



2025 NH Wildlife Action Plan Revision

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Photos by Matt Tarr (UNHCE).



New Hampshire Fish and Game Department

STATE

WILDLIFE ACTION PLAN

2025

Revised Edition

NH Wildlife Action Plan

- Protect rare, threatened, and endangered species
- Keep common species common
- Provide a roadmap for NH to conserve wildlife and habitats



What is the process for revising the Wildlife Action Plan?



Biological Experts from across the state take part in:

1.
Selection of
**Species of
Greatest
Conservation
Need**

2.
**Threats
Assessment
Process**

3.
Development
of
**Conservation
Actions**



Public Outreach & Stakeholder Engagement

**Public
Survey**

**Focus
Groups**

**Public
Comment
Period**

Photo by Matt Tarr (UNHCE).

What can I use
the Wildlife
Action Plan for?

takingactionforwildlife.org

- Conserving Land
- Developing or Updating a Natural Resource Inventory
- Informing Land Use Planning
- Developing Community Conservation Projects



Photo by TAFW

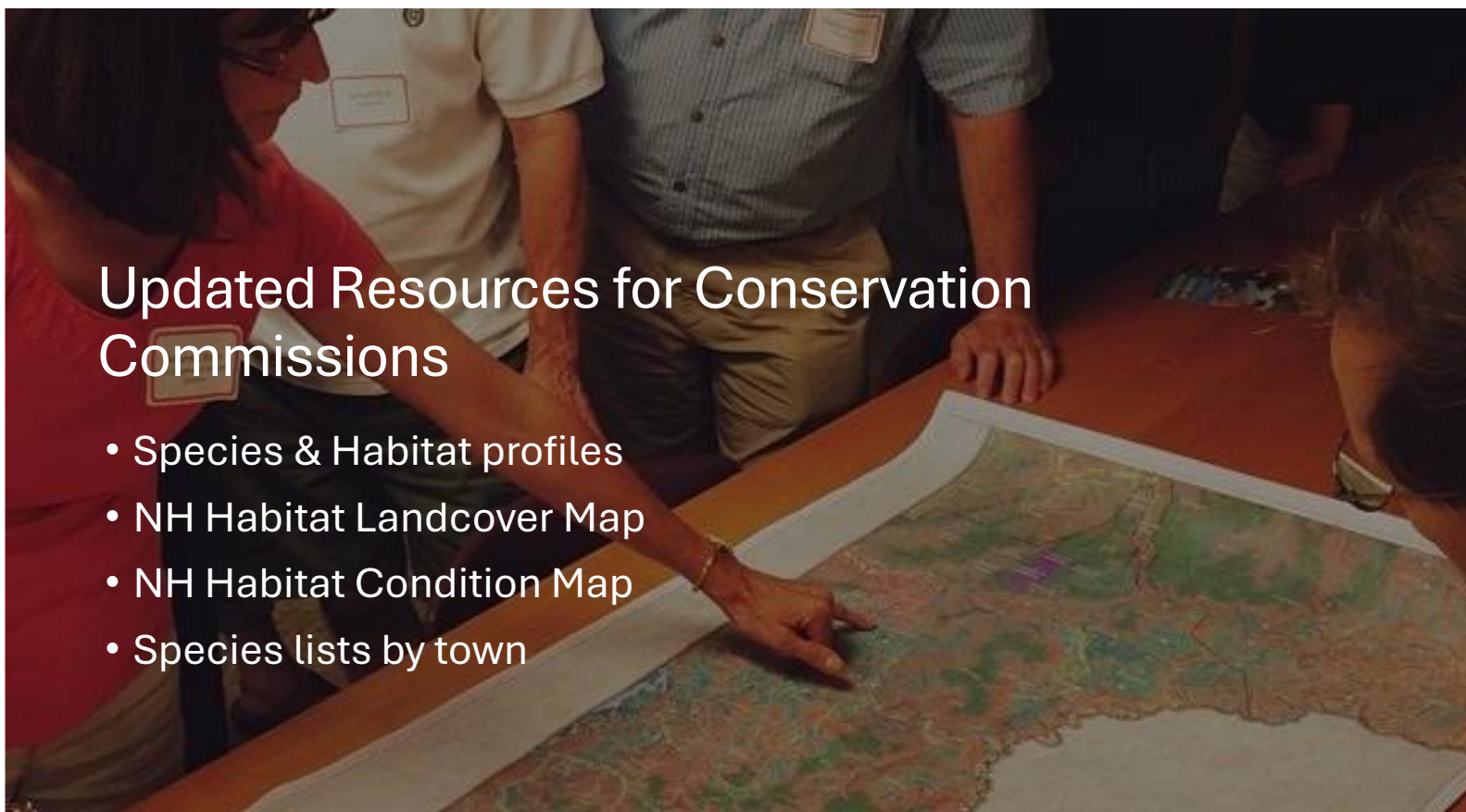
What can I use the Wildlife Action Plan for?

