



NATURAL RESOURCES & WATER RESOURCES

Northwood Master Plan
Adopted July 15, 2024



ACKNOWLEDGEMENTS

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The Natural Resources & Water Resources Chapter was prepared by EF | Design & Planning, LLC with TZM Planning.

Cover image: Cascade in Northwood Meadows State Park (Wini Young)

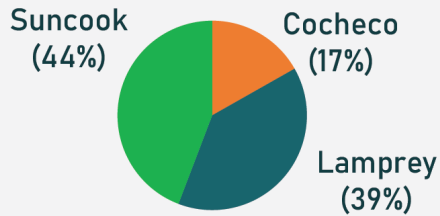
CONTENTS

Natural Resources & Water Resources Snapshot	1
Goals.....	2
Introduction	3
Topography.....	5
Watersheds.....	7
Surface Water	9
Streams & Rivers.....	9
Lamprey River Protection	9
Instream Flow	10
Isinglass River	10
Lakes & Ponds	12
Wetlands.....	17
Shoreland Protection	20
Water Resource Focus Areas.....	20
Dams.....	22
Culverts	22
Flooding.....	23
Floodplains.....	23
Aquifers & Groundwater	25
Public Water System	26
Threats to Water Resources	27
Invasive species	27
Cyanobacteria	27
Nonpoint Source Pollution	28
Point Source Pollution	28
Hazardous Sites and Substances.....	28
Climate Change.....	29
Soils	30
Conservation & Public Lands	33
Monitoring, Stewardship, and Maintenance.....	37
Funding Conservation.....	38

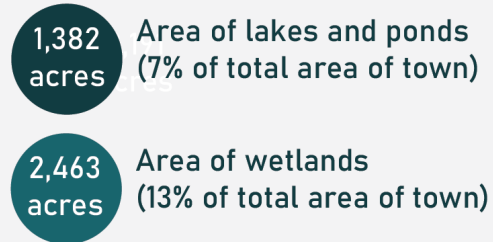
Future Conservation Projects	38
Town Forest Parcels.....	40
Land In Current Use	42
Conservation Partners.....	42
Northwood Meadows State Park	43
Habitat & Areas of Ecological Significance.....	45
Wildlife Action Plan Habitat.....	45
WAP Habitat Ranking	46
Coastal Watershed Conservation Plan	49
Resilient Lands	51
Species of Significance	53
Rare, Endangered, Threatened	53
Recreational Opportunities.....	53
Solar Energy	54
Hosting Capacity.....	55
Recommendations	56
Policy & Initiatives (P).....	56
Regulatory (R)	57
Education (E).....	59
Implementation.....	60
Implementation Table	60
Potential Funding Sources.....	66
Appendices	
Appendix A 303(d) List	
Appendix B Active Dams	
Appendix C Soils	
Appendix D Conservation and Public Lands Matrix	

NATURAL RESOURCES & WATER RESOURCES SNAPSHOT

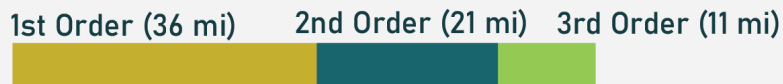
WATERSHEDS¹



SURFACE WATER²



STREAM MILES³



- 31 active public water systems, including Northwood Ridge Water District⁴
- 17 active dams⁴
- 80 culverts, of which only 23 provide full passage for aquatic organisms⁴

SOILS⁵

- 12% % soils that are valuable farmland soils
- 33% % of farmland soils that have been developed

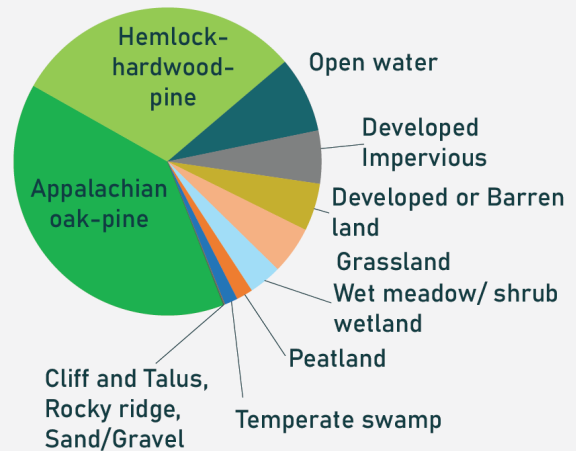
CONSERVATION & PUBLIC LANDS⁶

- 3,191 acres Area of conservation and public lands (18% of total area of town)
- 80% % of conservation and public lands that are permanently protected
- 34% % of conservation focus areas that are protected
- 4 Town Forests
 - School Lots (102 & 32 acres)
 - Giles Lot (29 acres)
 - Parsonage Lot (196 acres)
 - Deslauriers Lot (24 acres)

WILDLIFE HABITAT⁷

- 46% % of land that is high value wildlife habitat

HABITAT AREA



Data reference and chapter page:

1. NH Geodata Portal, NHD Watersheds, pg 7-11
 2. NH Geodata Portal, NHD Waterbody, pg 13-16
 3. NH Geodata Portal, NHD Flowline, pg 9-11
 4. NHDES OneStop, pg 26, 22

5. NH Geodata Portal, NRCS Soils, pg 30-32
 6. NH Geodata Portal, Conservation & Public Lands, Conservation Commission, pg 33-38
 7. NH Geodata Portal, NH Wildlife Action Plan, pg 45-48



View of Bow Lake and Bennett Island (Liz Durfee)

GOALS

Northwood's overarching goals for natural resources and water resources include:

- 1 Improve water quality in Northwood's lakes, ponds, and streams.
- 2 Enhance wildlife habitat and connectivity.
- 3 Protect drinking water supplies.
- 4 Educate the community about the importance of natural resources and water resources and how to protect these assets.
- 5 Maintain and enhance conservation lands and publicly accessible open space.
- 6 Sustain the functions and services that natural resources and water resources provide, which are critical for people and wildlife.
- 7 Minimize loss of working agricultural lands.



Forested wetland near Long Pond Road (Liz Durfee)

INTRODUCTION

Northwood is uniquely situated at the headwaters of three major watersheds in New Hampshire: the Lamprey, Suncook, and Cocheco River watersheds. The community is fortunate to have abundant natural resources and water resources, including diverse forests, wetlands, meadows, farmland, important wildlife corridors, and lakes, ponds, streams, and wetlands.

Natural resources and water resources are a fundamental part of the rural character that Northwood residents value. Protection of the ecosystem services, or benefits that these resources provide the community, is important to maintaining a high quality of life in Northwood. As noted in the Vision Chapter of the Master Plan, the community envisions that in the future, Northwood will continue to protect and preserve its natural resources, ensure aquifers are replenished and that the community has ample drinking water, protect wildlife habitat, use natural spaces responsibly, and maintain rural vistas, viewsheds, farms, and forests.

Natural Resources Protection is a key component of the community's vision for the future.

This chapter includes:

- An inventory, analysis, and maps of Northwood's natural resources and water resources
- Brief descriptions of the Town's regulations to protect these resources
- Public input on natural resources and water resources priorities, needs, and opportunities
- Links to additional resources and sources of information
- A set of recommendations to promote long-term sustainability of these resources.

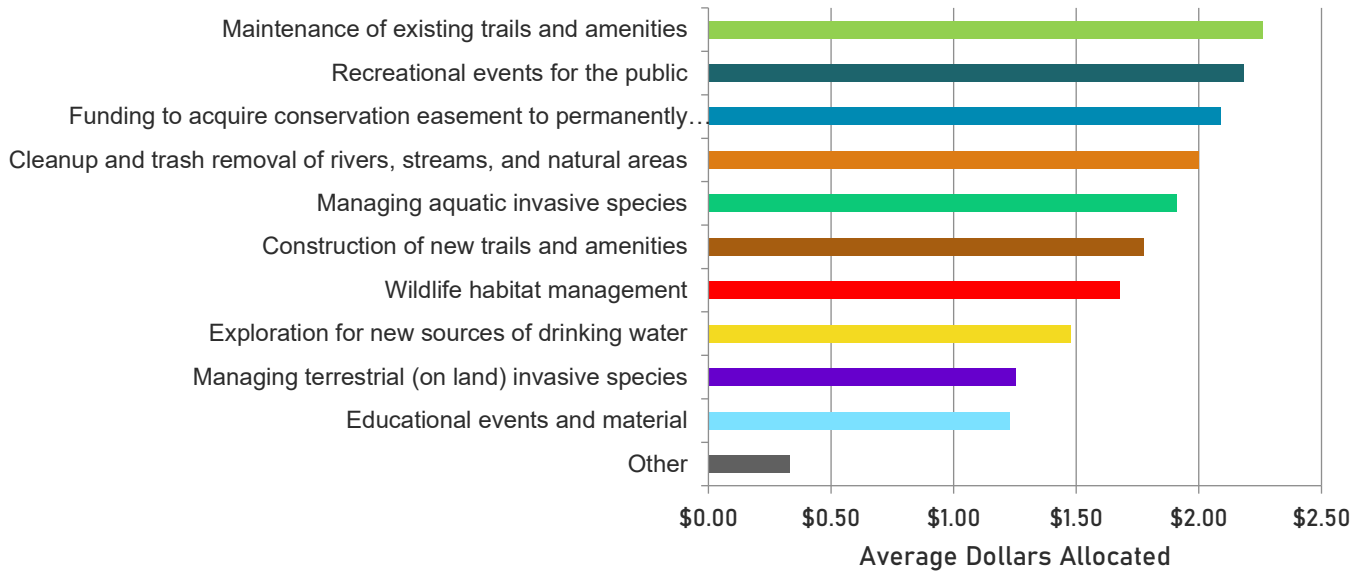
Northwood has five overlay districts designed to protect sensitive and important natural resources:

1. Steep Slopes Overlay District
2. Agricultural Soils Overlay District
3. Wetlands Conservation Overlay District
4. Conservation Area Overlay District
5. Wellhead Protection Overlay District

The Town also has a Floodplain Ordinance and, as of 2024, a Dark Sky Ordinance.



If you were responsible for allocating \$10 to natural resources, how would you spend it? Please assign a dollar value to each category. The total must equal \$10.



To better protect natural resources and water resources, are you in favor of the Planning Board and Conservation Commission proposing the following model ordinances and regulations to Town Meeting:

Strongly Agree Agree Neutral Disagree Strongly Disagree

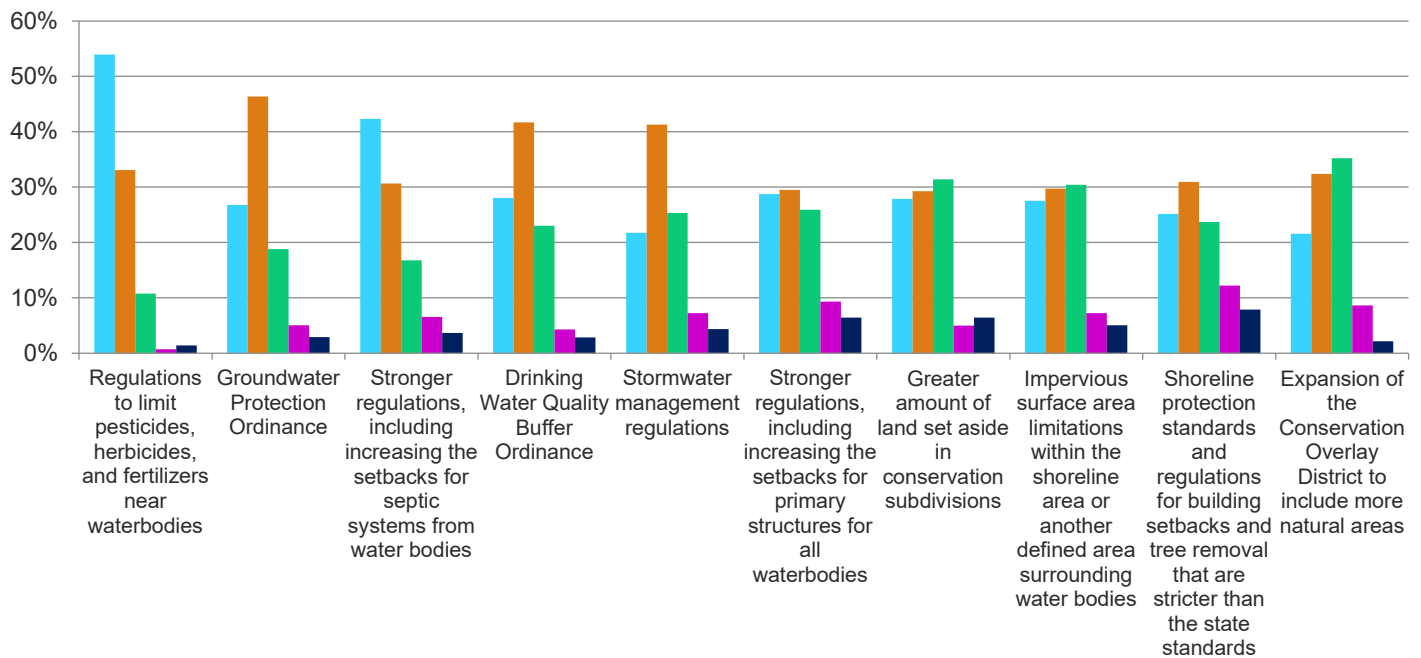


Figure 1. Responses to questions about how funding for natural resources-related issues should be allocated (above) and support of considering new or amended regulations to protect natural resources and water resources (below) from a community input survey in January and February 2024



