

Executive Summary

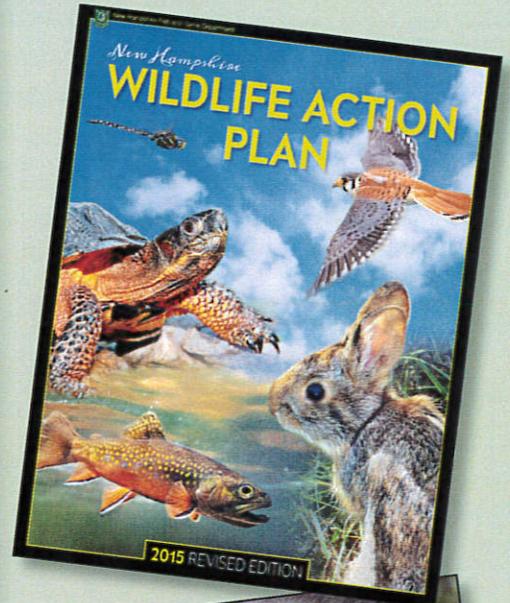
New Hampshire Wildlife Action Plan

The 2015 revision of the Wildlife Action Plan incorporates new data, methodologies and extensive public input to identify species in greatest need of conservation, habitats that are at the greatest risk, as well as land uses and activities that present the greatest threats to wildlife and habitat. It outlines more than 100 actions that can be taken by diverse stakeholders to protect and manage wildlife and habitat in New Hampshire.

In 2005 the U.S. Fish and Wildlife Service approved New Hampshire's first 10-year Wildlife Action Plan, a document that was two years in the making and which laid out strategies for managing and protecting the full array of wildlife that occurs in the state and the habitats that support them.

Successful implementation of the NH Wildlife Action Plan has been documented. Since 2005, New Hampshire Fish & Game (NHFG) staff, in partnership with dozens of organizations, agencies, universities, municipalities, scientists, professionals and volunteers in every part of the state, has been guided by the Wildlife Action Plan during land use planning and decision-making, landscape conservation planning, and species and habitat management and conservation. 495 species and habitat actions were implemented from 2005-2015 (forty-five percent of all actions identified in the 2005 plan). Over 4,250 acres were targeted by NHFG for land acquisition or habitat management for specific species or habitat, and overall 235,000 acres of highest ranked habitat was conserved by partners. Technical assistance was provided to over 3,500 citizens, landowners, and land managers. Over 1,300 structures were installed (such as bat gates and nesting structures) or removed (such as dams and other fish passage barriers) to benefit wildlife populations. Additionally, the northeast states have worked together to conserve the wildlife that topped their lists of Species of Greatest Conservation Need including New England cottontails (work that prevented federal listing), Blanding's and wood turtles.

The benefits of investing in the Wildlife Action Plan's strategies go well beyond "saving" rare species. Wildlife-associated recreation is a significant economic engine for New Hampshire. The U.S. Fish and Wildlife Service's 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation determined expenditures for these activities to be nearly \$551 million in New Hampshire.



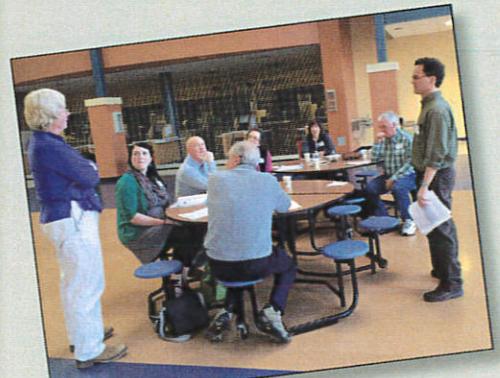
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Outdoor recreation brings in \$4.2 billion annually from New Hampshire residents and tourists (Trust for Public Land 2014). Any downturn in participation in these activities would have a negative impact on the state's economy, whereas efforts to improve wildlife and habitat in New Hampshire would likely bring more revenue into the system from hunters, anglers, wildlife watchers and outdoor enthusiasts.

There are additional economic benefits to healthy wildlife populations and habitats. People live in and visit New Hampshire, and spend money here, in large part because it is a place of great natural beauty. Yet increased development, and the associated conversion of forest and other wildlife habitat into roads, houses, and businesses, degrades the land's value to New Hampshire's wildlife. New Hampshire can support a growing population and economy while maintaining the overall health of wildlife and their habitat with better planning, new understandings of wildlife populations and their needs, increased support, and strong collaboration throughout the public, private and non-profit sectors.

All wildlife species native to New Hampshire were eligible for identification as Species of Greatest Conservation Need (SGCN) including game species, nongame species, fish and marine animals. Information on their populations, habitats, risks and status throughout the northeast were considered during the process. A total of 169 species are identified as SGCN, of which 27 species are listed as state endangered and 14 listed as state threatened. The 2005 Wildlife Action Plan listed 118 species as SGCN, and 13 of those species were deemed recovered enough or stable enough not to be included on the 2015 list. The 2015 Wildlife Action Plan also identifies 27 distinct habitats that support both common species and SGCN. By identifying and protecting high quality examples of all of New Hampshire's natural communities, all of the state's native wildlife species will have access to intact habitats.

The revised NH Wildlife Action Plan (2015) habitats are based on habitat types developed by the Northeast Terrestrial Habitat Classification and the Northeast Aquatic Habitat Classification. Wildlife habitat condition was assessed for 27 habitat types. NH Fish and Game developed a methodology to assess the relative ecological condition of habitats through the use of statewide GIS data that represent species diversity, landscape context, and human impacts. Habitats were then ranked to identify priority conservation targets across all habitat types. These maps and the underlying data are used for species recovery, land conservation, and habitat restoration efforts.



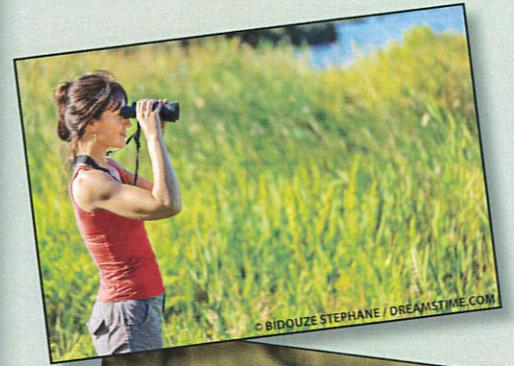
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Risk assessments were conducted for 27 habitats and 169 Species of Greatest Conservation Need using a standard methodology adopted by the northeast states. Eleven different threat categories with 37 sub-categories were ranked in terms of their potential impact on each species and habitat throughout New Hampshire. Saltmarshes, warmwater rivers and streams, dunes, lowland spruce-fir forest, and vernal pools had the greatest number of high-ranking threats. Commercial and residential development, pollution, disease, and climate change are among the higher-ranking risk factors that impact the health of wildlife populations and habitats. As a part of the revision process, scientists identified where and how wildlife will be affected over the next ten years and what actions need to be taken to prevent further losses of the most vulnerable species and habitats.