takingactionforwildlife.org

- Inventorying
- Prioritizing
- Planning
- Conserving

Updated Resources for Conservation Commissions

- Species & Habitat profiles
- NH Habitat Landcover Map
- NH Habitat Condition Map
- Species lists by town



138 Wildlife Species *of Greatest Conservation Need*



purple martin



yellow bumble bee



Eastern box turtle



New England cottontail



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Photos by Matt Tarr (UNHCE), Jesse Rorabaugh, USFWS, and Josh Megyesy (NHFG)

188 Plant Species *of Greatest Conservation Need*



butterfly milkweed



American ginseng



small-whorled pogonia



wild lupine



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Photos by USFWS (Grace Ducosin, Gary Peebles, Courtney Celley) and Dan Pittillo.

Wood Turtle (*glyptemys insculpta*)

Federal Listing: Not listed
State Listing: Special Concern
Regional Status: Northeast Regional SGCN



Photo by Josh Megyesy (NHFG).

JUSTIFICATION (REASON FOR CONCERN IN NH)

The wood turtle is a species of high regional concern (conservation concern and high regional responsibility) in the northeast that warrants federal endangered or threatened species listing considerations (NEPAC 2010, Therres 1999). Many states across the species range have reported declines, population structures with a disproportionate number of adults, or local extirpations (Ross et al. 1991, Garber and Burger 1995, Ernst 2001a, Daigle and Jutras 2005, Willoughby et al. 2013). In New England, the wood turtle is listed as a species of special concern in Maine (Hunter et al. 1999), Massachusetts (Massachusetts Natural Heritage and Endangered

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In New Hampshire, wood turtles likely occur throughout much of the state excluding higher altitudes such as the White Mountains Region (Taylor 1993, New Hampshire Natural Heritage Bureau 2005). High elevation records for southern New England include 442 m (1450 ft) at Norfolk, Connecticut, 497 m (1630 ft) Becket, Massachusetts, and 518 m (1700 ft) Plainfield, Massachusetts (Klemens 1993).

Scarcity of deep, low gradient streams may be the limiting factor at high elevation as opposed to altitude (Klemens 1993).

HABITAT

Wood turtles are associated with rivers and streams with hard clay, sand, gravel, or cobble substrate (Ernst et al. 1994), but make extensive use of surrounding uplands during the summer (Compton et al. 2002, Tuttle and Carroll 2003, Arvissais et al. 2004, Roberts et al. 2021). Heavily vegetated riparian and floodplains with open canopy are an important component of suitable habitat. Most wood turtle terrestrial activity often is within 300 m of streams and rivers (Kaufmann 1992, Arvissais et al. 2002, Rensberg et al. 2006). Habitat use and home range may vary among individuals of a local population (Kaufmann 1992, Compton 2002) with females generally moving greater distances than males (Jones et al. 2014). A mosaic of river or streams, forest, dense shrub thickets, and bare sandy substrate, may attract turtles and provide habitat for a higher density of turtles in these areas (Kaufmann 1992). In Maine, activity areas of wood turtles were near streams and rivers and had moderate forest cover (Compton et al. 2002). Within activity

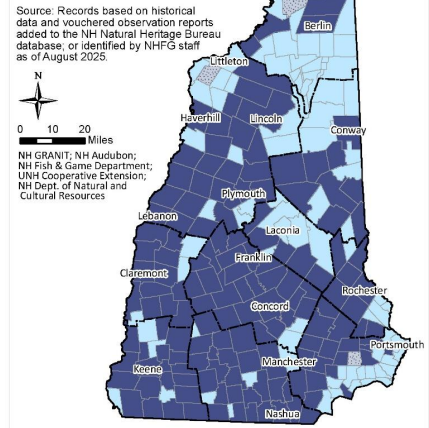


Wood turtle stream habitat. Photo by Josh Megyesy (NHFG).