View of Saddleback Mountain from Fort Mountain (FranklinSites.com)

TOPOGRAPHY

Northwood is a hilly town with elevations ranging from 233 feet above sea level to 1,150 feet above sea level at Saddleback Mountain, the highest point in town. There are 3,525 acres of land with steep slopes over 20% in town. Of this, just over 2,000 acres lie within the Steep Slope Protection Overlay District. Approximately 83% of this land (1,668 acres) has very steep slopes over 25% (Figure 2)

Steep Slope Protection Overlay

The Steep Slope Protection Overlay District (Zoning Ordinance Article IV Section E) is intended to reduce damage to streams and lakes from the consequences of excessive and improperly sited sewage disposal systems, and to preserve the natural topography, drainage patterns, vegetative cover, scenic views, wildlife habitats, to protect unique natural areas by implementing innovative land use controls. Areas in excess of 20% slope that are greater than 2,000 square feet are regulated by special exception. Additional restrictions may be placed on areas with very steep slopes of 25% or greater.

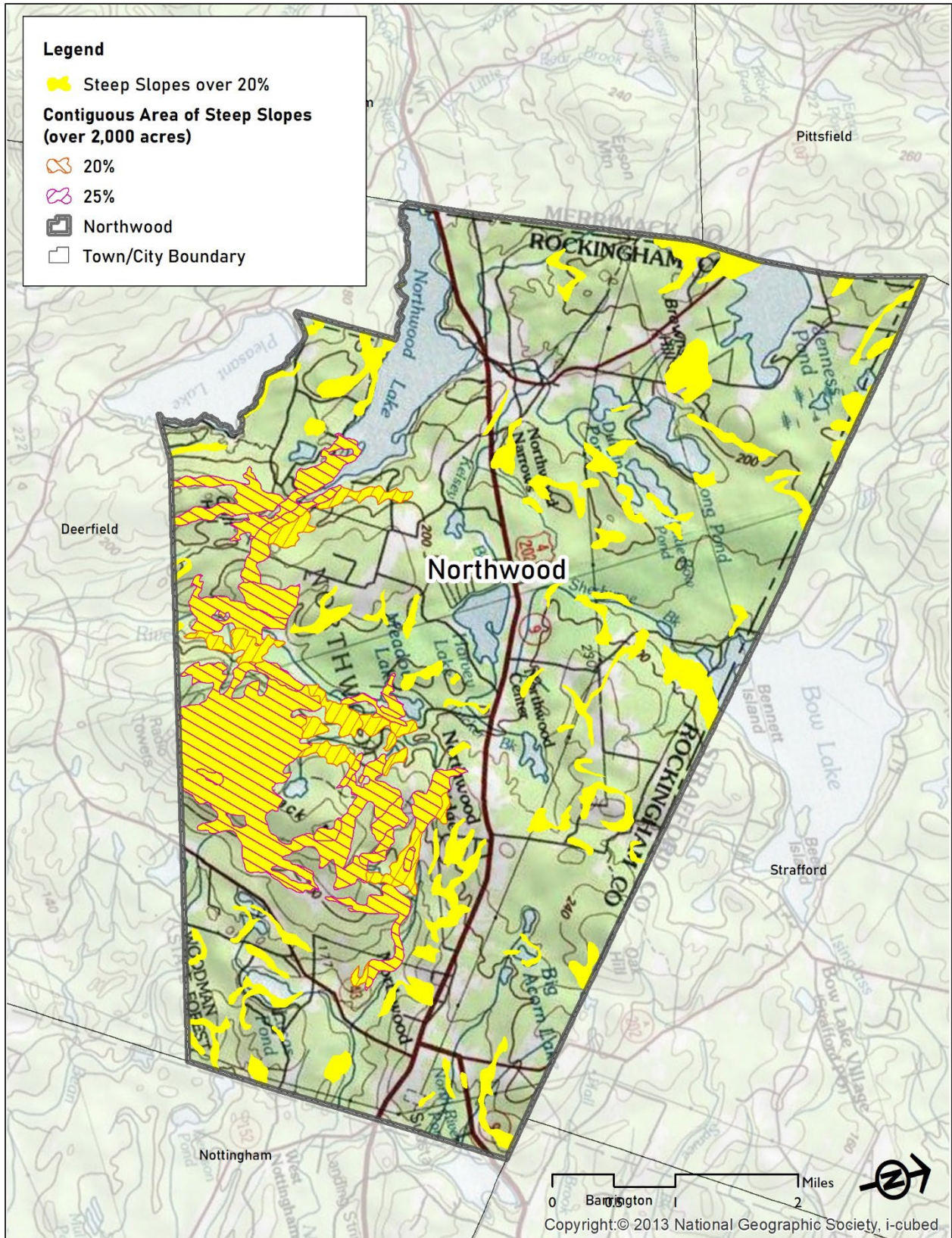


Figure 2. Topographic map with steep slopes and areas within Northwood's Steep Slopes Overlay District (Source: NH Geodata Portal, NRCS Soils, Town of Northwood).

WATERSHEDS

Northwood lies along the boundary of the Merrimack and Saco Watersheds, which are two of the principal watersheds in the New Hampshire (Figure 3).¹ The Saco Watershed includes the Salmon Falls-Piscataqua (Coastal) watershed. The Lamprey and Cocheco River HUC Hydrologic Unit Code 10) watersheds are located within this watershed. The Suncook River drains to the Merrimack River. While a small portion of these watersheds are in Northwood, the town is home to the headwaters of both the Lamprey River in Northwood Meadows State Park and the Isinglass River, which flows into the Cocheco River. Both the Lamprey River and the Isinglass River are designated under the NH Rivers Management and Protection Act.

Headwaters streams have a large impact on the health and integrity of rivers downstream. Hydrological processes in headwater catchments also impact the recharge of subsurface water stores.² These streams provide numerous benefits, including:

- Reduction of sediment delivery downstream
- Reduction in nutrient loading (nitrogen and phosphorus)
- Flood storage and control
- Wildlife habitat corridors and aquatic habitat
- Protection of public drinking water sources
- Maintaining channel morphology and land stability.³

Guidelines area available from for [stewardship of headwaters streams](#).

Table 1. Area of watersheds (HUC 10) in Northwood

Watershed	Total Watershed Acres	Acres in Northwood	% of Watershed in Northwood	% of Northwood's Area
Cocheco	118,465	3,253	2.7%	16.8%
Lamprey	136,851	7,549	5.5%	39.0%
Suncook	99,780	8,556	8.6%	44.2%

Source: NH Geodata Portal Watersheds

Northwood lies partially within New Hampshire's [coastal watershed](#)

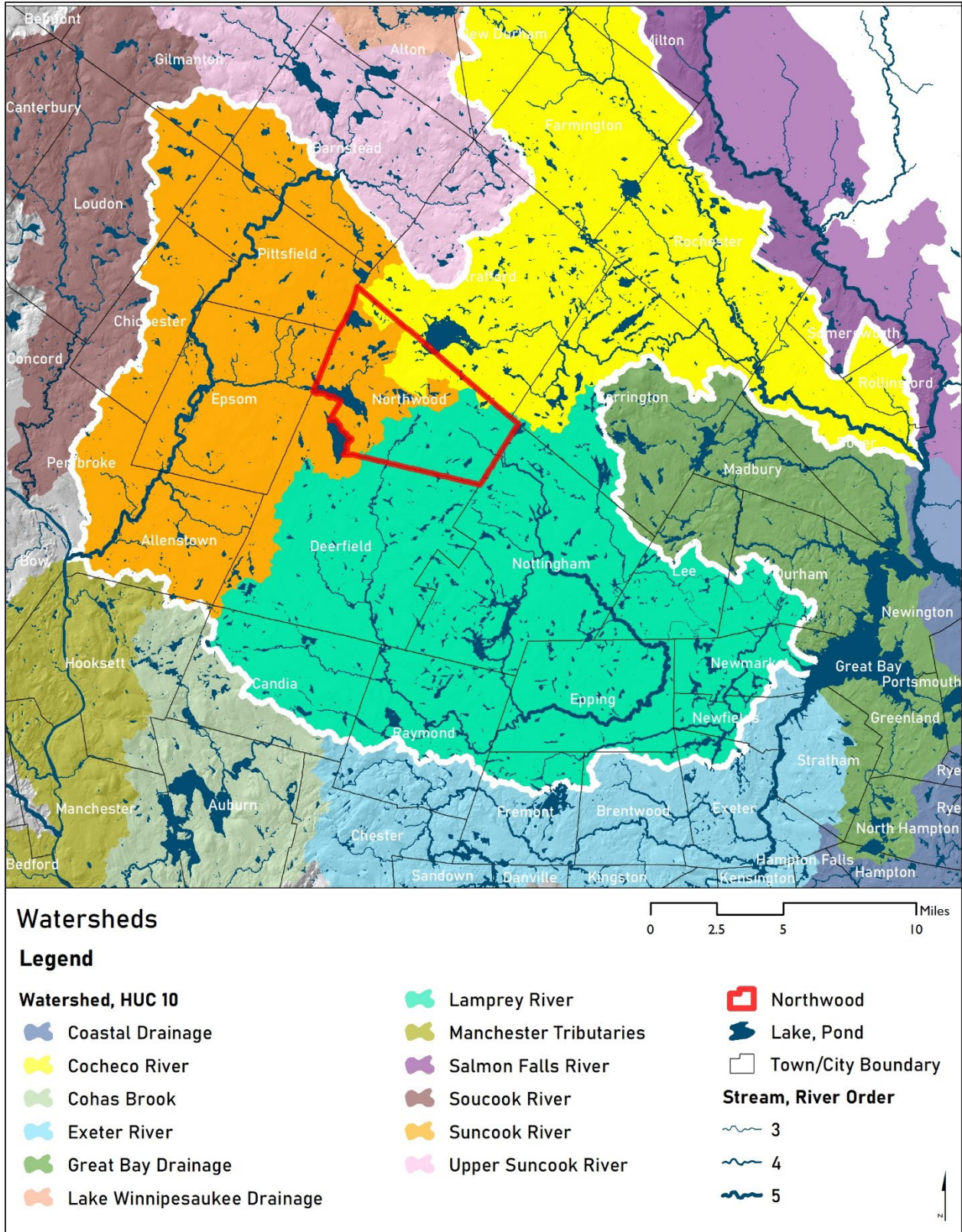


Figure 3. HUC 10 watersheds (Source: NH Geodata Portal, Watersheds, NHD Flowline, NHD Area)

SURFACE WATER

Streams & Rivers

A headwaters community, Northwood does not lie downstream from any other community in the Cocheco, Lamprey, and Suncook watersheds. Over half of the 68.4 miles of streams in Northwood are first order streams and the remaining are second (31%) or third order (17%) streams (Table 2 and Figure 3).