The revision of the Wildlife Action Plan included an extensive amount of public participation. Over 90 wildlife experts throughout New Hampshire and neighboring states assisted in the evaluation of species for inclusion as Species of Greatest Conservation Need and assessed threats to those species and their habitats. Five public engagement sessions were held throughout the state, attended by 166 participants representing 79 communities and an array of non-profit, municipal, state and federal agencies, and private landowners. During these sessions participants identified a wide range of actions to help conserve wildlife and habitats. In addition, 1,142 people responded to an online survey to express their concerns and priorities for wildlife in New Hampshire. A complete draft of the Plan was posted on the NH Fish and Game website for 30 days and received comments from 123 people.

The successful implementation of the 2015 NH Wildlife Action Plan will require coordinated and strategic involvement by all levels of government and by landowners, non-profit organizations, universities and varied interest groups throughout the state. 117 overarching actions are identified that span monitoring, research, species and habitat management, land protection, interagency and interstate coordination, local and regional planning, education and technical assistance. Dozens more actions were identified specific to certain species or habitats. It is only through a broad-based, all-hands-on-deck approach that the state will continue to protect and manage species and habitat that improve the quality of life and the economy in New Hampshire.

New Hampshire Fish and Game uses many techniques, data sets and programs to monitor changes in wildlife populations and habitat. Where available, NHFG uses standardized protocols for



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monitoring to allow for consistency and comparison among states. New research and data is continually integrated into conservation planning, implementation, monitoring, and performance evaluation. This approach to adaptive management has been ongoing since the original Wildlife Action Plan was developed in 2005 and will continue through the next 10 years until this document is revised again.

Through existing and new partnerships, NHFG is moving forward with implementing the Wildlife Action Plan. Doing this effectively will require additional sources of financial support over the coming 10 years. It also requires prioritization of action items and participation of partner organizations. Prompt action is crucial—not only for the health and diversity of wildlife and habitats in the state - but also to ensure that future generations will have the opportunity to experience and enjoy the Wild New Hampshire we love and appreciate today.

Information from the Wildlife Action Plan is accessible through the NHFG website (wildlife.state.nh.us/wildlife/wap.html) and “Taking Action for Wildlife” (takingactionforwildlife.org).

New Hampshire Fish & Game Department
New Hampshire
Wildlife Sightings

Home Species of Interest Related Links Contact Us Login

Tell us what you've seen!
WELCOME to NH Wildlife Sightings, a web tool for reporting wildlife observations in New Hampshire.
It's for everyone — landowners, foresters, outdoor sportspersons, wildlife enthusiasts... And it's easy!

- Begin by creating your own **user account**...
- **Learn** how to use the reporting tools
- Review our **wildlife species of Interest**
- **Visit links** of related information.

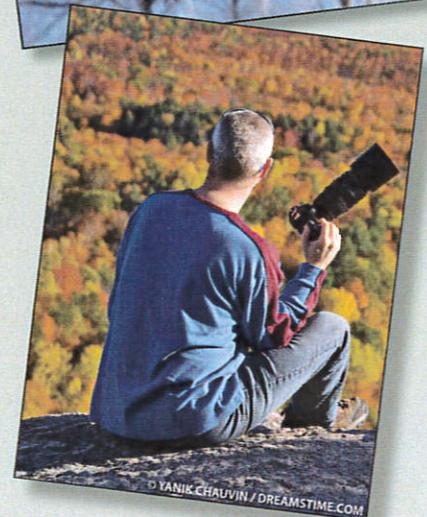
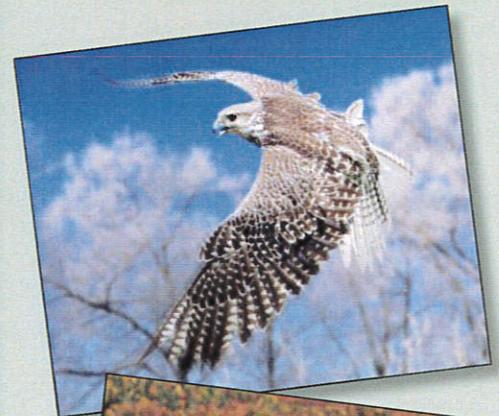
NH Fish & Game's Nongame and Endangered Wildlife Program
Protecting over 400 species of mammals, birds, reptiles, and amphibians, as well as thousands of insects and other invertebrates.
Read more...

Tips for Wildlife Watching in New Hampshire
Get ideas on tools for wildlife viewing, viewing ethics and responsibilities, photo tips, and how to increase your

NH Wildlife Management Conservation Areas
Find locations of undeveloped land owned by N.H. Fish and Game Dept. and designated as areas for wildlife conservation.

Help update
New Hampshire's
Wildlife Action Plan

TAKING ACTION TO PROTECT NATURAL LANDS AND WILDLIFE



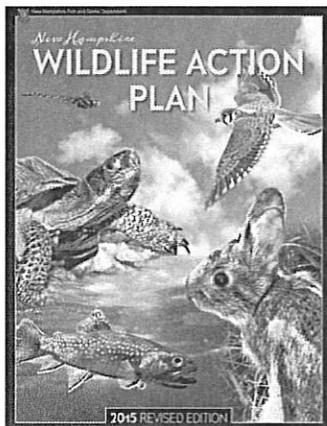


Thank you for visiting the New Hampshire Fish and Game Department website. <http://www.wildlife.state.nh.us/>

NH Wildlife Action Plan

Taking Action for Wildlife!

How does NH Fish and Game and its many conservation partners around the state prioritize actions for wildlife and land management? How do you, as a member of your community and a landowner, become part of the movement to conserve and maintain New Hampshire's natural environment? The entire state has a plan that guides conservation actions, so that you, your community, university researchers, biologists, land trusts, and other organizations are all working towards NH's most important conservation goals. This is the New Hampshire Wildlife Action Plan. This Plan first became available in 2005, and has now been completely updated and sent to the US Fish and Wildlife Service for their approval.



The 2015 Wildlife Action Plan is a blueprint for conserving Species of Greatest Conservation Need (SGCN) and their habitats in New Hampshire. New Hampshire's Plan identifies 169 SGCN, which represent a broad array of wildlife, and it focuses on the 27 habitats that support these species, such as lowland spruce-fir forest, salt marsh, shrublands, warm water lakes and ponds, vernal pools, and many others. Each SGCN and habitat has an individual profile that includes information about the population, threats, and actions needed to conserve these features in New Hampshire. The many actions listed in the Plan include activities like on-the-ground habitat work and research, land conservation, habitat management, collaborating with many conservation partners, and providing public education. It will take active participation by all Granite staters to implement the actions in the Wildlife Action Plan, and the Taking Action for Wildlife program is the best place to start.

2015 Wildlife Action Plan Downloads (all files in PDF format)

[Read the Executive Summary](#)

[List of SGCN and Habitats](#)

These documents are awaiting approval by the US Fish and Wildlife Service.