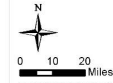
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New Hampshire Species Records and Potential Range of: WOOD TURTLE *Glyptemys insculpta*

Species records 2000-2024
Species records pre-2000
Potential range



Source: Records based on historical data and vouchered observation reports added to the NH Natural Heritage Bureau database, or identified by NHFG staff as of August 2025.



NH GRANIT: NH Audubon;
NH Fish & Game Department;
UNH Cooperative Extension;
NH Dept. of Natural and
Cultural Resources



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28 Key Habitat Types



warmwater pond



shrubland



Appalachian oak-pine forest



vernal pool



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Coldwater Rivers and Streams

Miles in NH: 14,702

Average Percent Conserved (Within a 250m Buffer): 35

HABITAT DESCRIPTION

Coldwater rivers and streams are defined by their ability to maintain cold water temperatures during the hot summer months. The presence of coldwater fish species, including brook trout and slimy sculpin, is often an indicator of coldwater river or stream habitat. Brook trout are rarely found in rivers or streams that exceed a mean temperature of 20°C during the months of July and August. Although temperatures may rise above 20°C for short durations, extended periods of higher water temperatures typically preclude the presence of brook trout and other cold water dependent species.

Coldwater Rivers and streams are more common in northern New Hampshire and at higher elevations where a cooler local climate causes less warming throughout the summer. In southern New Hampshire and at lower elevations, the presence of coldwater streams depends primarily on the influence of groundwater. Streams fed by an abundant source of groundwater maintain suitable temperatures for coldwater species during periods of hot weather.

Coldwater streams vary in size and gradient. High gradient coldwater streams, typical of the mountainous regions in northern and western New Hampshire, are characterized by cascades and small waterfalls flowing over boulders and ledge. Flows are highly variable and water levels often react quickly to rainfall. There are relatively few aquatic species that are able to survive in this unstable environment. Resident species include brook trout and stream salamanders (e.g. spring salamanders). In streams with moderate gradient, substrate usually shifts from boulder to cobble or gravel. Riffles, pools, meander bends, and undercut banks are common habitat features and slimy sculpin, longnose sucker, and burbot may be present in addition to brook trout. Low gradient spring fed streams, typically found at lower elevations, are



Coldwater river and stream habitat distribution in New Hampshire.

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and other infrastructure. Cold water streams are also vulnerable to habitat degradation such as streamside vegetation removal and stormwater runoff from impervious surfaces. Much of the coldwater stream habitat in the northeast has been fragmented by dams and undersized stream crossings, which restrict the movements of coldwater fish species.

PROTECTION AND REGULATORY STATUS

- Rivers Management and Protection Program – NHDES
- Comprehensive Shoreland Protection Act – NHDES
- Clean Water Act-Section 404

Regulatory Comments: The Clean Water Act is difficult to enforce without baseline temperature and biological community data.

DISTRIBUTION AND RESEARCH

In 2008 The Nature Conservancy (TNC) developed a regional stream and river classification to represent flowing water habitat types in the Northeast based on four major variables: size class, gradient, geology, and temperature. This map was used as the starting point for representing aquatic habitat types in New Hampshire, but the distribution of coldwater stream habitat needed to be refined. NH Department of Environmental Services provided an update to the state's coldwater rivers and streams classification using



Photo by Matt Carpenter (NHFG).

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Threats Assessment – Top Threats for 2025

1. Pollution
2. Invasive and problematic species, genes, & diseases
3. Climate Change
4. Residential & Commercial Development

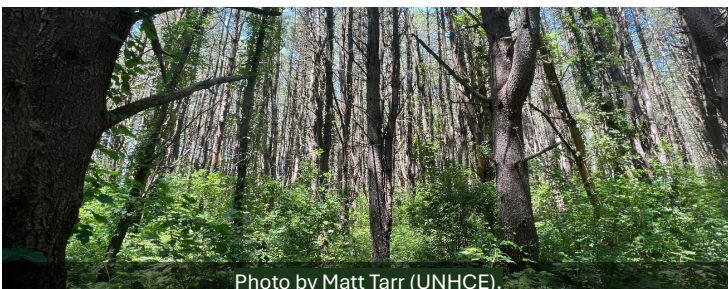


Photo by Matt Tarr (UNHCE).