Table 2. Miles of first, second, and third order streams in Northwood

Stream Order	Miles	% of Streams in Northwood
1	35.7	52.2%
2	21.3	31.1%
3	11.4	16.7%
Total	68.4	100%

Source: NH Geodata Portal, NHD Flowline

Table 3. Named streams in Northwood

Stream Name	Miles	Watershed
Bean River	0.03	Lamprey
Flat Meadow Brook	2.08	Suncook
The Gulf	0.86	Suncook
Hall Brook	0.07	Cocheco
Jenness Brook	1.08	Suncook
Kelsey Brook	2.43	Suncook
Lamprey River	1.75	Lamprey
Narrows Brook	1.68	Suncook
Sherburne Brook	2.48	Cocheco
Tucker Brook	1.84	Suncook

Source: NH Geodata Portal, NHD Flowline

Lamprey River Protection

In 1990, portions of the Lamprey River in Lee and Durham were nominated into the NH Rivers Management Program. In

2011, the entire 50-mile river – including the 1.75 miles of the Lamprey River in Northwood – and five of the Lamprey’s major tributaries were nominated into the program. The purpose of this program is to protect the state’s significant river resources for the benefit of present and future generations through a unique combination of state and local resources management and protection.⁴

A portion of the Lamprey River from Bunker Pond Dam in Epping to the river’s confluence with the Piscassic River in Newmarket is also designated

The National Wild and Scenic Rivers System was created by Congress in 1968 to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations.

Nationwide, 226 rivers – totaling more than 13,400 miles of rivers and streams – are protected by this system in the US.

38 of the 10,874 miles of rivers and streams in New Hampshire are designated as wild and scenic.

Source: [US Forest Service; National Wild and Scenic Rivers System, New Hampshire](#)

as a Wild and Scenic River.

The Lamprey River Advisory Committee (LRAC), comprised of volunteer representatives nominated by the 14 towns of the Lamprey River watershed and appointed by the New Hampshire

Department of Environmental Services (NHDES), is responsible for the development and implementation of a long-range River Management Plan. As of early 2024, LRAC is in the process of updating the [2013 Lamprey Rivers Management Plan](#), which integrates goals for the entire river for both the state and Wild and Scenic programs. The 2013 plan only applied to the lower Lamprey, however. NHDES began collecting instream flow data from the five tributaries and the upper Lamprey in 2022 that will inform a future Protected Instream Flow Study.

Instream Flow

The Lamprey River is actively managed under the Instream Flow Program, which operates under the Rivers Management and Protection Program

statute (Section 9-c ([RSA 483:9-c](#)) and [Administrative Rule Env-Wq 1900](#)). This program determines the seasonal flows necessary to support both natural aquatic habitats and human uses. The updated Lamprey River Water Management Plan will include instream flow for the entire Lamprey River and its designated tributaries. Refer to [NHDES's Instream Flow webpage](#) for information on current instream flow at several locations in the watershed.

Isinglass River

The Isinglass River is designated as an outstanding water resource under the NH Rivers Management and Protection Program (RSA 483:7-a 1).



Source: 2013 Lamprey Rivers Management Plan

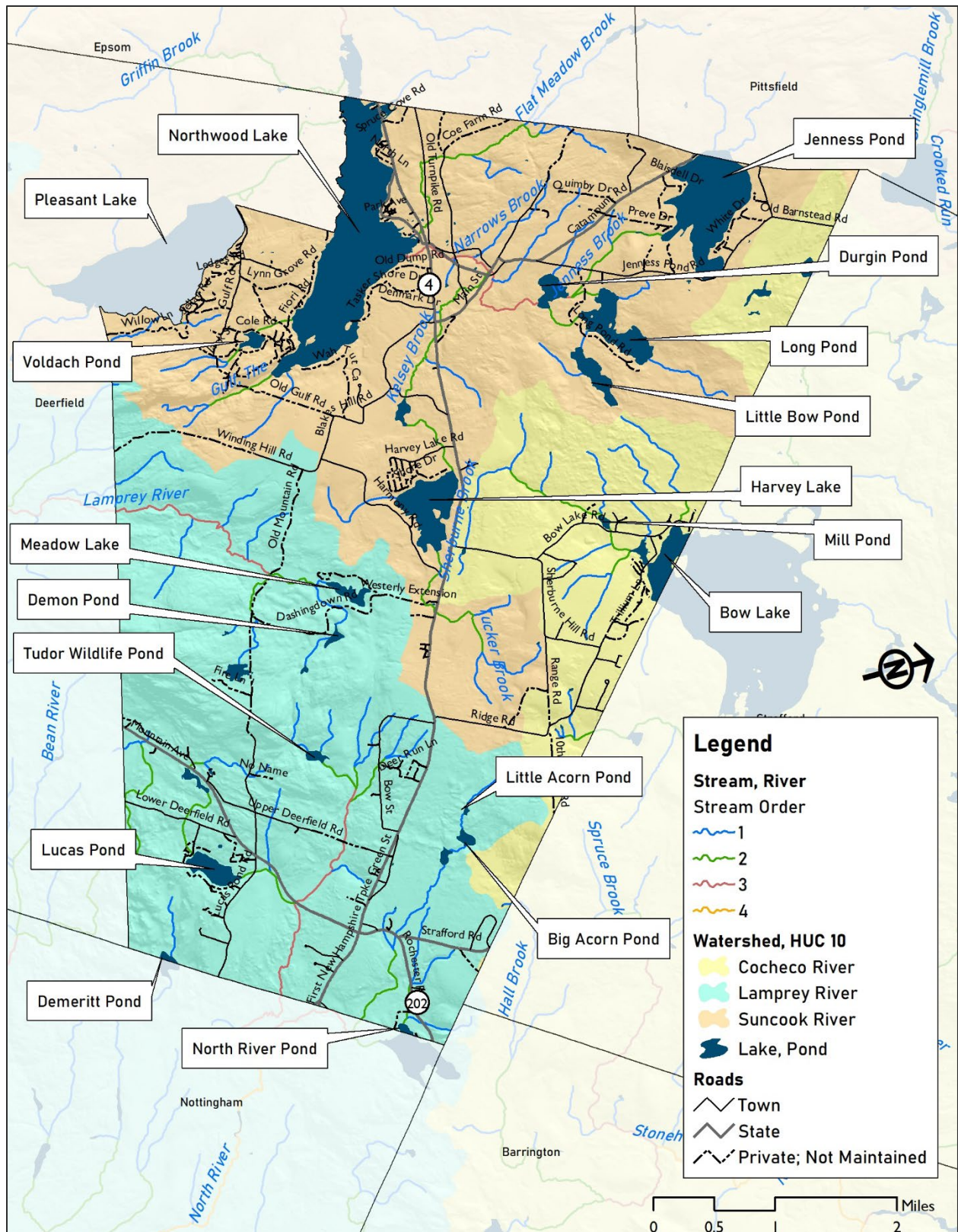


Figure 3. Watersheds and surface water with stream order (Source: NH Geodata Portal, National Hydrography Dataset, Roads)

Lakes & Ponds

Lakes and ponds provide habitat for fish and wildlife and countless ecosystem services, or benefits to people, such as boating and swimming, regulating services like groundwater recharge, and scenic views.

Northwood has abundant surface water bodies. According to the National Hydrography Dataset (NHD), there are 16 named lakes and ponds within or partially within Northwood (Table 4). Within Town limits, the total area of these water bodies is approximately 1,382 acres or 2.15 square miles, which is about 7% of the total area of the town.⁵ The largest body of water in Northwood is Northwood Lake (653 acres), known historically as Suncook Pond. A portion of Bow lake (1,140 acres) to the north and Pleasant Lake (479 acres) to the south are located in the town. The depth of water in lakes and ponds in Northwood ranges from 20 feet in Northwood Lake to 60 feet in Pleasant Lake.

NHDES's [Lakes Mapper](#) provides water quality information of individual waterbodies including:

- Trophic studies
- Lake Total Maximum Daily Loads (TMDLs)
- Volunteer Lake Assessment Program (VLAP) reports
- Ice cover history
- Cyanobacteria bloom history
- Watershed-based plans on lakes
- Diagnostic feasibility studies
- Invasive aquatic species information

Table 4. Area and trophic class of named lakes and ponds in Northwood

Lake / Pond	Acres in Northwood	Total Acres	Current Trophic Class
Northwood Lake	610.7	653.0	Mesotrophic
Jeness Pond	257.5	266.9	Oligotrophic
Harvey Lake	116.5	116.5	Eutrophic
Long Pond	90.0	90.0	Mesotrophic
Bow Lake	57.8	1,140.1	Mesotrophic
Lucas Pond	39.9	39.9	Mesotrophic
Little Bow Pond	38.5	38.5	Mesotrophic
Durgin Pond	27.3	27.3	Eutrophic
Meadow Lake	18.3	18.3	Mesotrophic
Voydatch Pond	11.2	11.2	Mesotrophic
Big Acorn Pond	8.2	8.2	Not determined
Tudor Wildlife Pond	7.7	7.7	Not determined
Demon Pond	6.5	6.5	Not determined
Mill Pond	4.6	4.6	Not determined
Demeritt Pond	4.2	14.3	Eutrophic
North River Pond	4.2	83.9	Oligotrophic
Pleasant Lake	2.6	478.9	Oligotrophic
Little Acorn Pond	2.1	2.1	Not determined
All other unnamed lakes and ponds	74.7	-	-
Total Area	1,382	-	-

Source: NH Geodata Portal, NHD Water Bodies; NHDES Lakes Mapper

Note: The northeast shore of Pleasant Lake forms the town boundary and the acreage calculated in Northwood may be attributable to slight variations in GIS datasets.

Lake trophic surveys have been conducted for several waterbodies in Northwood. These surveys evaluate physical, biological, and chemical parameters in lakes or ponds greater than 10 acres to assess overall productivity, or trophic status, and help inform water quality management policies.⁶ The three most common [trophic classifications](#) are oligotrophic, mesotrophic, and eutrophic (Table 5). Within Northwood, there are three classified oligotrophic, seven mesotrophic, and three eutrophic lakes and ponds.

Oligotrophic lakes typically have clear water and plenty of oxygen to support fish and other aquatic organisms, while eutrophic lakes have more phosphorus and chlorophyll-a, and therefore more algal biomass, less clarity, and lower oxygen concentration. Eutrophic lakes may not be suitable for activities like swimming, boating, and waterskiing.

Human activities are a primary driver of eutrophication in lakes. Stormwater runoff from developed areas, including urban areas and agricultural lands — which contribute 10 and 5 times more phosphorus than forested lands, respectively — are the major source of nutrients for most lakes.⁷ Lawn and garden fertilizers, faulty septic systems, washing with soap in or near a lake, erosion, dumping or burning leaves in or near a lake, and even feeding ducks also cause eutrophication.⁸ Additional threats to water resources are discussed later in this section.

Table 5. Characteristics of trophic classes

Oligotrophic	<ul style="list-style-type: none"> • Steep shoreline and bottom gradient • Low nutrient enrichment • Little planktonic growth • Few aquatic plants • Sand or rock along most of shoreline • Coldwater fishery • High dissolved oxygen content
Mesotrophic	<ul style="list-style-type: none"> • Moderate nutrient enrichment • Moderate planktonic growth • Some sediment accumulation over most of lake bottom • Usually supports warm water fish species
Eutrophic	<ul style="list-style-type: none"> • High nutrient enrichment • Much planktonic growth (high productivity) • Extensive aquatic plant beds • Much sediment accumulation on bottom • Low dissolved oxygen on bottom • Only warm water fish species

Source: NHDES Fact Sheet WD-BB-3 Lake Eutrophication



Image: Wikipedia Commons

Eastern Brook Trout are a Species of Concern in New Hampshire that is found in The Gulf, a tributary of Northwood Lake (Source: NHDES Aquatic Restoration Mapper).

Like other aquatic organisms, brook trout benefit from a well-established riparian buffer that filters stormwater runoff, shaded banks, and woody debris that provides habitat (Source: NH Fish & Game).

Lake Associations

Northwood is fortunate to have several volunteer-based watershed, lake, and river associations that manage Northwood's lakes and ponds in conjunction with NHDES, including:

- [Northwood Lake Watershed Association](#)
- [Pleasant Lake Preservation Association](#)
- [Harvey Lake Watershed Association](#)
- [Jeness Pond Shore Owners Association](#)
- [Bow Lake Camp Owners Association](#)

[Northwood Lake](#), [Pleasant Lake](#), [Harvey Lake](#), and [Jeness Pond](#) all participate in the [Volunteer Lake Assessment Monitoring Program](#), led by NHDES. [Bow Lake](#) is part of the [Lakes Lay Monitoring Program](#) led by University of New Hampshire Cooperative Extension. Volunteer monitoring programs provide important water quality data and opportunities for citizens to get involved with understanding and tracking the health of lakes.