[Introduction, Table of Contents, Acknowledgements and other front pieces](#)

[Chapter 1: Public Participation](#)

[Chapter 2: NH Wildlife and Habitats At Risk](#)

[How NH Choses SGCN](#)

[Chapter 3: NH Wildlife Habitat Conditions](#)

[Using the Wildlife Action Plan Maps](#)

[Chapter 4: Wildlife Risk Assessment - Introduction](#)

[Chapter 4 includes:](#)

[Residential and Commercial Development](#)

[Agriculture and Aquaculture](#)



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A Helping Hand for Wildlife
and subscribe to
NH Wildlife Journal

What is in the New Hampshire Wildlife Action Plan?

Species of Greatest Conservation Need and habitat profiles (Chapter 2 and Appendices A & B)
Current distribution and abundance of wildlife species & habitats (Chapters 2 & 3)
Threats to species and habitats (Chapter 4, Appendices A & B)
Conservation actions needed to recover & protect SGCN and habitats (Chapter 5)
Monitoring of wildlife populations & habitats, and success of conservation actions (Chapters 5, 6, 7)
Partner & public participation in Plan development and implementation (Chapters 1 and 7, Appendices J, K, L, M, N)

- Energy Production and Mining
- Transportation and Service Corridors
- Biological Resource Use
- Human Intrusions and Disturbance
- Natural System Modifications
- Invasive and Other Problematic Species and Genes
- Pollution
- Climate Change and Severe Weather

- Chapter 5: Conservation Actions
- Chapter 6: Monitoring, Performance Evaluation, and Adaptive Management
- Chapter 7: Implementation

Wildlife Action Plan Appendices (all files in PDF  format)

A: Species Profiles

- Mammals
- Birds
- Reptiles
- Amphibians
- Fish
- Marine wildlife
- Freshwater Mussels
- Insects

B: Habitat Profiles

- Habitats
- Table of Habitat Types and Associated Species

C: Crosswalks between Wildlife Action Plan Habitats and other habitat classification schemes

D: Rare Plants Species and Wildlife Habitats

Templates and Other Materials for Development of the Wildlife Action Plan:

- E: Identifying and Ranking Risks
- F: IUCN Categories and definitions
- G: Evaluating Change in Risk Rank 2005-2015
- H: Species and Habitat Profile Template
- I: Regulatory Definitions

Public Input:

- J: Key Informants Interviews Report
- K: Wildlife Stakeholder Input Session Report
- L: Web Survey Report
- M: Media Coverage
- N: Partner Participation

Success of the 2005 Wildlife Action Plan

- 2005 Wildlife Action Plan Performance Evaluation

Eight Required Elements of the Wildlife Action Plan

The US Fish and Wildlife Service requires eight elements be included in state Wildlife Action Plans. These include:

1. Where are they now?
Current distribution and abundance of wildlife species. See Chapter 2 and the Species Profiles.
2. How are they doing?
Location and condition of habitats critical to species' survival. See Chapter 3 and the species and habitat profiles.

3. What is threatening their survival?
Identifying problems that may harm wildlife species and habitat, and priority research needed to adequately address conservation actions. See Chapter 4 including the individual risk assessments and the species and habitat profiles.
4. What can we do?
Actions and strategies for conserving wildlife species and critical habitats. See Chapter 5 and the species and habitat profiles.
5. How do we know what we are doing is working?
Monitoring of wildlife populations and habitats and success of prescribed conservation actions. See Chapter 5 and Chapter 6, and the species and habitat profiles.
6. Do we need to make some changes?
Assessment of the Plan at intervals not to exceed ten years. See Chapter 6.
7. How are other agencies going to be participating in the planning process?
Involvement of federal, state, local agencies and Indian tribes that manage lands or programs affecting wildlife. This is incorporated throughout the plan, but is specifically addressed in Chapter 1, Chapter 5 and Chapter 7.
8. How is the general public participating?
Public participation is imperative for successful completion and implementation of the Plan. NH had a series of public input sessions and surveys; See Chapter 1 and Appendices J through N.

Thank you for visiting the New Hampshire Fish and Game Department website. <http://www.wildlife.state.nh.us/>



Wildlife Action Plan - Town Maps

All maps are available in PDF  format and are 8.5" by 11" in size unless otherwise noted. Wildlife Action Plan Maps available:

Wildlife Habitat Land Cover Map (find under column labeled "habitat")

Highest Ranked Wildlife Habitat Map (find under column labeled "scoring")

Maps		
State	habitat	scoring
State 8.5" x 11"	habitat	scoring
State 11" x 17"	habitat	scoring
Acworth	habitat	scoring
Albany	habitat	scoring
Alexandria	habitat	scoring
Allenstown	habitat	scoring
Alstead	habitat	scoring
Alton	habitat	scoring
Amherst	habitat	scoring
Andover	habitat	scoring
Antrim	habitat	scoring
Ashland	habitat	scoring
Atkinson	habitat	scoring
Atkinson / Gilmanton	habitat	scoring
Auburn	habitat	scoring
Barnstead	habitat	scoring
Barrington	habitat	scoring
Bartlett	habitat	scoring
Bath	habitat	scoring
Beans Grant	habitat	scoring

Maps		
Laconia	habitat	scoring
Lancaster	habitat	scoring
Landaff	habitat	scoring
Langdon	habitat	scoring
Lebanon	habitat	scoring
Lee	habitat	scoring
Lempster	habitat	scoring
Lincoln	habitat	scoring
Lisbon	habitat	scoring
Litchfield	habitat	scoring
Littleton	habitat	scoring
Livermore	habitat	scoring
Londonderry	habitat	scoring
Loudon	habitat	scoring
Low Burbanks	habitat	scoring
Lyman	habitat	scoring
Lyme	habitat	scoring
Lyndeborough	habitat	scoring
Madbury	habitat	scoring
Madison	habitat	scoring
Manchester	habitat	scoring



Beans Purchase	habitat	scoring
Bedford	habitat	scoring
Belmont	habitat	scoring
Bennington	habitat	scoring
Benton	habitat	scoring
Berlin	habitat	scoring
Bethlehem	habitat	scoring
Boscawen	habitat	scoring
Bow	habitat	scoring
Bradford	habitat	scoring
Brentwood	habitat	scoring
Bridgewater	habitat	scoring
Bristol	habitat	scoring
Brookfield	habitat	scoring
Brookline	habitat	scoring
Cambridge	habitat	scoring
Campton	habitat	scoring
Canaan	habitat	scoring
Candia	habitat	scoring
Canterbury	habitat	scoring
Carroll	habitat	scoring
Center Harbor	habitat	scoring
Chandlers Purchase	habitat	scoring
Charlestown	habitat	scoring
Chatham	habitat	scoring
Chester	habitat	scoring
Chesterfield	habitat	scoring
Chichester	habitat	scoring
Claremont	habitat	scoring
Clarksville	habitat	scoring
Colebrook	habitat	scoring
Columbia	habitat	scoring
Concord	habitat	scoring
Conway	habitat	scoring
Cornish	habitat	scoring