Residential development (top) & invasive glossy buckthorn (bottom)

SGCN & Habitat Conservation Actions

ACTIONS TO BENEFIT THIS HABITAT IN NH

PROTECT UNFRAGMENTED BLOCKS AND OTHER KEY WILDLIFE HABITATS

Primary Threat Addressed: Habitat conversion due to development

Threat Classification: Residential & Commercial Development

Objective:

The objective is to protect the largest and highest quality occurrences of hemlock - hardwood - pine forest habitat, with an emphasis on developing and maintaining corridors for wildlife movement and species dispersal. As of 2015, approximately 34% (151,897 acres) of New Hampshire's Tier 1 hemlock - hardwood - pine forests were on protected land. State agencies and private conservation organizations should attempt to protect an additional 5% (~22,000 acres) of Tier 1 hemlock - hardwood - pine forest in the next 10 years.

Purpose:

Protection of the highest priority areas of hemlock - hardwood - pine forest and facilitate their conservation, reducing habitat loss and fragmentation.

Action Details:

NHFG should work with statewide and regional land trusts, as well as funding sources, to facilitate the protection of the highest-quality occurrences of hemlock - hardwood - pine forest habitat in the state.

County:

Statewide

SUPPORT THE DIVISION OF FORESTS AND LANDS IN THE IMPLEMENTATION OF FOREST HEALTH MANAGEMENT PROGRAMS

Primary Threat Addressed: Habitat degradation and mortality from forest pests

Threat Classification: Invasive & other Problematic Species, Genes & Diseases

Objective:

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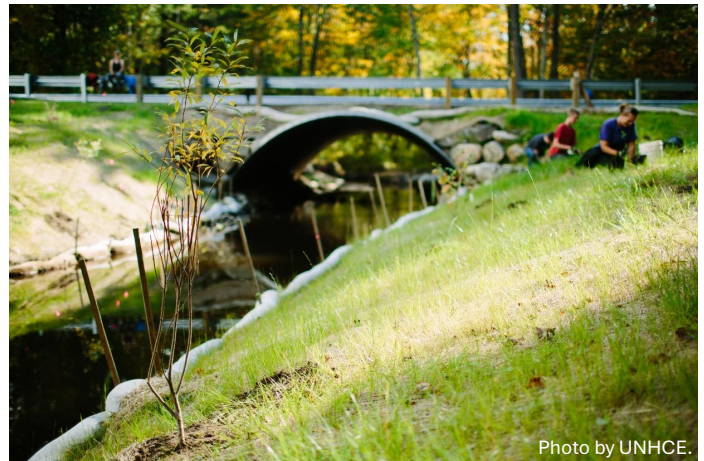


Photo by UNHCE.



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Photo by Matt Tarr (UNHCE).

Broad-Scale Conservation Actions

also called “general actions”

1. Habitat Restoration and Management
2. Species Management
3. Land Conservation
4. Land Use Planning
5. Education, Outreach, and Engagement
6. Policy and Governance



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Broad-Scale Conservation Actions Examples – **Habitat Management**

1.3.4 – Create green corridors and pollinator gardens through the use of native plantings and buffer strips of vegetation.

Photo by Deb Tranter (USFWS).



Broad-Scale Conservation Actions Examples – **Land Conservation**

3.3.4 – Promote collaboration among landowners, land trusts, municipalities, and state/federal agencies to protect priority parcels through conservation easements, fee acquisition, or other tools.

Photo by Matt Tarr (UNHCE).



Broad-Scale Conservation Actions Examples – **Land Use Planning**

4.1.4 – Provide planners with scientific data and maps to identify and prioritize lands and waters for habitat conservation and connectivity

