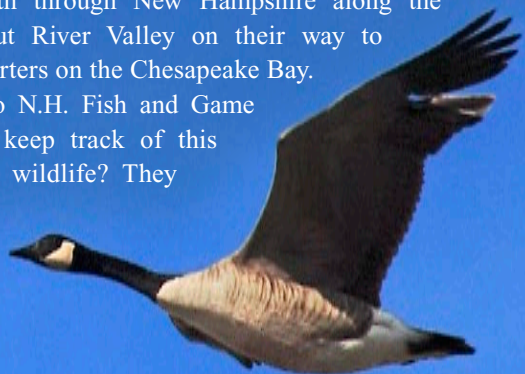
work with other waterfowl biologists throughout North America to manage waterfowl species. Because of their migratory nature, ducks and geese are a shared resource, so they are managed collaboratively throughout their range. Bird populations tend to travel the same routes every spring and fall as they move from their breeding or wintering areas. These corridors are generally north to south and cross international boundaries.

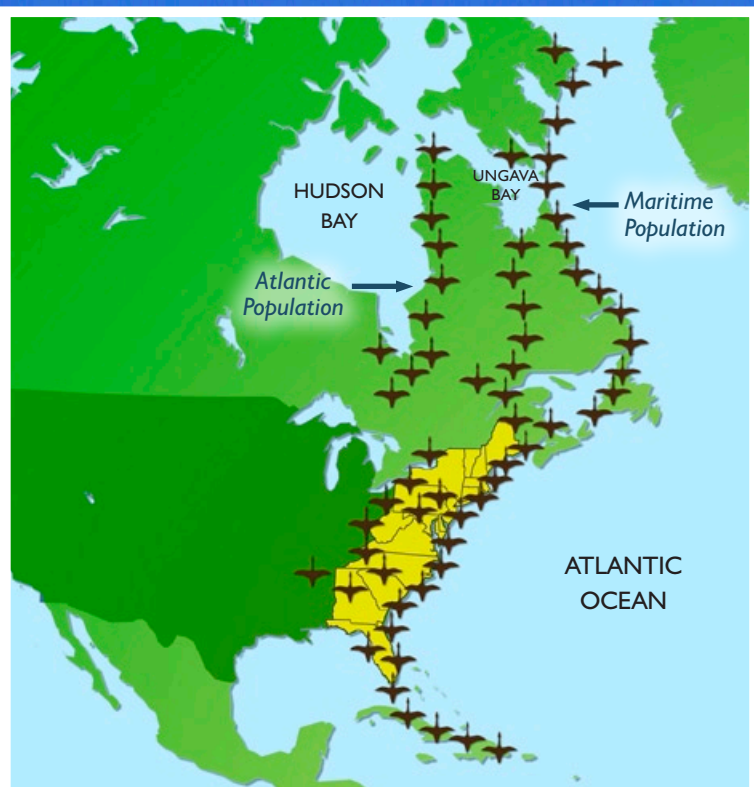
In order to better manage these populations, the North American Flyway System was developed in 1951 and continues to this day. The Flyway System consists of four distinct geographic areas: Pacific, Central, Mississippi and Atlantic. Each flyway manages the waterfowl populations that travel through it. Some waterfowl species, like scaup populations, travel across more than one flyway, so flyways will work together to manage them. New Hampshire is part of the Atlantic Flyway, which includes 17 states and 6 provinces along the Eastern seaboard. Waterfowl biologists from state, provincial and federal jurisdictions meet annually to evaluate waterfowl populations, look at new research, review habitat needs and develop annual waterfowl hunting regulations.

HOW MANY BIRDS?

Waterfowl management is, to some extent, a numbers game. Each state and province, in concert with the U.S. Fish & Wildlife Service and the Canadian Wildlife Service, collects biological data that is used to help evaluate annual and long-term population and habitat fluctuations and needs. Fish and Game biologists conduct annual surveys that provide data on breeding and wintering populations of waterfowl that spend a part of their lives here in our state. This information is combined with data from other states and provinces. For example, since 1952, all Atlantic Flyway states conduct a Mid-winter Inventory of coastal habitats during the first week of January. Fish and Game biologists

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The Atlantic Flyway is made up of two populations: the Maritime Population (which includes Great Bay's winter water-fowl) hugs the coast, nesting in Labrador and Newfoundland; and the Atlantic Population, which passes over New Hampshire's Connecticut River valley en route from the Chesapeake Bay to breeding grounds in Ungava Bay.