Marlborough	habitat	scoring
Marlow	habitat	scoring
Martins Location	habitat	scoring
Mason	habitat	scoring
Meredith	habitat	scoring
Merrimack	habitat	scoring
Middleton	habitat	scoring
Milan	habitat	scoring
Milford	habitat	scoring
Millsfield	habitat	scoring
Milton	habitat	scoring
Monroe	habitat	scoring
Mont Vernon	habitat	scoring
Moultonborough	habitat	scoring
Nashua	habitat	scoring
Nelson	habitat	scoring
New Boston	habitat	scoring
Newbury	habitat	scoring
New Castle	habitat	scoring
New Durham	habitat	scoring
Newfields	habitat	scoring
New Hampton	habitat	scoring
Newington	habitat	scoring
New Ipswich	habitat	scoring
New London	habitat	scoring
Newmarket	habitat	scoring
Newport	habitat	scoring
Newton	habitat	scoring
Northfield	habitat	scoring
North Hampton	habitat	scoring
Northumberland	habitat	scoring
Northwood	habitat	scoring
Nottingham	habitat	scoring
Odell	habitat	scoring
Orange	habitat	scoring



New Hampshire Wildlife Action Plan Species of Greatest Conservation Need

Mammals

American Marten
American Water Shrew
(Eastern)
Big Brown Bat
Canada Lynx
Eastern Red Bat
Eastern Small-footed Bat
Eastern Wolf
Hoary Bat
Little Brown Bat
Long-tailed Shrew
Moose
New England Cottontail
Northern Bog Lemming
Northern Long-eared Bat
Rock vole
Silver-haired Bat
Southern Bog Lemming
Tricolored Bat

Birds

American Black Duck
American Kestrel
American Pipit
American Three-toed
Woodpecker
American Woodcock
Bald Eagle
Bank Swallow
Bay-breasted Warbler
Bicknell's Thrush
Black-billed Cuckoo
Blue-winged Warbler
Bobolink
Brown Thrasher
Canada Warbler
Cape May Warbler
Cerulean Warbler
Chimney Swift
Cliff Swallow
Common Gallinule
Common Loon
Common Nighthawk
Common Tern
Eastern Meadowlark
Eastern Towhee
Eastern Whip-poor-will
Field Sparrow
Golden Eagle
Golden-winged Warbler
Grasshopper Sparrow
Horned Lark
Least Tern
Least Bittern
Marsh Wren
Nelson's Sparrow

Northern Goshawk
Northern Harrier
Olive-sided Flycatcher
Peregrine Falcon
Pied-billed Grebe
Piping Plover
Prairie Warbler
Purple Finch
Purple Martin
Purple Sandpiper
Red Knot
Roseate Tern
Ruddy Turnstone
Ruffed Grouse
Rusty Blackbird
Saltmarsh Sparrow
Sanderling
Scarlet Tanager
Seaside Sparrow
Sedge Wren
Semipalmated Sandpiper
Sora
Spruce Grouse
Upland Sandpiper
Veery
Vesper Sparrow
Whimbrel
Willet
Wood Thrush

Reptiles

Blanding's Turtle
Eastern Box Turtle
Eastern Hog-nosed Snake
Eastern Ribbonsnake
Northern Black Racer
Smooth Greensnake
Spotted Turtle
Timber Rattlesnake
Wood Turtle

Amphibians

Blue-spotted/Jefferson
Salamander complex
Fowler's Toad
Marbled Salamander
Mink Frog
Northern Leopard Frog

Species of Greatest Conservation Need are species in serious trouble – declining numbers, with smaller patches of habitat, and/or threatened by a host of issues. A team of wildlife experts assessed all NH species to choose these species.

Fish

Alewife
American Brook Lamprey
American Eel
American Shad
Atlantic Sturgeon
Banded Sunfish
Blueback Herring
Bridle Shiner
Brook Trout
Burbot
Finescale Dace
Lake Trout
Lake Whitefish
Northern Redbelly Dace
Rainbow Smelt
Redfin Pickerel
Round Whitefish
Sea Lamprey
Shortnose Sturgeon
Swamp Darter

Butterflies & Moths

*Barrens Itame
*Barrens Xylotype
*Broad-lined Catopyrrha
*Cora Moth (Bird Dropping Moth)
*Edward's Hairstreak
Frosted Elfin
*Graceful Clearwing
Hessel's Hairstreak
Karner Blue Butterfly
Monarch
*New Jersey Tea Span Worm
*Noctuid Moth
*Persius Duskywing Skipper
*Phyllira Tiger Moth
*Pine Pinion Moth
*Pinion Moth
*Sleepy Duskywing
*Twilight Moth
White Mountain Arctic
White Mountain Fritillary
*Zale sp. 1 nr. lunifera
* Pine Barrens Lepidoptera group profile includes these SGCN species

Tiger Beetles

Appalachian Tiger Beetle
Cobblestone Tiger Beetle
Margined Tiger Beetle
Puritan Tiger Beetle

Bumblebees

American Bumble Bee
Rusty-patched Bumble Bee
Yellow Bumble Bee
Yellowbanded Bumble Bee

Dragonflies & Damselflies

Coppery Emerald
Kennedy's Emerald
Lyre-tipped Spreadwing
Ocellated Emerald
Pine Barrens Bluet
Rapids Clubtail
Ringed Boghaunter
Ringed Emerald
Sedge Darner
Skillet Clubtail

Freshwater Mussels

Alewife Floater
Brook Floater
Creeper
Dwarf Wedgemussel
Eastern Pearlshell
Eastern Pondmussel
Triangle Floater

Marine Wildlife

American Oyster
Atlantic Sea Scallop
Horseshoe Crab
Northern Shrimp
Softshell Clam
Fin Whale
Humpback Whale
North Atlantic Right Whale



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New Hampshire Wildlife Action Plan Habitats

Appalachian Oak Pine Forest
Hemlock Hardwood Pine Forest
High Elevation Spruce-Fir Forest
Lowland Spruce-Fir Forest
Northern Hardwood-Conifer Forest

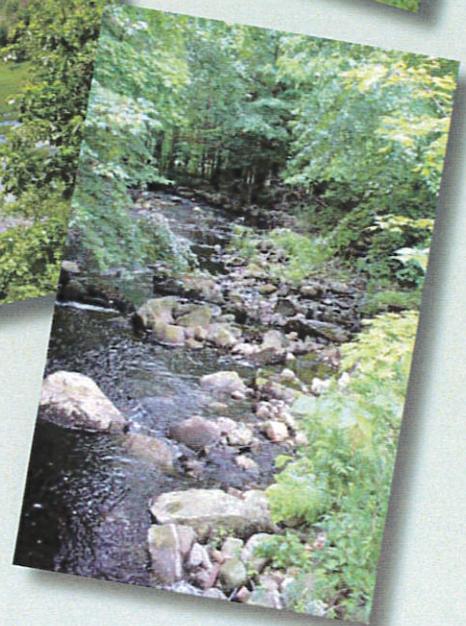
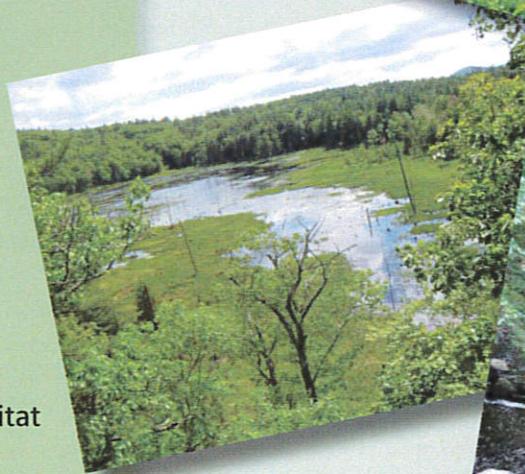
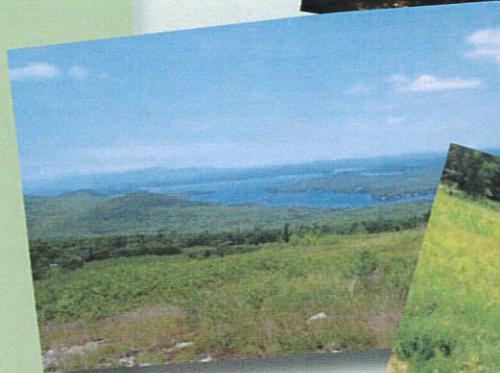
Alpine
Rocky Ridge, Cliff, and Talus
Caves and Mines
Grasslands
Pine Barrens
Shrublands