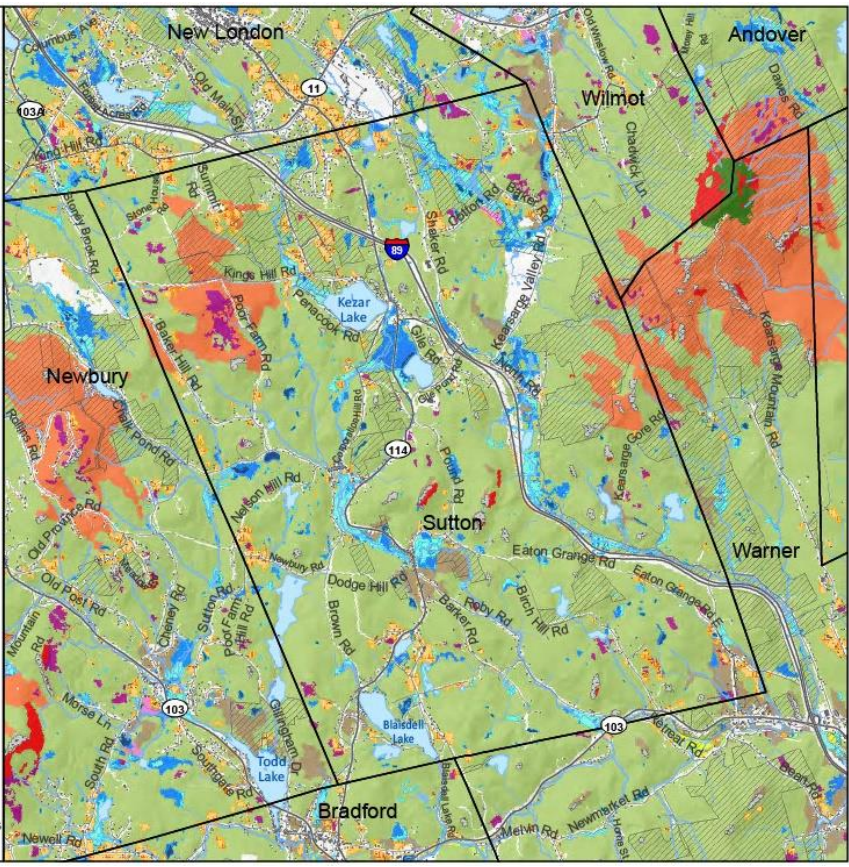
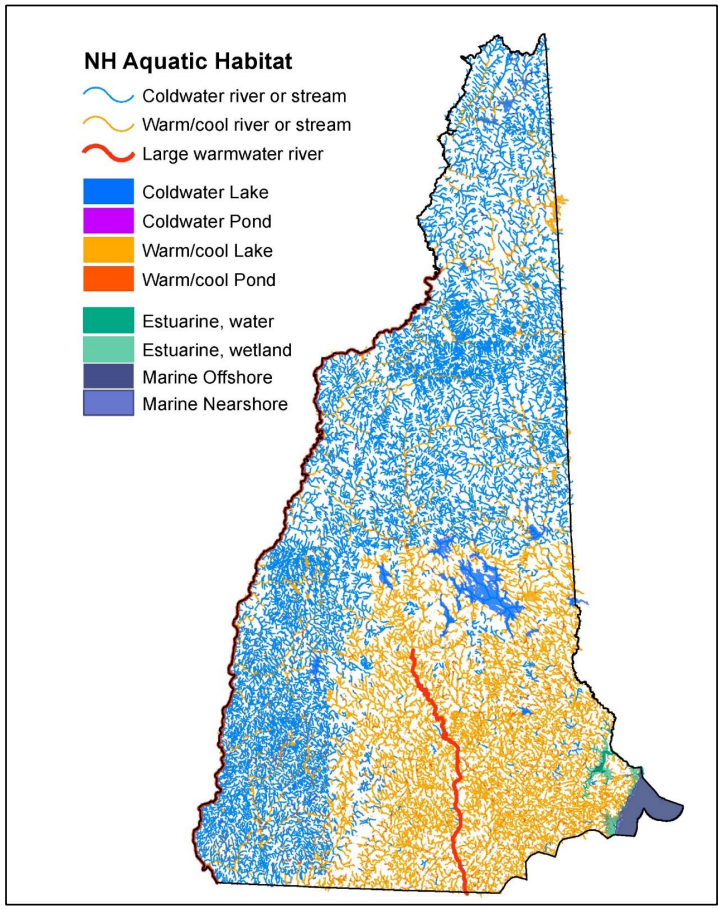
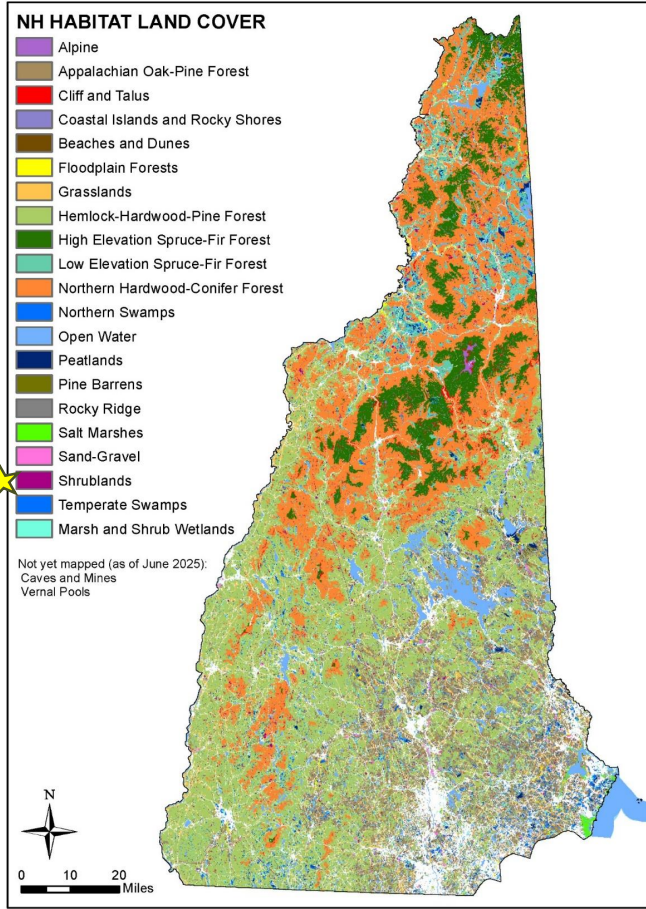
Photo by UNHCE.