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Mallards (left) are the most common breeding duck in New Hampshire, and during the hunting season are the most common bird bagged. The numbers of Canada geese (right) continue to increase; the resident population in the Atlantic Flyway hovers around one million birds.

fly transects at low altitudes and slow speed over Great Bay, the coastline, the Hampton/Seabrook marshes and the Isles of Shoals, counting the numbers of different wintering waterfowl species they see. Since 1952, biologists have counted an average of 4,600 waterfowl each year during this aerial survey – about 1,900 Canada geese, 1,300 black ducks, 200 mallards and 350 scaup.

The survey has seen many shifts in bird populations since it began in 1952, fluctuations due largely to habitat changes. For example, the number of Canada geese observed has increased from about 1,700 birds during the 1960s to around 2,600 in recent years. In contrast, the number of black ducks has declined from an average of 2,100 during the 1960s; now their numbers are closer to 850. Mallards have shown a large increase, rising from an average of just 24 to about 500 today. Greater scaup populations have more than tripled in the past forty years, rising from 200 to around 900 in recent years.

To get a more complete picture of the state's waterfowl populations, New Hampshire waterfowl biologists also conduct an inland waterfowl survey in January and February. Established in 1988, the inland survey provides data on wintering mallards, black ducks and Canada geese throughout the rest of the state. From this work, we know that, on average, 4,400 mallards and 440 black ducks winter on open fresh water throughout the state. Canada geese are more variable. Their numbers can range from 20 to 3,500, depending on the severity of the winter and the amount of snowfall we receive each year. The geese we see on inland sites during the winter tend to be from our resident population (not migrants).

DUCK FACTORIES

Biologists don't just count ducks in the winter. Come spring, they are once again out in the woods and wetlands to survey breeding waterfowl populations. Breeding birds tend to return to the same wetlands each year to nest. By surveying these areas at the same time over many years, we are able to evaluate emerging trends.

Our spring surveys are part of a much larger federal effort to track breeding waterfowl. Since 1955, the U.S. Fish & Wildlife Service and the Canadian Wildlife Service have conducted breeding surveys in the prairie pothole and parklands of the north-central U.S. and Canada. These areas are considered the “duck factories” of North America. In addition, the two federal agencies also survey breeding habitats from Ontario to eastern Canada and Maine.

For the last two decades, New Hampshire has conducted breeding population studies in concert with 10 Atlantic Flyway states. Put together, this information gives us regional statistics on waterfowl populations. Over the last 20 years, for example, mallard populations have remained fairly stable, while black duck numbers have declined over time. Wood duck numbers have increased, and Canada geese numbers have gone up significantly.

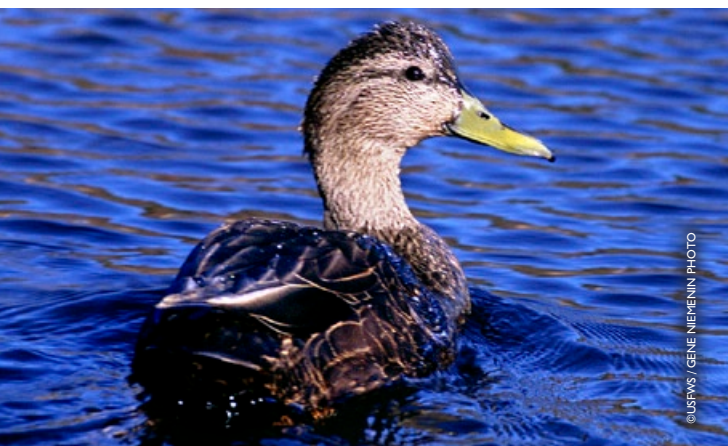
Managing waterfowl species over a large landscape can be very complex and calls for cooperation on an international level. The Atlantic Flyway (and the other three flyways) meet two times each year. One is a technical meeting, where state and provincial waterfowl biologists meet with their counterparts at the federal level to discuss survey results and research needs and propose specific hunting regulations.