Floodplain Habitats
Marsh and Shrub Wetlands
Peatlands
Temperate Swamps
Northern Swamps
Vernal Pools

Salt Marshes
Coastal Islands/Rocky Shore
Dunes
Estuarine
Marine

Large warmwater rivers
Coldwater rivers and streams
Warmwater rivers and streams
Lakes and ponds with coldwater habitat
Warmwater lakes and ponds

Habitats are recurring combinations of plants and other features (like water) that occur on the landscape. Different species may use different habitats for their life cycles.



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Bobcat - *Lynx rufus* (*Felis rufus*)

Description

The most common wildcat in North America, the bobcat is a yellowish-brown or reddish-brown (more gray in winter) color with indistinct dark spotting and streaks along its body. The species gets its common name from its characteristic stubby, or “bobbed,” tail. The tail is only 4-7 inches in length with 2 or 3 black bars and a black tip above, while the underside is pale or white. Their upper legs have dark horizontal bands. The face has thin, black lines stretching onto broad cheek ruff and their ears are tufted. Males are larger than females and bobcats stand 19-22 inches at the shoulder and 28-49 inches in length on average. They typically weigh between 15-35 pounds.



*Adult male bobcat in Bow, NH;
photo courtesy of Diane Lowe.*

Select image for larger view.

Bobcat Research

New Hampshire Fish & Game partnered with the University of New Hampshire initiating a comprehensive bobcat study with on the ground work starting in the fall of 2009. Distribution, population abundance, habitat use, habitat connectivity, and methods to index populations were studied. This comprehensive research project was completed December 2014 and has provided a wealth of knowledge about bobcats in New Hampshire. More information, including Theses, can be found on the UNH website



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(<http://mlitvaitis.unh.edu/Research/BobcatWeb/bobcats.htm>). Wildlife research in New Hampshire is funded in part by the Federal Aid in Wildlife Restoration Act.

[Bobcat Population Status Report – presented to Fish and Game Commission 01/21/2015](#) 

[Bobcat Season Proposal](#)

UNH Theses:

[Derek J.A. Broman](#) 

[Tyler J. Mahard](#) 

[Gregory Cabell Reed](#) 

Range and Distribution

Bobcats are distributed from coast to coast in the US and from southern Canada to Mexico. Commonly confused with the Canada lynx, which is not known to breed in NH, the bobcat shares an overlapping historic range with its neighbor species in northern US and southern Canadian regions. Bobcat populations have expanded their range and population throughout the United States over the last decade. Bobcat populations are found throughout New England. Rhode Island is considered to have a lowest population. In New Hampshire, bobcats are thought to have had a historic presence in the southwest corner of the state. Sighting data and roadkill losses indicate that bobcats now reside in all New Hampshire counties. Based on observation reports, bobcat numbers appear to have increased in New Hampshire over the last 20 years.



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Habits and Habitat

Bobcats live in scrubby or broken forests (hardwood, coniferous or mixed), swamps, farmland, semi-deserts, scrubland, and rocky or bushy arid lands. Their home ranges vary in size depending on sex, season and prey distribution and abundance. Bobcats mark their territory with urine, feces, anal gland scent, and scrapes on physical markers, such as trees. Individuals have one natal den and other auxiliary dens for protection located throughout their home ranges. Dens can be found in caves, hollow logs, brush piles, rock ledges, or stumps.

Bobcats are predators that usually follow consistent hunting paths to prey on snowshoe hares and cottontails. However, their diet also includes mice, squirrels, woodchucks, moles, shrews, raccoons, foxes, domestic cats,

grouse and other birds, reptiles, porcupines and skunks. The bobcat is capable of fasting during periods of limited food availability, but will occasionally kill large prey, such as deer and livestock, during harsh conditions.

Bobcats are solitary except during mating periods. Males are sexually active year-round, but females are typically only in heat in February and March. A female and dominant male may mate several times after a series of "chases," but the female may also mate with other males in his absence. Bobcats have a gestation period of 2 months and females give birth to a litter between late April and early May. Litters can range from 1-7 young, but are usually only 2 or 3. The young begin exploring at one month and are weaned at two months. They hunt individually by fall, but stay with their mother until they are one year old. Bobcats are mostly vocal when threatened or during mating season. When in danger, a bobcat will cry out in a short, deep "cough-bark." However, the species is loudest when it yowls during breeding season. In normal conditions, the bobcat's sound is often compared to a domestic cat.



Management

In New Hampshire, unregulated harvest of bobcats was common for nearly 200 years. Bounties began in 1809 and continued until 1973. By the 1970s, bobcat populations had plummeted and only a few heavily restricted licenses were issued in a limited annual hunting season. In 1989, Fish and Game closed the bobcat hunting and trapping seasons due to concern over bobcat population status. These seasons remain closed in New Hampshire. Regulated harvest of bobcats is allowed in Maine, Massachusetts and Vermont.

Protection afforded by the Department's 1989 closure, coupled with the apparent benefits to bobcats of a thriving turkey population and a healthy deer population, appears to have facilitated a recovery of bobcats in our state. Anecdotal reports and observations in the late 1990s and early 2000s suggested a rebound in the bobcat population had occurred over the previous decade. The 2009 and 2010 solicitation of bobcat sightings, as well as capture data resulting from a newly initiated bobcat research study, offers preliminary data in support of a bobcat population recovery.

Today, bobcat sightings have become relatively common, with observations being reported from throughout the state. That said, we should not lose sight of the fact that severe winters can exert notable influence on bobcat status, since bobcats are only modestly adapted to deal with the presence of prolonged deep snow. Future conservation efforts will likely continue to include the protection of critical bobcat habitat including

large unfragmented tracts, which, among other things, helps reduce bobcat exposure to car collisions, which constitute a significant source of mortality, particularly in southern New Hampshire.

What's the Difference Between Bobcats and Canada Lynx?