Broad-Scale Conservation Actions Examples – **Education, Outreach, Engagement**

5.2.2 – Distribute stewardship guidelines and/or planning tools to land managers and landowners to enhance wildlife habitats.

Photo by UNHCE.



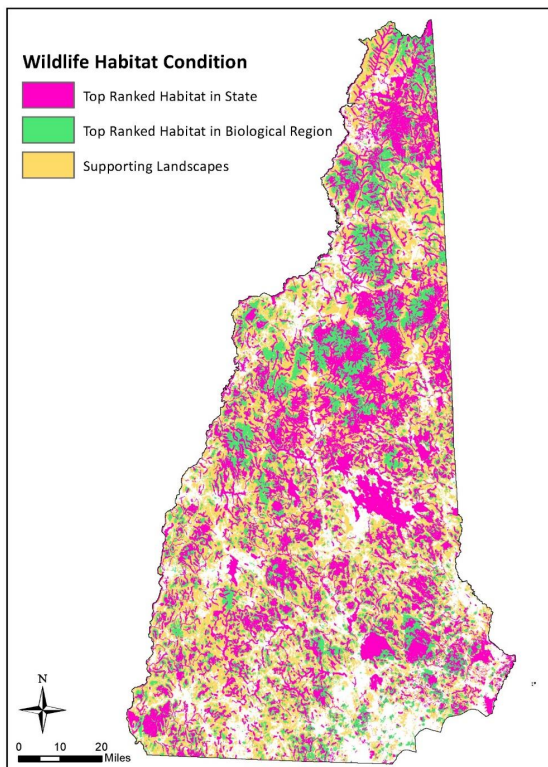
Habitat Type	Acres
SUTTON (town area)	27,735
Appalachian oak-pine	603.5
Cliff and Talus	33.7
Developed	1930.3
Developed Impervious	918.8
Floodplain forest	0.8
Grassland	673.1
Hemlock-hardwood-pine	18936.9
Northern hardwood-conifer	1184.1
Northern swamp	412.7
Open Water	1034.9
Peatland	173.1
Rocky ridge	189.7
Sand-gravel	14.6
Shrubland	358.1
Temperate swamp	357.1
Marsh and shrub wetland	913.4