Northwood Lake Watershed Association's Watershed Management Plan

The Northwood Lake Association (NLWA) was formed by shoreland residents in 1992 around a shared interest in addressing the worsening milfoil infestation in the lake. Today, it is a 501c3 with leadership from each of the three towns that have frontage on the lake: Northwood, Deerfield, and Epsom. NLWA works to protect Northwood Lake and its watershed through programs including the Milfoil Control Diving Program; Lake Host Program; water quality testing, and cyanobacteria monitoring.

NLWA has prepared a Long-Term Variable Milfoil Management Plan for the lake and contracted with FB Environmental Associates in 2023 to prepare the Northwood Lake Watershed Management Plan. This plan will:

- Identify the causes and sources of phosphorus pollution in Northwood Lake;
- Determine a series of management strategies and actions needed to meet an agreed-upon water quality goal for phosphorus load reduction that will greatly reduce, if not eliminate, the risk of blooms; and
- Meet the nine planning elements required by the US Environmental Protection Agency (EPA) for approval and qualification for federal and state implementation funding opportunities.

(Source: Northwood Lake Watershed Management Plan Contract, July 5, 2023. FB Environmental Associates)

Pleasant Lake Municipal Planning Recommendations

Land use modeling indicates that watershed runoff (65%), followed by septic systems (15%), atmosphere (14%), and other sources contribute to phosphorus loading to Pleasant Lake. Shoreline properties with inadequate buffers, evidence of bare soils, and structures within 75 feet of the shoreline are detrimental to water quality.

Municipal Planning Recommendations from the [Pleasant Lake Watershed Restoration Plan](#) include:

- **Building and Wetland Buffer Setbacks:** Adopt uniform and more stringent setback guidelines in both towns (at least 100 feet from all waterbodies and wetlands).
- **Conservation Subdivision:** Increase the amount of land set aside in conservation subdivisions (for Northwood) to be comparable in both towns.
- **Low Impact Development (LID) –** Amend stormwater management ordinances to define LID techniques, and to encourage LID use to the maximum extent possible.

Additionally, it is recommended that the Town of Northwood work towards developing a Watershed Protection Ordinance specific to Pleasant Lake. The existing ordinance in Deerfield may serve as a model.

(Source: Pleasant Lake Watershed Restoration Plan, prepared by FB Environmental January 2017)

Water Quality

Land use and associated runoff within the watershed is the primary factor that impacts water quality in streams, rivers, and lakes.⁹ NHDES monitors water quality through the River Management and Protection Program, The Lakes Management and Protection Program, river and lake monitoring, and the Instream Flow Program.

New Hampshire’s surface water quality regulations consist of three parts:

- 1 Designated uses - uses that a waterbody should support, depending on its class
- 2 Water quality criteria – in place to protect the designated uses and determine if a waterbody meets its intended use - designed to preserve and protect the existing beneficial uses and minimize degradation.
- 3 Antidegradation.¹⁰

Table 6. Designated uses

Designated Use	NH Rules (Env-Wq 1702.17) Description		Applicable Surface Waters
Aquatic Life Integrity	The surface water can support aquatic life, including a balanced, integrated, and adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of similar natural habitats of the region		All surface waters
Fish Consumption	The surface water can support a population of fish free from toxicants and pathogens that could pose a human health risk to consumers.		All surface waters
Shellfish Consumption	The tidal surface water can support a population of shellfish free from toxicants and pathogens that could pose a human health risk to consumers.		All tidal surface waters
Potential Drinking Water Supply	The surface water could be suitable for human intake and meet state and federal drinking water requirements after adequate treatment.		All surface waters
Swimming and Other Recreation In and On The Water	The surface water is suitable for swimming, wading, boating of all types, fishing, surfing, and similar activities.	NHDES Clarification	
		Primary Contact Recreation (i.e. swimming)	Waters suitable for recreational uses that require or are likely to result in full body contact and/or incidental ingestion of water
		Secondary Contact Recreation (i.e. boating)	Waters that support recreational uses that involve minor contact with the water.
Wildlife	The surface water can provide habitat capable of supporting any life stage or activity of undomesticated fauna on a regular or periodic basis.		All surface waters

Source: NHDES 2020/2022 Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology

Refer to RSA 485-A:8, I-V and Eng-Wy 1708 for additional information on the state’s water quality regulations.

The NH Lakes Mapper has information about mercury in fish. Access the Harvey Lake report from April 2023 [here](#).

Impaired and Threatened Waters

Surface waters assessment units in the state are placed into one of five categories based on water quality in an Integrated Report that is developed by NHDES every two years. The report describes water quality and analyzes how well the waters provide for the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water. Waters that are categorized as impaired require the creation of a Total Maximum Daily Load (TMDL),ⁱ which is a calculation of the maximum amount of a pollutant that a waterbody can receive or contain while maintaining the water quality standard for its designated use.¹¹

Category 5 is the 303(d) list of waters that are impaired and threatened.

The 303(d) list includes surface waters that are:

- Impaired or threatened by a pollutant or pollutant(s).
- Not expected to meet water quality standards within a reasonable time even after application of best available technology standards for point sources or best management practices for nonpoint sources.
- Require the development of a comprehensive water quality study (i.e., called a Total Maximum Daily Load or TMDL study) that is

ⁱ Section 303(d) of the Clean Water Act authorizes EPA to assist states, territories and authorized tribes in listing impaired waters and developing Total Maximum Daily Loads (TMDLs) for these waterbodies. A TMDL establishes the maximum

amount of a pollutant allowed in a waterbody and serves as the starting point or planning tool for restoring water quality.

designed to meet water quality standards.¹²

As of the 2020-2022 303(d) list, there are a total of 22 use impairments on 18 stream/river assessment units and 12 use impairments on eight different lakes/ponds in Northwood. Most waterbodies are impaired for aquatic life integrity. Jenness Pond, Northwood Lake, and a segment of Flat Meadow Brook are impaired for primary contact recreation (i.e. swimming)(Table 6).

Refer to Appendix A for the complete 303(d) list for 2020-2022 and to the [NHDES Surface Water Quality Assessment Viewer](#) to view details for specific streams/rivers and lakes/ponds.

Over the last 20 years, Northwood Lake beach was categorized as 'poor' based on the percentage of samples collected that are clean. A clean sample is defined by a bacteria result that is lower than the state standard of 88 MPN/100mL.

Learn more about the NHDES Beaches Program and 2023 sampling results for Northwood Lake [here](#).

The 2023 Volunteer Lake Assessment Program Report for Harvey Lake indicates that lake phosphorus and chlorophyll levels generally stabilized below the threshold for eutrophic lakes. However, the lake continues to experience Cyanobacterial blooms in late June and early July and elevated levels of algal and/or Cyanobacterial growth in September. Learn more [here](#).

amount of a pollutant allowed in a waterbody and serves as the starting point or planning tool for restoring water quality.

Wetlands

Wetlands provide critical functions including:

- Flood water absorption
- Stormwater treatment
- Groundwater recharge
- Habitat for fish and wildlife
- Economic and recreational value.¹³

Activities in wetlands and surface waters such as excavation, removal, filling, dredging and/or construction of structures in or on any bank, flat, marsh, forested wetland or adjacent to waterbodies are regulated through state permitting.¹⁴ Northwood also has local regulations that protect wetlands in the Wetlands Conservation Overlay District.

According to the National Wetlands Inventory, there are approximately 2,463 acres of wetlands in Northwood. Roughly 70% of wetlands are classified by the National Wetland Inventory (NWI) as freshwater forested/shrub wetlands, with the remaining consisting of freshwater emergent wetlands and riverine wetlands (Figure 4, 5).

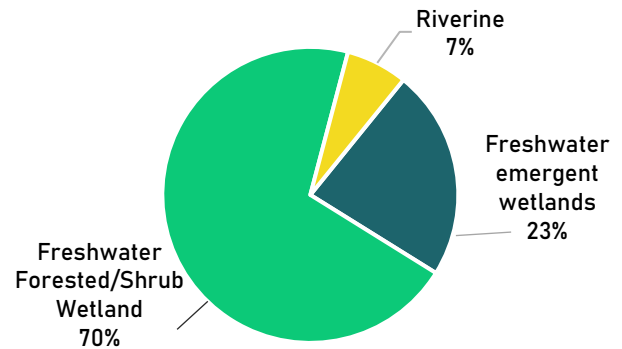


Figure 4. Wetland types by percent of total area of wetlands in Northwood (Source: NH Geodata Portal, NWI)

Prime Wetlands & High Priority Wetlands

Prime wetlands are high-quality wetlands typically designated due to their large size, unspoiled character, and habitat value. Northwood has 19 designated high priority wetlands that include prime wetlands consistent with RSA 482-A:15 and wetlands that coincide with the Conservation Areas Overlay district. These areas are protected with a 100-foot setback that must remain in a vegetated natural state with no structures. Prime wetlands are identified in "[Northwood Wetlands Inventory and Prime Wetland Designation Project Final Report, April 1999](#)" and on the map titled "Prime Wetlands of Northwood, December 1999."

The NH Wildlife Action Plan classifies Northwood's wetlands as temperate swamp and wet meadow/shrub wetlands.

Temperate swamps are forested wetlands typically found in isolated or stagnant basins with saturated, organic soils in southern and central New Hampshire. They are at risk of habitat degradation due to insects like the hemlock wooly adelgid.

Wet meadow/shrub wetlands are typically controlled by groundwater and may also be influenced by beavers. These wetlands are threatened by development, loss of surrounding upland, and invasive species.

(Source: [NH Fish & Game, Habitat Types and Species](#))

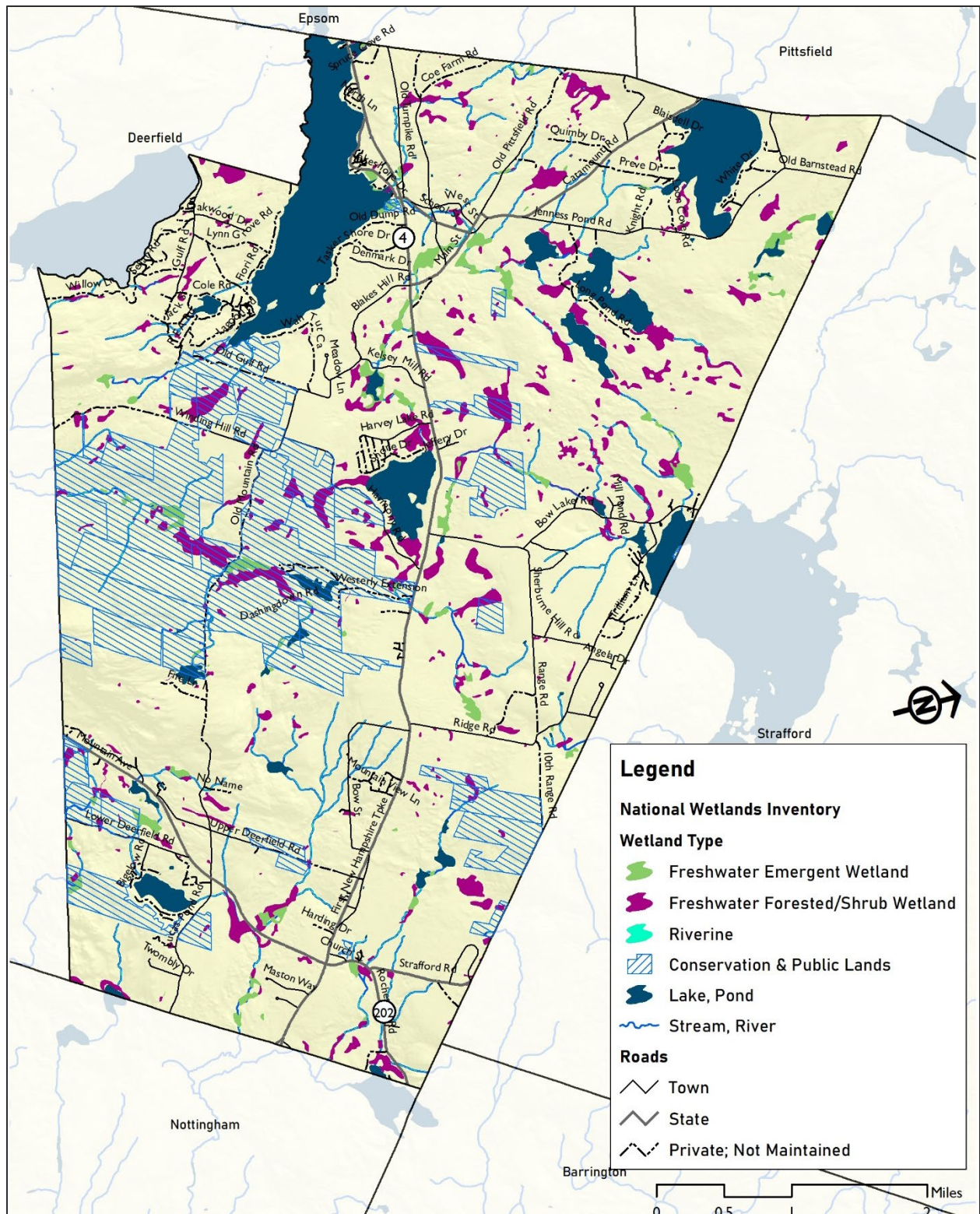


Figure 5. National Wetlands Inventory (NWI) wetland types (Source: NH Geodata Portal, NWI)

The purpose of the Wetlands Conservation Overlay District (Zoning Ordinance Article VI Section A) is to guide the use of areas of land that have soils that are saturated or inundated for extended periods of time during the growing season, and:

- (a) To allow those uses that can be located appropriately and safely in wetland areas and ensure their proper design.
- (b) To protect naturally-occurring wetlands from pollution of surface and ground water by sewage or other contaminants.
- (c) To protect potential water supplies, existing aquifers, and aquifer recharge areas.(Rev. 3/03)
- (d) To prevent the destruction of wetlands which provide flood protection, recharge of ground water supply, retention of sediments, attenuation of nutrients, augmentation of stream flow during dry periods and continuing existence of important wildlife areas.
- (e) To protect the Town from unnecessary or excessive expenses in providing or maintaining essential services and/or utilities which might be required as a result of misuse or abuse of wetlands.