Excerpted from the Maine Department of Inland Fisheries & Wildlife website



(http://www.maine.gov/ifw/wildlife/human/lww_information/bobcats.html)

Bobcats and lynx do not vary significantly in weight, although bobcats appear smaller because they have noticeably shorter legs. The feet and the tail are the best features to use when comparing the two species. Bobcats have smaller feet and the tail is not completely black-tipped -- it is white underneath. Both animals have tufts of black hairs at the tops of their ears, but those of the bobcat are significantly smaller. A bobcat's tail (ranging from five to eight inches and averaging six and a half inches) is two inches longer than that of the lynx. Bobcats have two other distinguishing features: Their hind legs are much darker (dark brown to almost black) than any other part of their body and the backs of their ears have black rims with a white spot in the center.

Further Reading

[The Gift of the Bobcat](#) 



Black Bear (*Ursus americanus*)

Description

A large mammal with powerful limbs, a small head, and small, rounded ears. Female black bears weigh 125-150 pounds, whereas adult males are larger, typically weighing 200-250 lbs. Black bears have several color phases; most in the northeast are all black with a brown or tan muzzle. Some individuals have a small, white chest patch, called a blaze. Black bears have five toes with well-developed claws on each foot. They walk on the soles of their feet, just like humans.



© ALAN BIRRE PHOTO

Range and Distribution

Black bears range throughout Canada except the north coast. In the United States it occurs in the Sierras, Idaho and Montana, south through the Rockies into Mexico, northern Great Lakes area, Ozarks, Gulf Coast, Florida, and New England south through the Appalachians to northern Georgia. The black bear is found in ten counties in New Hampshire.

Habits and Habitat



Black bears change their diet seasonally, taking advantage of available foods. When they emerge from their den in spring, black bears eat grasses and other newly emerged succulent plants. In summer they shift to more nutritious foods including berries, fruits, roots, blossoms and insects. Hard mast --



© BEN KILHAM PHOTO

beechnuts, acorns, and hickory nuts -- are the staple fall food source. When natural foods are not abundant, black bears will seek alternative foods such as agricultural crops, bees from commercial hives, garbage, suet and sometimes livestock.

Black bears inhabit forested areas with thick understory vegetation. Wetlands and riparian areas are important components of their habitat. Optimal habitat typically includes large tracts of forest with little human disturbance.

Black bears are not true hibernators as they can be roused from their winter sleep. During deep, winter sleep, their heart rate and breathing drops 50-60 percent, body temperature drops by 7-8 degrees, and they lose a quarter of their weight. Black bears usually den in brush piles, logging slash or hollow trees, under a fallen tree or under rock outcrops. Typically, winter dens are 5 1/2 feet long and 2 feet high.

Black bears generally are solitary creatures. Females begin breeding at 3 to 4 years of age; most breed once every two years. Two to 4 cubs are born in late January or early February while the female is denning. The young bears remain with the female throughout the next winter and disperse the next spring. During spring, summer, and fall bears may be active during the day, usually at dawn and dusk.

In areas with greater human interaction, bears tend to be more active at night. Adult male black bears may range up to 120 square miles, while females range over a smaller area, about 10 square miles.

Management

Black bear are best suited to large forested areas with a mix of wetlands, thick understory vegetation, and a diverse source of food including beechnuts, acorns, berries, and other mast. Preferably, these areas are relatively undisturbed by humans and are unfragmented by roads. Read [Bear Management Options](#) information from the Northeast Black Bear Technical Committee.

Important: To prevent bears from visiting backyard bird feeders, take down birdfeeders from April 1 through December 1. Also keep all garbage secured, keep barbeque grills clean, and do not leave pet food outdoors. This helps prevent property damage and protects our bears by preventing them from becoming nuisance animals that are habituated to human-related foods. Find out more about living with Hampshire's black bears at [Something's Bruin in New Hampshire: Learn to Live with Bears!](#)

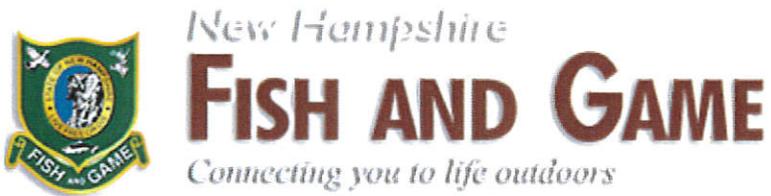
For More Information:

[Black Bear FAQs](#)

[Bear and Human Conflicts – A Need for Change](#)  by NH Fish and Game Bear Biologist Andrew Timmins

[Somethin's Bruin](#)

[Unprotected Livestock = Orphaned Bear Cubs](#)



Eastern Coyote (*Canis latrans* var.)

Description

Eastern coyotes typically weigh 30-50 pounds and are 48-60 inches long, approximately twice the size of their close relative, the western coyote. Eastern coyotes have long legs, thick fur, a pointy snout, a drooping bushy black-tipped tail and range in color from a silvery gray to a grizzled, brownish red. The average life span of a wild coyote is four years. Though coyotes are often mistaken for a domestic dog hybrid, recent genetic research has attributed the eastern coyote's larger size and unique behavioral characteristics to interbreeding with Eastern Canadian wolves (*C. lupus lycaon*). Unlike the wolf or domestic dog, coyotes run with their tail pointing down.



Range and Distribution

Although the historical evidence supporting occurrence of coyotes in New England is inconclusive, no coyotes were present in the late 1800s. Since the mid-1900s coyotes have moved from the Midwestern states, through Canada and into the Northeastern and mid-Atlantic states. The first verified account of a coyote in New Hampshire was in Grafton County in 1944. Between 1972 and 1980 coyotes spread across NH from Colebrook to Seabrook. Today, coyotes are common in every county throughout the state.

Habits and Habitats

Coyotes are generalists, eating whatever food is seasonally abundant. Coyotes are known to feed on mice, squirrels, woodchucks, snowshoe hare, fawns, house cats, carrion, amphibians, garbage, insects and fruit. Coyotes utilize forested habitats, shrubby open fields, marshy areas and river valleys.

The Eastern coyote is a social animal that generally selects a lifelong mate. Coyotes are quite vocal during their January to March breeding season. Both parents care for their young, occasionally with the assistance of older offspring. Four to eight pups are born in early May.

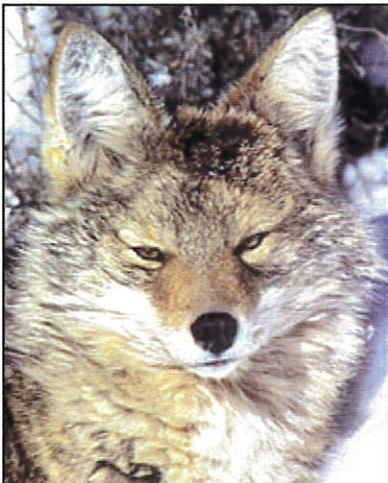
Within a year some pups will disperse long distances to find their own territories, while other offspring may remain with their parents and form a small pack.

Territories range in size from 5-25 square miles and are usually shared by a mated pair and occasionally their offspring. Coyotes mark and defend their territories against other unrelated coyotes and sometimes against other canid species. Coyotes are capable of many distinct vocalizations - the yipping of youngsters, barks to indicate a threat, long howls used to bring pack members together, and group yip-howls issued when pack members reunite.