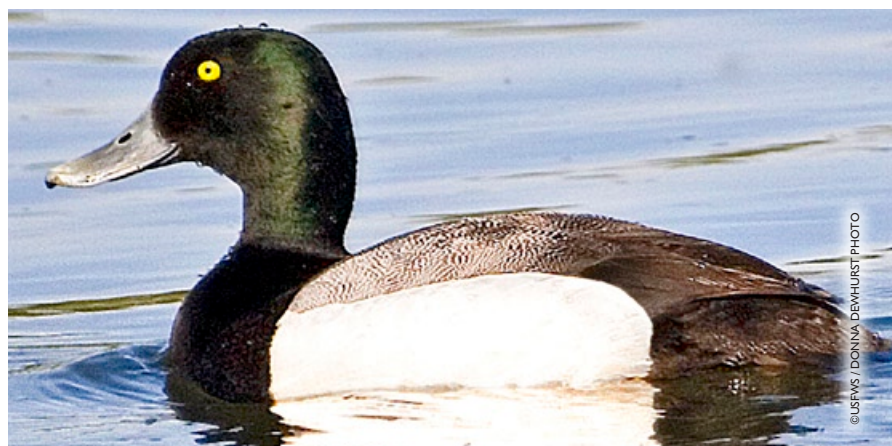
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To help evaluate hunting season lengths and number of birds to be harvested, state, federal and provincial biologists conduct banding efforts each year. Banding data provides survival and distribution numbers. Each year in the Atlantic Flyway alone, some 25,000 Canada geese and 25,000 ducks are banded. New Hampshire bands an average of 500 resident Canada geese each year and around 300 ducks, which include mallards, black ducks and wood ducks. During the fall hunting season, hunters who harvest a bird with a leg band are asked to call a 1-800 number and participate in a short survey. The information gathered from hunters is included in the North American banding database. Most hunters understand the importance of participating in this survey and do not hesitate to call to report a harvested banded bird. Through this survey, we are able to estimate an annual survival rate and distribution data. We have found that a few of our New Hampshire wood ducks have been harvested as far away as Georgia, Tennessee and the Carolinas.

WILD GOOSE CHASE

New Hampshire's most concentrated banding effort happens in late June, when Fish and Game's "Goose Crew" heads out throughout the state to band geese. This group consists of state and federal biologists and a few volunteers; most have been helping out since the effort began in 1991. Banding occurs during the time that Canada geese molt their flight feathers each year (mid to late June) and are flightless for about 3 weeks until their new flight feathers grow in. This coincides with the young of the year becoming flighted. The goose crew has become quite proficient in their banding effort and since 1991 has banded some 9,600 geese!

The wild goose chase begins with biologists setting up a funnel-shaped net structure into which they can "herd" the geese. Because the geese cannot fly, people on shore and some in canoes work together to direct the geese into the funnel. Once the birds are secure in the holding pen, they are carefully handled, banded and released. Biologists gather data on the

The population of North American wood duck (top) has completely rebounded, and today it is the second most common breeding duck in New Hampshire. American black ducks (lower left) are often seen in summer and fall on beaver ponds; they winter on Great Bay, along with greater scaup (lower right).



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With the aid of a funnel-shaped net, flightless geese are rounded up by the Fish and Game "goose crew" in June. Banding does not hurt the birds.

birds' age, sex and the number of young in a brood. A fair number of previously banded birds are recaptured each year, with some showing up for 5-7 years. The oldest to date was a 16-year-old female that was banded as a juvenile!

Banding does not hurt the birds and is an easy way to get important statistics on our goose population. New Hampshire's banding data helped provide the documentation needed to support the establishment

of the September resident Canada goose season in northern New England. Other banding efforts focus on mallards, black ducks and wood ducks. Biologists use a variety of capture methods, including confusion traps, rocket nets and wood duck boxes (female wood ducks are banded as they incubate their eggs).

THE HABITAT CONNECTION

Surveys and banding efforts are important, but good waterfowl habitat is just as vital. Waterfowl hunters have championed the effort to expand water-

fowl habitat through the purchase of federal and state duck stamps. This money has been used over the years to purchase and manage waterfowl habitat throughout North America. Here in New Hampshire, 16 grants have been awarded through a competitive process with other states. These grants have protected 125,000 acres of wetland and upland buffer habitat. Fish and Game has been acquiring waterfowl habitat since the late 1940s. However, it wasn't until 1983, when the duck stamp was established, that revenues were dedicated solely for waterfowl habitat management and requisition. A total of 4,236 acres of waterfowl habitat has been acquired through this program, and today Fish and Game owns and manages 52 Waterfowl Management Areas, which include nearly 10,000 acres of habitat.

Fish and Game works with many other dedicated waterfowl conservation organizations that are critical partners. The N.H. Waterfowl Association helped complete five projects to protect 56 acres of habitat. Ducks Unlimited has worked with Fish and Game to acquire 913 acres of key habitat through eight projects. Many of these wetland habitats are managed through water level control and all have actively managed wood duck nest boxes. Fish and Game biologists have maintained some 300 nest boxes throughout the state since the 1940s.

One of the crowning jewels of the waterfowl conservation project has been the Great Bay Resource Protection Partnership, a coalition of public and private conservation groups working together to conserve critical habitats. This partnership worked for the past 15 years to secure over 5,300 acres of important wetland habitats with adjacent upland buffers throughout the Great Bay watershed. These lands are especially important in the face of an ever-increasing human population throughout the Great Bay area and the importance of the estuary's waterfowl breeding and wintering grounds.

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So the next time you watch a "V" of geese fly by or are lucky enough to see a mother duck with her ducklings, remember that many dedicated individuals and groups are working together to make New Hampshire a great place for ducks and geese...and you **W**

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