Setbacks for structures were increased from 20 feet to 50 feet of the edge of a wetland in 2024. Construction, alteration of terrain, or other disturbance within the 50-foot setback shall utilize best-management practices to prevent erosion, sedimentation, and/or pollution of the Wetland Conservation Overlay District.

PREPA Recommendations

The Piscataqua Region Environmental Planning Assessment (PREPA) provides an analysis of regulatory and non-regulatory approaches to resource management in the 52 municipalities in the Piscataqua Region watershed. Prioritized recommendations for Northwood from the [Piscataqua Region Environmental Planning Assessment](#) are:

1. Adopt buffers on all waterbodies, including wetlands
2. Adopt 100' setbacks for septic and primary structures for all waterbodies
3. Adopt fertilizer application setbacks for all waterbodies
4. Adopt model stormwater management regulations.

(Source: Piscataqua Region Estuaries Partnership,
<https://prepestuararies.org/resources/prepa/>)

Under State Rules, [Env-WQ 1008.04](#), septic tanks and beds must be set back 50 feet from poorly drained jurisdictional wetland and 75 feet from very poorly drained jurisdictional wetlands.



Shoreland Protection

The New Hampshire Shoreland Water Quality Protection Act ([RSA 483-B](#)) and its associated rules, [Env-Wq 1400](#), establish a protected shoreland close to public waters. Within this area, vegetation removal, excavation, fill, and development are regulated. Proposed projects within the protected shoreland typically require a shoreland permit, and proposed projects within the bank of a waterbody may require a wetland permit.

Municipalities may impose stricter standards than the state by establishing a Shoreland Protection Overlay District. Northwood does not have local shoreland regulations.

Water Resource Focus Areas

Water Resource Focus Areas identified in the update of the Coastal Watershed Conservation Plan (2016) are lands that provide the greatest benefits to water resources with respect to addressing threats associated with existing and future development within the coastal watershed (Figure 4). These benefits include pollutant attenuation, flood storage and risk mitigation, and public water supply protection. Two locations in Northwood that provide pollutant attenuation are within Northwood Meadows State Park and in the vicinity of Lucas Pond Road (Figure 6).

The presence of riparian buffers that intercept stormwater runoff and maintain natural cover adjacent to surface waters, and riparian wetlands that are highly efficient at treating pollutants already in surface waters contribute to beneficial uses associated with these lands. One public water supply protection area is located on the northeast side of Northwood in the vicinity of the Village District water system. Locations that provide benefits to groundwater-sourced public water supplies were identified based on an analysis of groundwater classes, favorable gravel wells, stratified drift aquifer, and wellhead protection areas.¹⁵ It is important to protect the function and benefits of these areas.

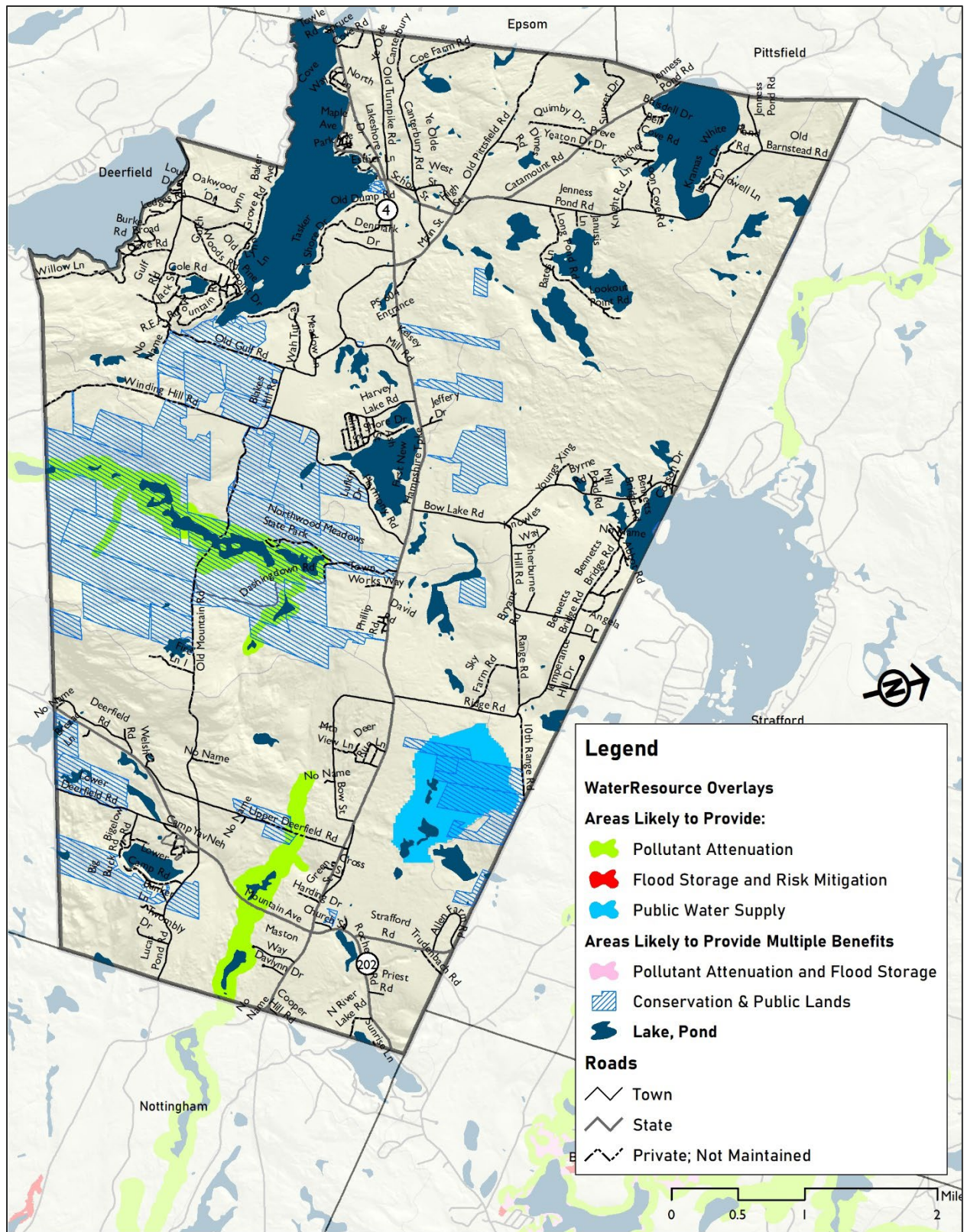


Figure 6. Areas likely to provide benefits to water resources (Source: NH Geodata Portal, Coastal Watershed Conservation Plan, Water Resources Focus Areas)

DAMS

According to the State's dam inventory, there are a total of 27 dams in Northwood, 17 of which are active (see Appendix B). The Town of Northwood owns the Gulch Mountain Pond Dam, which is located on a tributary of Northwood Lake near Voldach Pond and Cole Road. This is the only significant hazard dam within the town. The remaining active dams are [classified](#) as low hazard (4) or non-menacing (12).¹⁶ Ownership of the Harvey Lake Dam on Kelsey Brook is currently under determination.

The Northwood Meadows Lake Dam, owned by the NH Fish and Game Department, is slated for reconstruction in 2025, with drainage, geotechnical investigation, and engineering designs occurring in 2023 and 2024.¹⁷

CULVERTS

A total of 80 culverts are identified in the NH Statewide Asset Data Exchange System. Information about these culverts is available through the [NHDES Aquatic Restoration Mapper](#). Sixty percent of these culverts are rated as being in 'good' structural condition, 19% in 'fair' condition, and 13% are in poor condition.¹⁸

Culverts are scored for [aquatic organism passage](#), which identifies whether aquatic animals such as fish, turtles or amphibians can move through a stream crossing without restrictions such as:

- A large vertical drop between the outlet and the stream (known as a perched culvert)

- Water in the crossing that is either too shallow or too fast
- Physical barriers that block the crossing inlet or outlet
- A lack of natural substrate in the crossing.¹⁹

Within Northwood, less than one-quarter provide full passage for aquatic organisms (Figure 7).

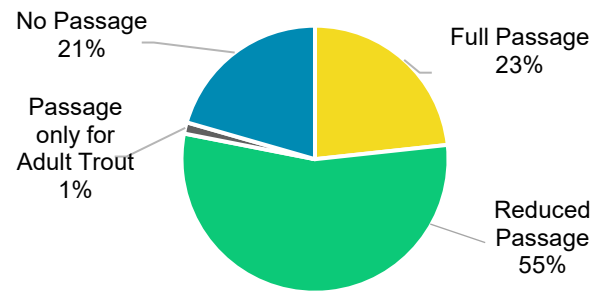


Figure 7. Aquatic organism passage compatibility score of culverts (Note: 7 culverts were not scored and are not included in this chart) (Source: NHDES Aquatic Restoration Mapper)

The [geomorphic compatibility](#), or long-term compatibility of a stream crossing with river channel form and sediment transport, is also scored. Of the 34 culverts with a geomorphic compatibility score, 26 culverts are either fully or mostly compatible (Figure 8).²⁰

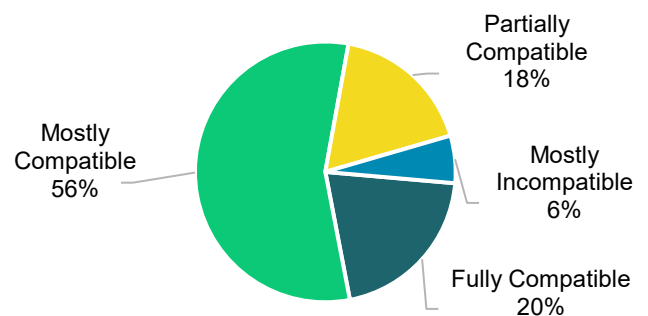


Figure 8. Geomorphic compatibility score of culverts (Note: 46 culverts were not scored and are not included in this chart) (Source: NHDES Aquatic Restoration Mapper)

Flooding

In addition to being detrimental to aquatic life, undersized culverts, along with precipitation events, development near wetlands, and impervious surfaces all contribute to the potential for flooding, which can impact water quality as well as property and infrastructure. Several locations that have experienced repeated or significant flooding are identified on the [NH Aquatic Restoration Mapper](#). Improvements have been made to many of these areas. However, there are vulnerable culverts in several locations and six culverts would overtop in the scenario of a 10-year hydraulic event (or an event that has a 10% chance of occurring each year).