Historic research documented domestic dog/coyote hybrids, referred to as coydogs, birthing during winter months. Since male domestic dogs that manage to pair with a female coyote do not remain with the female to assist in parental care, the young rarely survive. However, recent DNA sampling of northeastern coyote tissue by Dr. Roland Kays of the New York State Museum, along with fifteen other national and international researchers, found sampled genetic material of Eastern coyote was primarily of coyote origin (82 percent), with a minor contribution from dogs (9 percent) and wolves (9 percent). Communication with a canid researcher indicates that dog genetics entered the coyote population approximately 13,000 years ago through human introduction of European dog species to North America.

Management

Coyotes are elusive, adaptive, intelligent animals that manage to hold their own when living in close contact with humans. Most coyote management attempts have been designed to reduce their population numbers, however, due to their fecundity, behavior and adaptability, those attempts have failed.



PARK SERVICE

The great majority of coyotes don't prey upon livestock. However, once a coyote learns that young livestock are easy prey, depredation can become a problem. If this occurs, removal of the offending coyote is often recommended. However, when farms are situated in a coyote territory with no depredation, the resident coyote may actually be an asset to the farm by removing rodents and preventing problem coyotes from moving into the area.

In New Hampshire, there is no closed hunting season on coyotes and there is a five-month trapping season. Coyotes may be taken by trapping or shooting, but it is illegal to use poison as a control



method. It is a good idea to check with the state wildlife agency before undertaking any control methods.

Preventive measures such as proper disposal of livestock carcasses, use of guard animals, keeping expectant animals and newborns in confinement or using electric fences can deter coyotes. In suburban areas, coyotes have been known to kill house cats. Keeping your pets and pet food inside at night helps reduce the likelihood that a family pet will become prey. Coyotes are often blamed for events for which domestic dogs, automobiles or other wildlife are responsible. As for your safety, coyotes pose little risk to people.

For More Information:

[Coyote: To understand Eastern coyotes, look to their wolf relatives](#)  - by Christine Schadler, from New Hampshire Wildlife Journal, November/December 2010.

Orff, Eric P. 1994. New Hampshire's Wild Canids, in New Hampshire Wildlife Journal. September/October.

Parkhurst, J.A., Coyote, a Northern New England Animal Damage Control Program Education Leaflet Series, L-680, Cooperative Extension, University of Massachusetts. 2 pp.

Rezendes, Paul. 1992. Tracking and the Art of Seeing. How to read animal tracks and sign. Camden House Publishing, Vermont. 320 pp.



New Hampshire
FISH AND GAME
Connecting you to life outdoors

Eastern wild turkey (*Meleagris gallopavo*)

Description

Toms (adult males) weigh 18-24 pounds or more; hens (females) about 10 pounds. Plumage is iridescent bronze; dark in males and tips rusty or light brown in females. Wings and fan-shaped tail show alternating dark bands. Neck and head of adult males is reddish, while females have bluish heads with more feathers.

A dewlap (fleshy growth hanging under chin), caruncles (growths located on the side and front of neck), and a snood (a fleshy projection rising above the bill) adorn males. A beard (like bristles on a broom) hangs down from the chest; typical in males and in 5% of females. Males have spurs 1/4 to 1-1/4 inch long on the lower legs.



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Range and Distribution

A non-migratory native of much of North America from s. Canada to c. Mexico. Wild turkeys totally disappeared from New Hampshire 150 years ago because of habitat loss and the lack of a fish and game department to regulate hunting seasons. NH Fish and Game began transplanting wild turkeys into the state in 1969-70 (this initial effort failed), then again in 1975. Today the population is estimated at upwards of 25,000 birds. Turkeys are present in every county in New Hampshire, though severe winter weather and lack of suitable habitat limit the distribution of wild turkeys in the northernmost part of the state.

Habits and Habitat

Turkeys forage on the ground in flocks, occasionally mounting shrubs and small trees. Acorns, beechnuts, cherries, and ash seeds are primary food sources. Seeds, berries, grasses, sedges and insects are important summer foods. Turkeys eat corn, rye, oats, alfalfa, soybeans, millet, and buckwheat. Grit is important. Adults eat 90% plant matter and 10% insects. Poults eat mainly insects. In winter turkeys visit seeps; they feed on sensitive fern fertile stalks, waste corn, and persistent fruits such as barberry, rose hips, and dried apples.

Adult males gobble to attract females and to repel competing males. Both adults make a variety of noises - yelps, clucks, cackles, purrs, rattles, and gobbles. Wild Turkeys are polygamous. Toms gather a harem of hens by gobbling, strutting, and using dramatic plumage displays. Mating occurs in April and nesting in May. The nest is typically a small depression lined with dead leaves. Nests are located in areas with a well-developed understory or in cut-over areas with slash.

Hens breed in their first year while adult males ("toms") out-compete one-year old males ("jakes"). Hens lay 8-15 eggs. Chicks hatch in 28 days, typically in early June.

Coyote, fox, and fisher are the major predators of adult turkeys. Hens will often abandon a nest if disturbed during incubation. In late summer, hens and their broods often band together to form large flocks. Wild turkeys take advantage of different habitats throughout the year based on their food and nesting needs. In the fall, turkeys forage in mast-producing stands of oak/hickory, oak/pine, and northern hardwoods. Hardwood stands with south-facing slopes and seep areas are favored in winter. Large softwood or hardwood trees are needed for roosting. Wild turkeys forage at farms in winter.

Openings, including pastures, hayfields, burned areas, clear-cuts, blueberry barrens, and natural savannas, are a key component of their habitat. These areas support low herbaceous or grassy ground cover and insects needed for brood-rearing.

Wild turkeys aren't territorial. They travel over 4 to 5 square miles during the year, although during the winter and nesting season they often restrict their movements within 100-200 acres. Turkeys are active during the day, roosting in trees from sundown until sunrise.

Management

Long rotation management that maximizes mast production is an optimal strategy. Even-aged management that effectively regenerates food sources such as black cherry, white ash, and oak is preferred. Minimize forest cutting during the nesting season (April/May/June) to avoid disturbance. Maintain key habitat features such as spring seeps, beech knolls, oak stands, understory vegetation (apples, hawthorns, witch hazel, and viburnums), and thickets or patches of juniper, sumac, barberry, grapes, and native bittersweet (be sure not to plant the

invasive type). Five to 30% of a turkey management area should be in herbaceous openings. A section of corn (25' x 100') left standing through winter can feed a flock of 60 turkeys.

Annual Surveys

[Winter Flock \(January 1 through March 31\)](#)

[Turkey Brood \(May 15 through August 31\)](#)

See also:

[Eastern Wild Turkey - A wildlife restoration success story!](#) 

[Turkey Hunting in NH - Spring and fall seasons](#)

[Report Turkey Viruses](#)



White-tailed Deer (*Odocoileus virginianus*)

Description

White-tailed deer are tan to reddish-brown during the summer and a grayish-brown in winter months. The tail is brown with a dark center stripe above and white below. This species got its common name from showing the white underside of its tail as a warning of danger to other individuals. The belly, throat, noseband, eye ring, and inside of ears are also white. Bucks (males) have antlers while does (females) do not (with rare exceptions). Antlers have a main beam forward with several smaller tines behind. White-tailed deer vary in size considerably, with mature bucks weighing 150-310 pounds and does between 90-210 pounds.