Potential Species of Greatest Conservation Need

in your town

Common Name	Species Status	Range	Habitats
Smooth Green Snake	SC, SGCN	Potential	Grasslands, Marsh and Shrub Wetlands, Peatlands, Rocky Ridge, Cliff, and Talus, Rocky Ridge, Cliff, and Talus, Shrublands
Spotted Turtle	ST, SGCN	Potential	Floodplain Habitats, Marsh and Shrub Wetlands, Peatlands, Temperate Swamps, Vernal Pools
Wood Turtle	SC, SGCN	Town	Coldwater Rivers and Streams, Floodplain Habitats, Grasslands, Shrublands, Warmwater Rivers and Streams
American Black Duck	SGCN	Potential	Lakes and Ponds, Rivers and Streams, Marsh and Shrub Wetlands, Northern Swamps, Peatlands, Temperate Swamps
American Kestrel	SC, SGCN	Irregular	Developed Habitats, Grasslands, Shrublands
American Woodcock	SGCN	Potential	Appalachian Oak-Pine Forest, Hemlock Hardwood Pine Forest, Marsh and Shrub Wetlands, Northern Swamps, Shrublands, Temperate Swamps
Black-billed Cuckoo	FT, SGCN	Potential	Appalachian Oak-Pine Forest, Hemlock Hardwood Pine Forest, Pine Barrens, Shrublands
Bobolink	SGCN	Potential	Grasslands
Canada Warbler	FT, SGCN	Potential	Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest, Northern Swamps, Temperate Swamps
Chimney Swift	SC, SGCN	Potential	Appalachian Oak-Pine Forest, Developed Habitats, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest
Cliff Swallow	ST, SGCN	Historic	Developed Habitats, Grasslands
Common Loon	ST, SGCN	Town	Lakes and Ponds with Coldwater Habitats, Large Warmwater Rivers, Warmwater Lakes and Ponds, Warmwater Rivers and Streams
Eastern Towhee	SGCN	Potential	Appalachian Oak-Pine Forest, Peatlands, Pine Barrens, Rocky Ridge, Cliff, and Talus, Rocky Ridge, Cliff, and Talus, Shrublands
Field Sparrow	SGCN	Potential	Pine Barrens, Shrublands
Least Bittern	SGCN	Historic	Marsh and Shrub Wetlands
Northern Goshawk	SGCN	Potential	Appalachian Oak-Pine Forest, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Northern Hardwood-Conifer Forest
Northern Harrier	SE, SGCN	Historic	Grasslands, Marsh and Shrub Wetlands, Peatlands, Salt Marsh, Shrublands
Olive-sided Flycatcher	FT, SGCN	Potential	Lowland Spruce-Fir Forest, Marsh and Shrub Wetlands, Northern Hardwood-Conifer Forest, Northern Swamps, Peatlands, Temperate Swamps
Ruffed Grouse	SGCN	Potential	Appalachian Oak-Pine Forest, Grasslands, Hemlock Hardwood Pine Forest, Lowland Spruce-Fir Forest, Marsh and Shrub Wetlands, Northern Hardwood-Conifer Forest, Shrublands
Scarlet Tanager	FT, SGCN	Potential	Appalachian Oak-Pine Forest, Hemlock Hardwood Pine Forest, Northern Hardwood-Conifer Forest
Wood Thrush	SGCN	Potential	Appalachian Oak-Pine Forest, Floodplain Habitats, Hemlock Hardwood Pine Forest, Northern Hardwood-Conifer Forest

Habitat Condition Maps



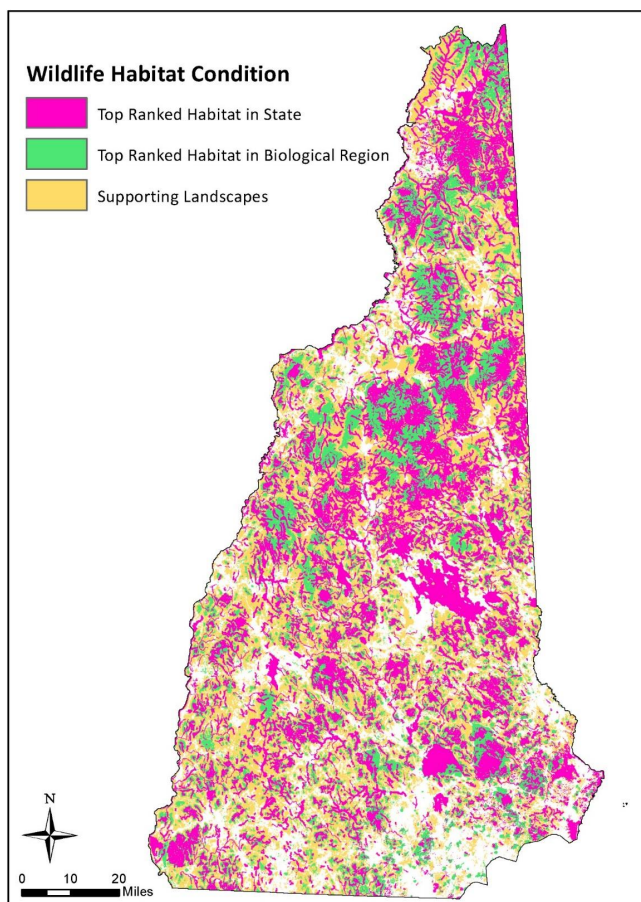
- Biological factors
- Landscape factors
- Human impact