FLOODPLAINS

Floodplains are lands that are susceptible to floodwaters from any source. Within Northwood, there are just over 1,200 acres of land that are within the Federal Emergency Management Agency (FEMA) Special Flood Hazard Area Zone A (Figure 9).²¹ This area is also referred to as the 1% annual chance floodplain, 100-year floodplain,

or base flood. The 100-year flood can occur more than once every 100 years, and the frequency will likely increase as the frequency and magnitude of extreme precipitation events increases due to climate change. The SFHA is identified on Flood Insurance Rate Maps (FIRMs), effective January 29, 2021.

Floodplains provide storage of floodwater and sediment. Minimizing impervious surfaces, development, and hazardous substances within floodplains is critical to maintaining this function and to protecting adjacent water bodies.

The NH Office of Planning and Development has developed model floodplain ordinances as well as a [Menu of Higher Floodplain Regulation Standards](#) that go beyond the minimum NFIP regulations that Northwood should utilize when amending the Town's existing ordinance.

Visit the NH Floodplain Management Program's [StoryMap](#) to learn more about the State's program and how it administers the National Flood Insurance Program.

See [NH Flood Hazards Handbook, A Guide for Municipal Officials](#) to identify how to best prepare for, respond to, and recover from floods that affect the community.

In 2024, the Town adopted a new floodplain ordinance based on the State's model ordinance. Among the requirements of the ordinance are elevating homes and nonresidential buildings. Within the Special Flood Hazard Area, in Zone A, all new construction or substantial improvement of residential structures must have the lowest flood elevated to or above the base flood elevation. Similarly, new construction or substantial improvement of non-residential structures must have the lowest flood elevated to or above the base flood elevation or be floodproofed and be capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. Substantial improvement is defined as improvement that is 50% or more of the value of the structure.

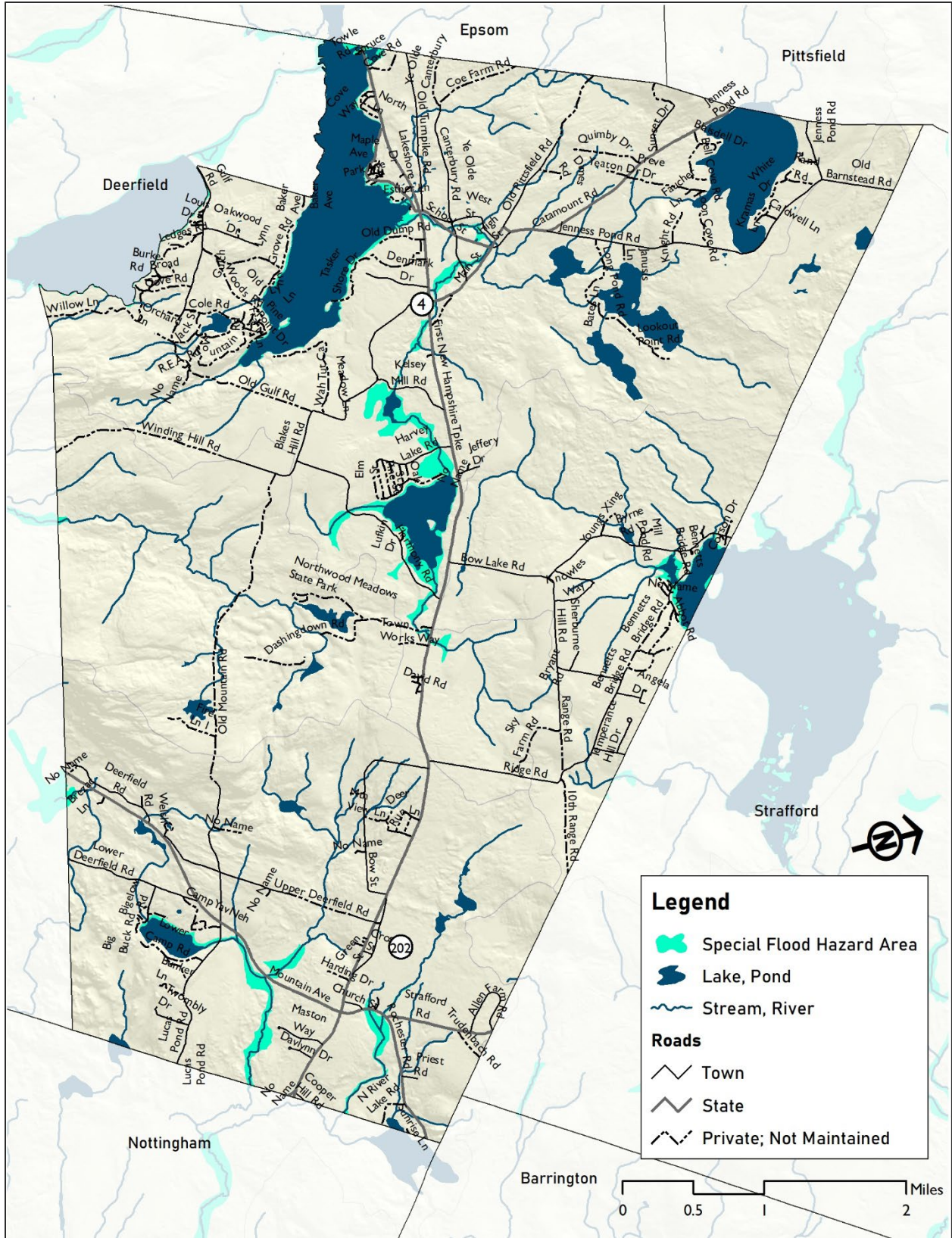


Figure 9. Special Flood Hazard Area (Source: FEMA)

AQUIFERS & GROUNDWATER

Aquifers are the rock and sediment that hold groundwater, which is the water below the surface in between small spaces of subsurface material (sand, gravel, etc.) that is replenished by rain and melting snow.²²

Groundwater aquifers may be stratified-drift, till, or bedrock aquifers. Stratified-drift aquifers are composed of unconsolidated glacial deposits and are typically the most productive sources of groundwater. They are also most directly influenced by surface waters and land-use activities.²³ There are two small areas underlain by stratified-drift aquifer on the west and east sides of Northwood (Figure 10). The aquifer's ability to allow water to flow to a well, or

transmissivityⁱⁱ, is less than 2,000 square feet per day,^{24, 25} which indicates that stratified-drift groundwater availability is not particularly high in the community. Therefore, the Town should investigate high yield bedrock aquifers.

In bedrock aquifers, groundwater is stored in fractures in the rock. In new Hampshire, bedrock wells, also called artesian wells, are the most common type of water well in the state. Most bedrock wells in New Hampshire are between 200 to 500 feet deep.^{26, 27}

NHDES has a record of 1,254 water wells in Northwood, almost all of which are drilled in bedrock.²⁸ The average depth of wells is 345 ft, ranging from 11 feet to 1,220 feet.

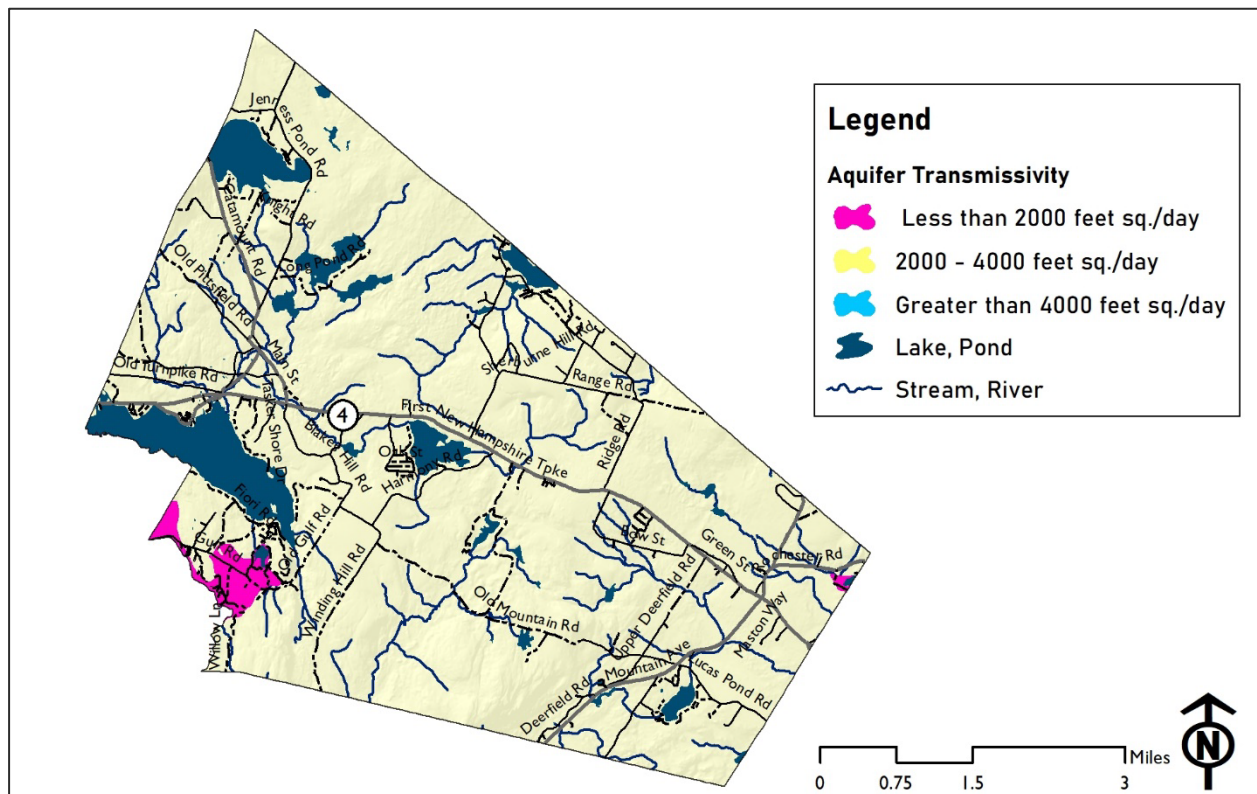


Figure 10. Aquifer transmissivity (Source: NH Geodata Portal, Aquifer)

ⁱⁱ Transmissivity is the rate at which water can be transmitted through a unit width of aquifer under

a unit hydraulic gradient, which roughly measures the aquifer's ability to allow water to flow to a well.

The Wellhead Protection Overlay District (Zoning Ordinance Article VI Section D) is intended to protect the quantity and quality of groundwater, with a particular emphasis on protecting new or existing sources of public water supply. The district consists of all land within a radius of 1,320 feet of active wells serving community public water supplies as defined by RSA 485:1-a(I) or a parcel of land 20 acres or greater that contains a portion of an aquifer that has soils with transmissivity in excess of 1,000 square feet per day. Within the district, density, impervious surfaces, subdivisions, and above ground storage are regulated. A number of potentially harmful uses, such as underground storage tanks and road salt storage, are prohibited.

Public Water System

Northwood’s drinking water source is groundwater. According to the NHDES OneStop Data Center, Northwood has 1,249 private domestic drinking water wells that are registered with the state’s private water well database, which reports new wells drilled and registered from 1984 to the present.²⁹

As of April 2024, there were 31 active public water systems in Northwood, including community, transient non-community, and non-transient non-community populations (Table 7).³⁰ One public water system is The Village of Northwood Ridge Water District, which has 55 connections and provides water to about 688 customers, including Northwood School. This system was developed in 1989 in response to contamination of privately-owned wells by petrochemical pollution.³¹

Registered Water Users

Facilities that use an excess of 20,000 gallons of water per day averaged over any seven-day period, or more than 600,000 gallons of water over any 30-day period from surface or groundwater sources, transfer from one location to another, or return water to the environment are required to register with the Water Use Registration and Reporting Program and report water use to NHDES (Refer to NH RSA 488 and Env-Wq 2102 for additional information).³²

There are just two registered water users in Northwood as of data available through NHDES Onestop in April 2024 — Village of Northwood Ridge Water District and The Meadow at Northwood — both of which withdraw groundwater for a public water system.

Table 7. Public Water Systems in Northwood

System Type	Description of System Type	Number of Systems	Population Served	Number of Connections
Community System	Serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents	6	1,016	180
Transient Non-community	Serves the same 25 people, or more, over 6 months per year, such as schools, or private businesses that have their own drinking water supply)	20	2,533	8
Non-Transient Non-Community	Serves less than 25 people for less than 6 months of the year, such as at restaurants, campgrounds	5	1,754	276

Source: NHDES OneStop

THREATS TO WATER RESOURCES

Invasive species

Aquatic invasives or exotic aquatic plants are plants that are living in lakes, rivers, and other water bodies but are not part of the native aquatic flora in New Hampshire.³³ These species can outcompete native species and impact habitat and water quality.