Range and Distribution

There are an estimated 30 million white-tailed deer, including subspecies, currently distributed throughout the continental US. The only location they are not commonly found in the US is in Utah, Nevada and California. They can also be found as far north as southern Canada and as far south as Mexico and northern portions of South America. They are extremely adaptable to a variety of habitats and have been introduced to a few northern European countries, including Finland.

In New Hampshire, the white-tailed deer population is approximately 100,000 individuals. The areas of greatest densities are in the southern counties (Rockingham, Hillsborough, and Cheshire) and along the Connecticut River Valley (Grafton County). In 2014, the NH Fish and Game Department began the process of revising its 10-year management plan for white-tailed deer, moose, turkey, black bear, snowshoe hare, and ruffed grouse. This document, called the NH Game Management Plan, spans the period of 2016 to 2025. Population level goals for deer were adjusted to more closely reflect current biological conditions and

limitation, as well as public interests and concerns. These goals aim to stabilize the deer population in many areas of the state while increasing or reducing it in others.

Habits and Habitats

White-tailed deer can live in a variety of habitats, including farmlands, brushy areas, woods, mountains, and suburbs and gardens. They feed on green plants, including aquatic species in the summer, acorns, beechnuts, and corn in the fall, and woody vegetation, including buds and twigs of birch, maple and conifers in the winter. White-tailed deer will typically consume 5 to 9 pounds of food each day and find water from snow, dew and waterbodies.

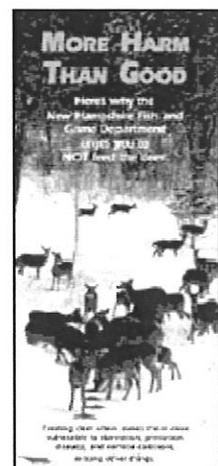
Individual deer group into two types of social combinations. These include the family group, with a doe and her young, and the buck group. The family group will stay together for approximately a year. Buck groups are structured with a dominance hierarchy of 3 to 5 individuals. Bucks will challenge each other with stares, lowered ears, kicking, sparring (physically pushing each other back), and less commonly, thrashing of forefeet.

During the winter, these two deer groups may come together, forming communities of up to 150 individuals in locations called “yards.” This unification keeps trails open and accessible for feeding and also provides protection from predators. However, there have been problems with humans providing supplementary feed sites for deer in the winter. These sites can cause unnaturally high densities of congregated deer that attract predators, increase the risk of disease transmission, increase aggression within the community, and lead to over-browsing of local vegetation and more deer-vehicle collisions. They cause deer to be more dependent on humans and artificial food sources that provide few benefits.

NH Fish and Game does not advocate the supplemental feeding of deer, will not participate in winter feeding efforts, and urges landowners not to feed deer. Download a brochure about this, entitled *More Harm than Good* 

Mating season varies within the species range. Northern individuals breed during mid-November, while southern species breed in January or February. This is in reference to northern and southern U.S., not NH. In NH breeding dates are fairly consistent throughout the state and roughly 80% of breeding takes place over a 3 week period starting around mid-November. Buck groups split up and several bucks follow a doe's scent from a distance of 150 feet. The dominant buck may compete with others and mate with several does. After mating season, does return to subgroups until early spring.

Females have a gestation time of 6.5 months. In their first year of mating, does produce one fawn. After this initial year, they commonly produce twins or triplets annually. The majority of fawns are born in June and stay with their mother until right before the next year's birth.



White-tailed deer are able to swim, run and jump extremely well. Winter coats of northern deer have hollow hair shafts that fill with air. This makes the coat so buoyant that it is hard for an animal to sink if exhausted. White-tailed deer can run at speeds up to 36 mph, although they typically run to the nearest cover and never for long distances. A deer can also leap 8.5 feet vertically and 30 feet horizontally.

White-tailed deer shed their antlers annually, usually around February. A buck's first antlers may be solitary spikes, but in their third year, it is expected for them to have about 8 points. The size and structure of antlers differ greatly because of nutritional factors. Despite common belief, you cannot tell a deer's age by its antlers; the age of a deer is most commonly determined by observing the wear on its teeth.

Management

Despite the species being greatly reduced in the US by the 1940s because of unregulated hunting and predator abundance, white-tailed deer numbers have increased significantly and populations are thriving. This rebound has also been seen in many areas of NH. Due to these rebounds, the Game Management Plan outlines goals and objectives for stabilizing the white-tailed deer population in many parts of New Hampshire based on both ecological and cultural carrying capacities. Biologists and managers look at the availability of suitable habitat for populations and how many individuals it can sustain. They also consider the tolerance level of white-tailed deer abundance for humans in an area. In New Hampshire, as well as many other states, hunting is used as a tool for management and provides recreation and lean meat to residents and visitors during the fall months.

Lyme disease is a concern in New Hampshire, as it is in much of New England. NH Fish and Game asks residents and visitors to take care to avoid ticks when out hiking in typical deer habitats, especially during spring and summer. Wearing long pants, a long-sleeved shirt and using insect repellent may help protect against both tick and mosquito bites. One of the most important things you can do to prevent tick bites is performing a tick check anytime you have visited an area where you may have been exposed to ticks. Tick bites can go unnoticed so, also watch for symptoms of Lyme disease, which can include headache, dizziness, fever, sore throat, muscle aches, joint pain, general weakness, and a bull's-eye red rash around the bite area. Get more information about avoiding Lyme disease (<http://www.dhhs.nh.gov/dphs/cdcs/lyme/>).

Deer-vehicle collisions are also of concern. NH Fish and Game urges drivers to be alert for the presence of deer when driving, especially around dusk or dawn and particularly during the fall breeding season when deer activity and movement increases. Drive at low speeds with high beams on (whenever possible) while scanning the roadsides.

Chronic wasting disease (CWD), a brain disease that is ALWAYS FATAL to deer, moose and elk, is one of the greatest concerns to deer hunters and managers in New Hampshire and the rest of the country due to its potential to have devastating long term impacts to deer populations and our hunting heritage. Annual monitoring efforts since 2002 have not detected CWD in any New England state; however it has been detected as close as New York, Pennsylvania, and Maryland. Prevention of CWD in New Hampshire remains a top

priority and hunters should take every effort to learn more about the impacts this disease can have on deer populations and what they can do to help stop it's spread.

[Born to Be Wild - Leave Fawns Alone](#)

[Deer Hunting in New Hampshire](#)

[Do Not Feed Deer](#)

[Facts About Chronic Wasting Disease \(CWD\)](#), a serious potential threat to our deer herd

[Helping Our Herd](#) - What you can do to help keep New Hampshire's Deer and Moose safe from Chronic Wasting Disease.

[Ticks in NH](#) 

[Lyme and other Tickborne Diseases](#)