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Habitat Condition Maps

- Biological Factors
 - Species richness of rare wildlife
 - Species richness of rare plants
- Landscape Factors
 - Total habitat area
 - Habitat connectedness
- Human Impacts
 - Distance to nearest road
 - Percent of impervious surface



Top Ranked Habitat in the State =

- Top 15% of all habitats statewide
- 100% of alpine, dunes, coastal islands/rocky shore, and salt marsh habitats

Top Ranked Habitat in Biological Region =

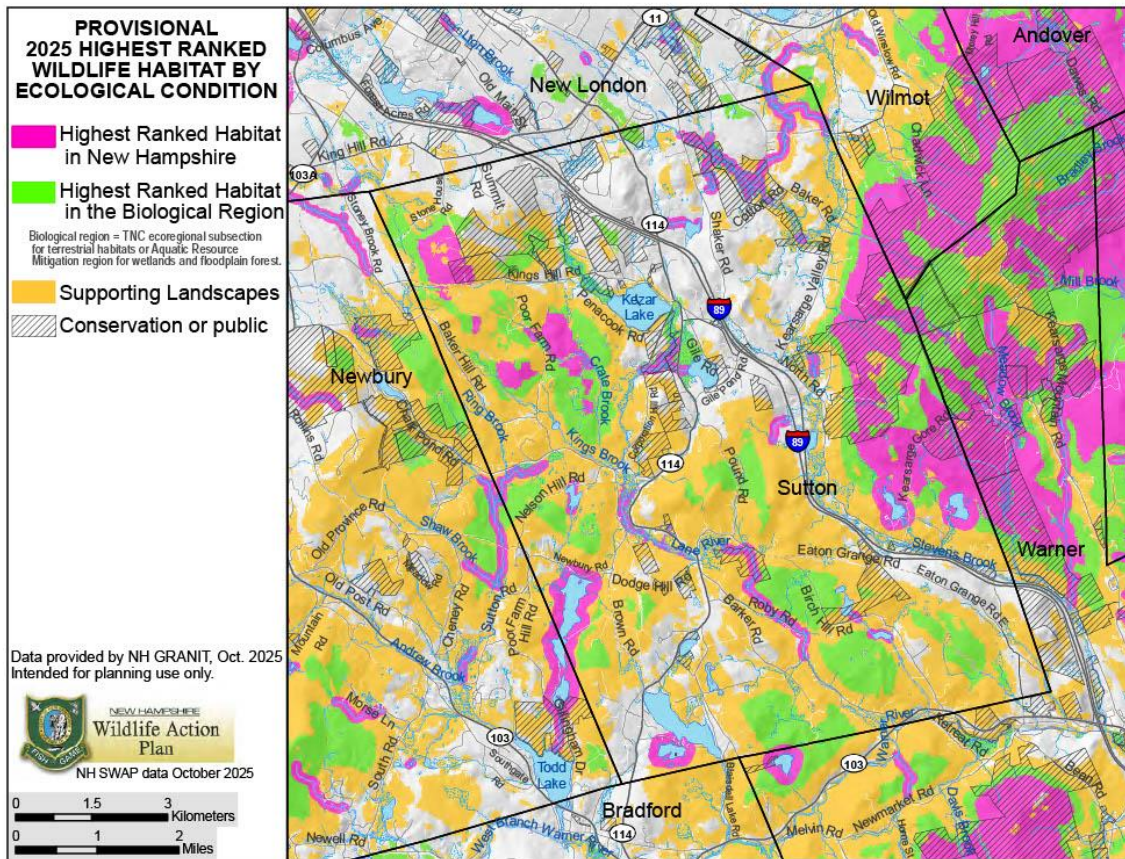
- Top 30% of all habitats by ecoregion
- 100% of high-elevation spruce-fir and floodplain habitats

Supporting Landscapes

- Top 50% of all habitats by ecoregion



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Community Engagement & The Wildlife Action Plan

- Host a BioBlitz
- Create an iNaturalist Project for your town
- Host a nature walk
- Reach out to landowners
- Create a social media campaign
- Create a town pollinator garden



Recap: Using the Wildlife Action Plan

- Conserving Land
- Informing Land Use Planning
- Developing or Updating an NRI
- Developing Community Conservation Projects

Photo by TAFW.



Thank you!

Questions?

Photo by Matt Tarr (UNHCE).