One species of concern is [variable milfoil](#) (*Myriophyllum heterophyllum*), which became established in Northwood Lake in 1990. At times, nearly half of the area of the lake was infested but herbicide treatment has helped to manage this problem. Northwood Lake is also impacted by European naiad (*Najas minor*), and phragmites (*Phragmites australis*). The Northwood Lake Association and NHDES are working to carry out the Long-Term Variable Milfoil Management Plan to control this invasive. The Little Suncook River in Northwood is also infested with variable milfoil.³⁴

Cleaning, draining, and drying boats, trailers, and recreational gear is critical to preventing new infestations of aquatic invasive plants and animals and managing existing infestations.



Information about water quality at Northwood Lake Beach, Mary Waldron Beach, and Bennett's Bridge Beach is available on the [Town's website](#):

The Town allocates funding to aquatic invasive species prevention and treatment.

Cyanobacteria

Cyanobacteria is another threat to Northwood Lake. Cyanobacteria are photosynthetic bacteria that use energy from the sun and behave like bacteria. When large colonies form blooms on surface waters, the resulting high concentrations can produce toxins that adversely affect people and animals.³⁵ Fertilizers and failing septic systems can cause cyanobacteria. Over the last decade, NHDES has issued cyanobacteria advisories for Northwood Lake for two days in 2013, 40 days in 2021, and eight days in 2022.³⁶



Nonpoint Source Pollution

Nonpoint source pollution contributes to approximately 90% of water pollution problems in New Hampshire. Nonpoint source pollution occurs when rainfall, snowmelt, or irrigation runs over land or through the ground, mobilizes pollutants, and deposits them into rivers, lakes, and coastal waters or introduces them into the groundwater. These pollutants can include oil and sand from roadways, agricultural chemicals from farmland, sediments from construction sites, crop and forest lands, and eroding streambanks, and nutrients and toxic materials from urban and suburban areas. The effects of nonpoint source pollutants on specific waters vary and include harmful effects on drinking water supplies, recreation, fisheries, and wildlife.

Stormwater runoff, generated by precipitation, surface runoff, and snow melt from land, pavements, building rooftops and other impervious surfaces, is a major source of nonpoint source pollution. The introduction of pollutants can degrade water quality for public drinking water supplies and for aquatic habitat. In addition to overland flow, stormwater runoff makes its way into the groundwater through infiltration. Zoning or erosion control and stormwater management ordinances are tools for managing stormwater at the municipal level.

Point Source Pollution

As defined by the Clean Water Act, point sources of pollution are “discernible, confined and discrete conveyances or discharges, such as from a pipe, ditch, channel, tunnel, conduit, fissure, or container, and including vessels or other floating craft from which pollutants can be discharged, and concentrated animal feeding operations.” Discharge of pollutants through a point source into waters of the United State is prohibited unless a user has a National Pollutant Discharge Elimination System (NPDES) permit. The permits, which are issued by EPA, generally specify an acceptable level of a pollutant(s) in a discharge.³⁷ As of March 2024, there are no NPDES permits issued in Northwood.

Hazardous Sites and Substances

There are 63 remediation projects at 49 sites in Northwood. Most of the projects are either on-premise use facilities containing fuel oil or leaking underground storage tanks.

As reported in the State’s database, there are 9 aboveground and 23 underground storage tanks.³⁸ Leaks from these tanks can contaminate drinking water supplies and cause environmental harm.

Information about specific projects, sites, and other hazards is available through the NHDES [Onestop database](#) and [Onestop mapper](#).

Climate Change

Over the last 50 years, New Hampshire has experienced an increase in temperature, mean annual maximum temperature, mean annual minimum temperature, annual precipitation, and heavy precipitation, while snowpack has decreased.³⁹

Future climate projections indicate that temperatures, hot temperature extremes, annual precipitation, and the frequency and intensity of extreme precipitation will continue to increase, and snowpack will further decrease. These changes impact ecosystems.⁴⁰

Increased rainfall can lead to more stormwater runoff and transport of sediment, nutrients, pathogens, and other pollutants to rivers, lakes, and ponds. Warmer temperatures will cause warmer water temperatures, which, along with increased runoff, can lead to more algal blooms, harming fish and

wildlife and contaminating recreational waters.⁴¹



Climate Change and Nonpoint Source Pollution

The state has been getting warmer and wetter over the last century, and the rate of change has increased over the last four decades. Annual precipitation has already increased 5-20% and is projected to increase an additional 12-20% by the end of the century. Larger temperature and precipitation increases are expected for winter and spring, raising the concerns of rapid snowmelt, high peak stream flows and flood risk. Extreme precipitation events have also increased, the impact of which is evident in the several large floods that have occurred across New Hampshire over the last several decades. These extreme events are expected to occur more frequently. Of greatest concern is the projected increase in storm events that drop more than four inches of precipitation in 48 hours (Wake, et al., 2014). Local and state stormwater-related infrastructure planning needs to address potential impacts from these events including: stream crossings, erosion control, and stormwater treatment and storage...Existing stormwater infrastructure and best management practices are not designed to accommodate these increases in precipitation and inundation from groundwater, or the associated increase in runoff and pollution. Adaptation strategies to build community resiliency and reduce the impacts of these changes are essential to achieving continued success of the Nonpoint Source Program in New Hampshire.

Source: Excerpt from the [NH Nonpoint Source Management Program](#)

SOILS

Northwood has around 70 different soil types (Appendix C). The most prevalent soil types include the Chatfield, Hollis, and Canton series soils, which are well-drained soils (Figure 9). The *Chatfield-Hollis-Canton complex*, 8 to 15 percent slopes, very stoney soil type comprises 23% of Northwood. Around 15% of soils in Northwood are classified poorly drained or very poorly drained soils (Figure 8). The town has little acreage of high-quality agricultural soils. Less than 12% of soils are classified as either

prime farmland, farmland of statewide importance, or farmland of local importance (Figure 8). A majority of agricultural soils are not conserved or otherwise protected from development and approximately one-third have already been developed.⁴²

Around 75% of soils are classified as [Group 1A or Group 1B forest soils](#). These types are deeper, loamy, moderately to well drained soils that are generally more fertile with favorable growing conditions for hardwoods (Figure 10 and Table 8).

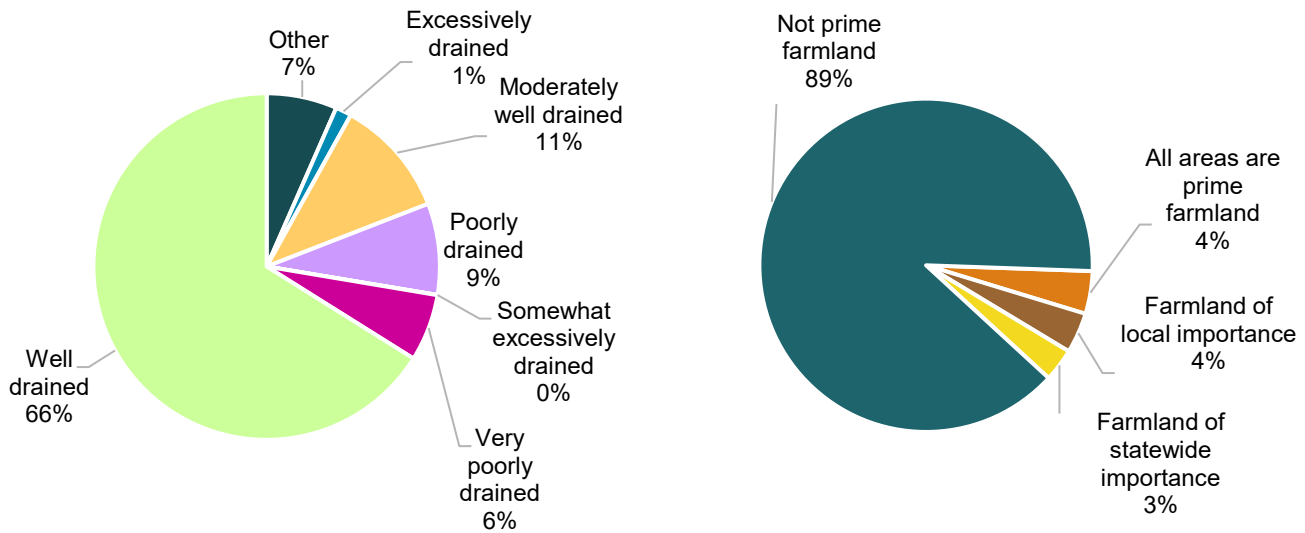









Figure 8. Soil area by drainage class (left) and farmland class (right) (Source: NRCS)

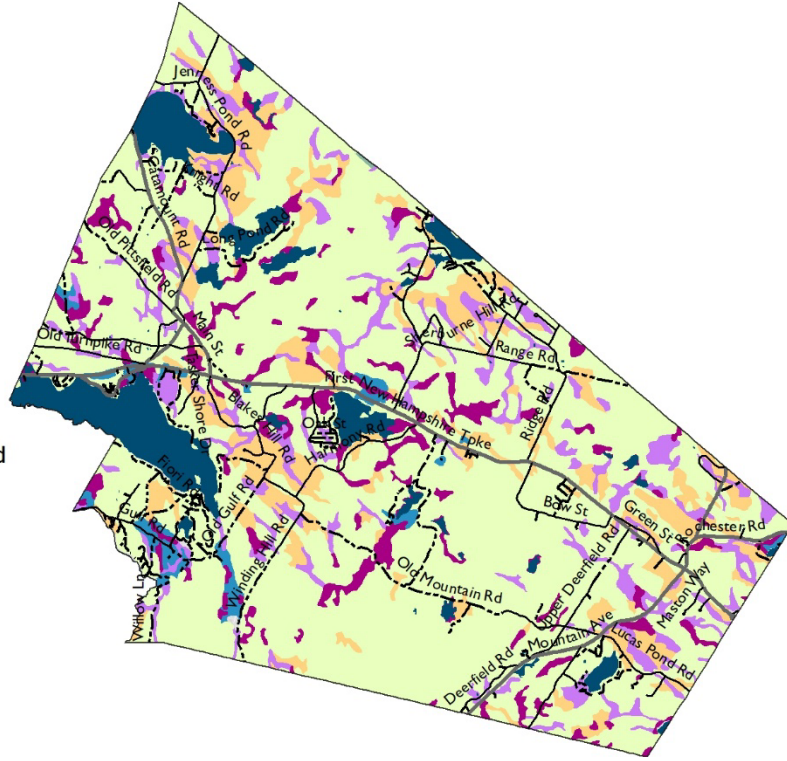
Agricultural Soils

The purpose of the Agricultural Soils District (Zoning Ordinance Article IV Section C) is to conserve Prime Farmland and Farmland of Statewide Importance. Within this district, Open Space Design subdivisions are required for subdivisions on properties that are 10 acres or larger and possess a sum of 25% or greater in agricultural land (Prime Farmland and Farmland of Statewide Importance).






Legend

Drainage Class

-  Excessively drained
-  Somewhat excessively drained
-  Well drained
-  Moderately well drained
-  Poorly drained
-  Very poorly drained
-  Lake, Pond



Farmland Class

-  All areas are prime farmland
-  Farmland of local importance
-  Farmland of statewide importance
-  Conservation & Public Lands
-  Lake, Pond

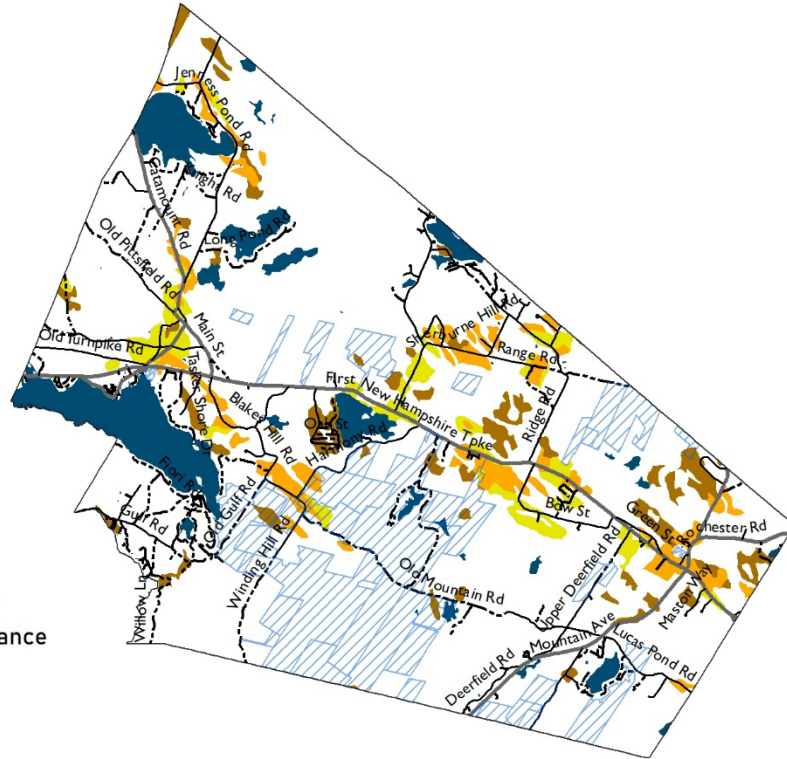


Figure 9. Soils drainage and farmland class (Source: NH Geodata Portal, NRCS)

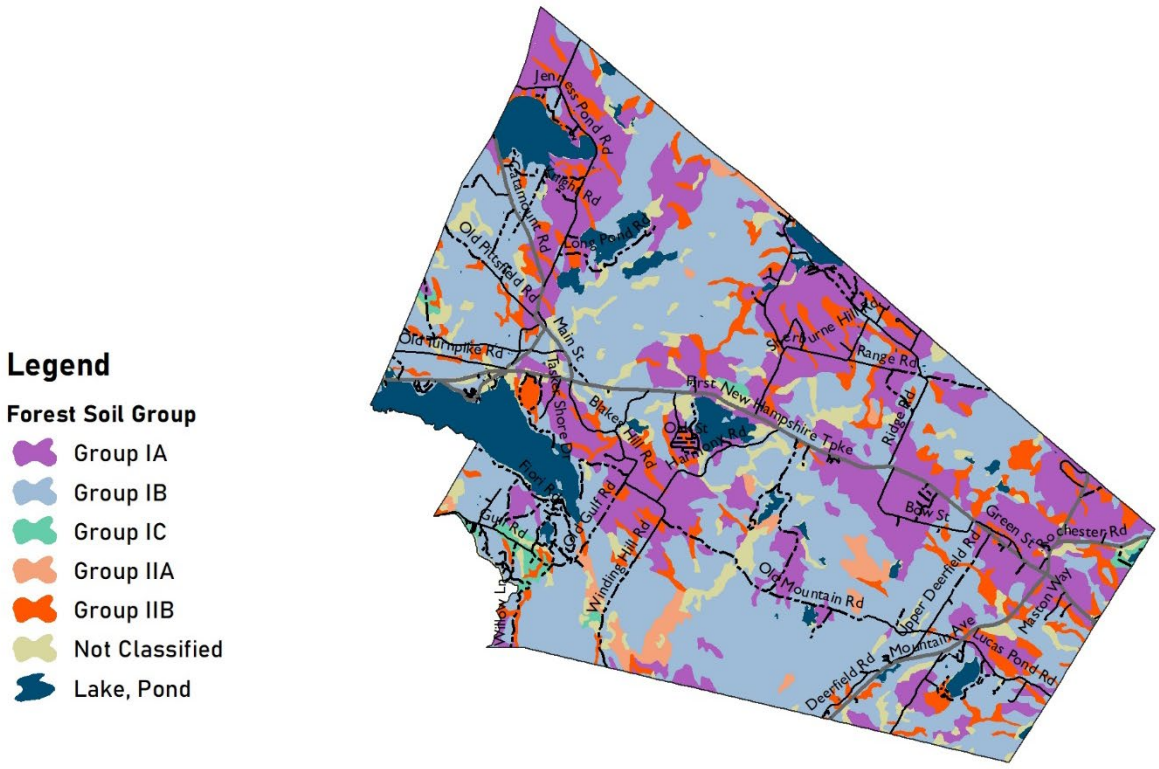


Figure 10. Forest soil group (Source: NH Geodata Portal, NRCS)

Table 8. Soils and percent of total area of Northwood

Group	Abbreviated Description ¹	% of area ²
Group IA	Consists of the deeper, loamy, moderately well-drained and well-drained soils. Generally, these soils are more fertile and have the most favorable soil-moisture conditions. Successional trends are toward climax stands of shade-tolerant hardwoods such as sugar maple and beech.	26.4%
Group IB	Generally consists of soils that are moderately well-drained and well-drained, sandy or loamy-over-sandy, and slightly less fertile than those in group 1A. Soil moisture is adequate for good tree growth but may not be quite as abundant as in group 1A. Successional trends and the trees common in early successional stands are similar to those in group 1A.	49.0%
Group IC	Soils are derived from glacial outwash sand and gravel. The soils are coarse textured and are somewhat excessively drained to excessively drained and moderately well-drained. Soil moisture and fertility are adequate for good softwood growth but are limiting for hardwoods. Successional trends on these soils are toward stands of shade-tolerant softwoods, such as red spruce and hemlock.	0.8%
Group IIA	Consists of diverse soils and includes many of the soils that are in groups IA and IB. The soils in IIA, however, have limitations such as steep slopes, bedrock outcrops, erodibility, surface boulders, and extreme stoniness. Productivity of these soils isn't greatly affected by those limitations, but management activities such as tree planting, thinning, and harvesting are more difficult and more costly.	2.0%
Group IIB	Soils are poorly drained. The seasonal high water table is generally at a depth of 12 inches or less. Productivity is lower than in IA, IB, or IC. Fertility is adequate for softwoods but is a limitation for hardwoods. Successional trends are toward climax stands of shade-tolerant softwoods, such as red spruce and hemlock. Balsam fir is a persistent component in nearly all stands.	8.5%

¹ Refer to <https://extension.unh.edu/goodforestry/html/app-soils.htm> for full descriptions. ² Note: Approximately 13% are not classified.

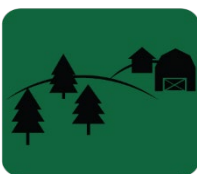
Source: NH Geodata Portal, NRCS



CONSERVATION & PUBLIC LANDS

Preservation of open space and public access to natural resources is important to the community. Due in part to the presence of Northwood Meadows State Park, Northwood has robust conservation and public lands, which comprise about 18% of the land area of the town. There are 43 parcels of conservation and public lands in Northwood, totaling 3,143.1 acres (4.9 sq mi) (Figure 12).

Conservation and public lands in Northwood are owned by state, municipal, private, and public/quasi-public entities, including the Northwood Ridge Village Water District and Coe-Brown Northwood Academy (Figure 11). Town-owned property is displayed in Table 9. All Town-owned land is considered unofficial conservation land because it is not protected via a conservation easement and could potentially be sold. Town-owned land, along with state-owned land, accounts for nearly three-quarters of the acres of conservation and public lands in town



Public input collected during the preparation of the Vision Chapter, this chapter, and other chapters consistently includes the importance of maintaining rural character

(Table 10). Around 840 acres of land in Northwood (4% of the town’s area) are permanently protected.

Public access is permitted on 1,460 acres (25 parcels) which represent 46% of the total area of conservation and public lands. Additional information about publicly accessible land is included in the Recreation Chapter. Refer to Appendix D for a matrix of conservation and public lands information.

Type of Conservation and Open Space Land Ownership

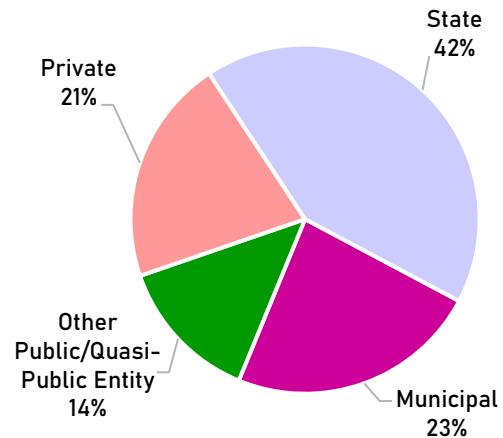


Figure 11. Type of land ownership of conservation and public lands (Source: NH Geodata Portal, Conservation and Public Lands layer (Dec 2023) and Northwood Conservation Commission)

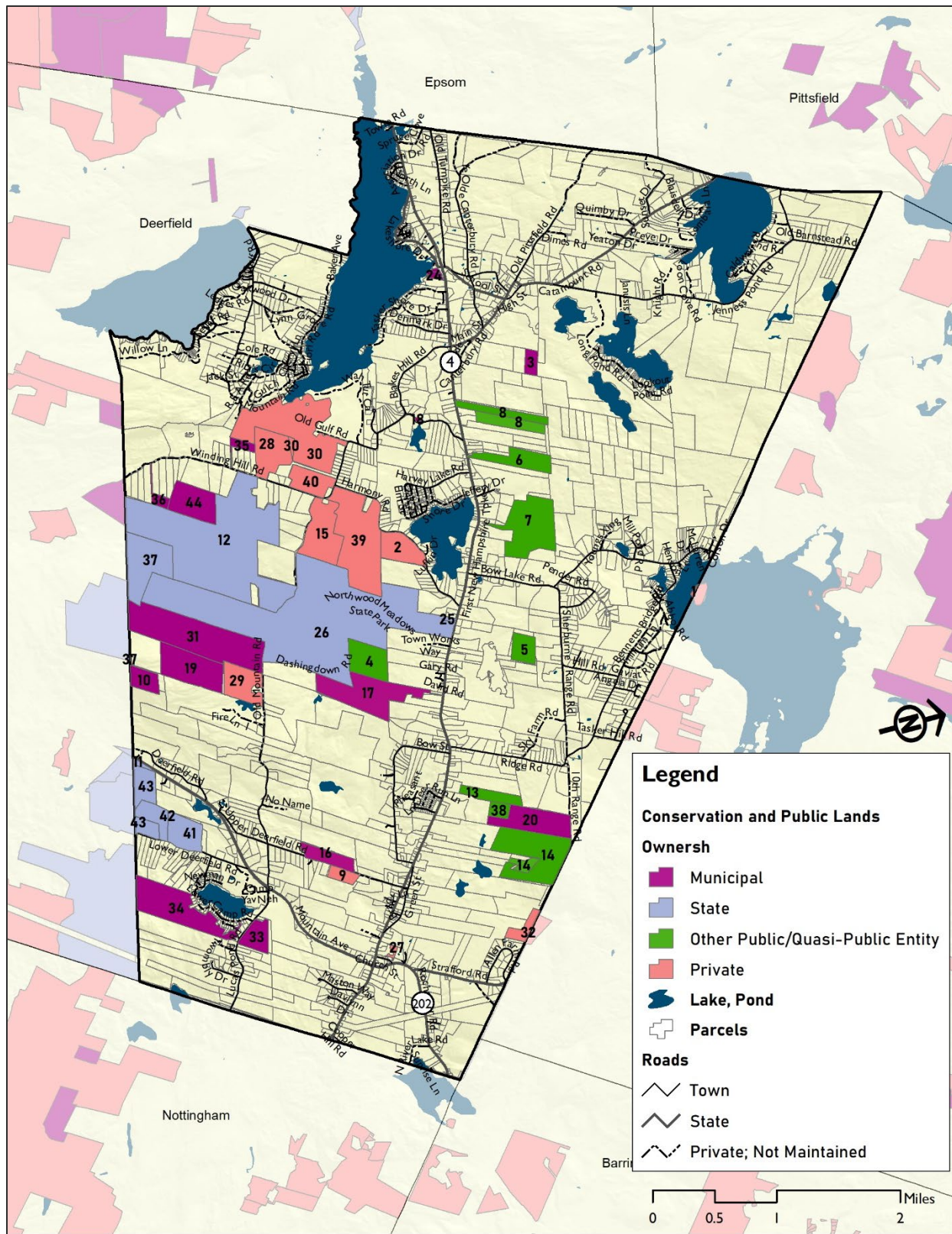


Figure 12. Conservation and public lands in Northwood. (Note: Numbers correspond to table of conservation and public lands in Table 9 and Appendix D) (Source: NH Geodata Portal and Northwood Conservation Commission)

Table 9. Town-Owned Open Space

Fig 12 ID #	Name	Tax Map and Lot	Parcel Size (acres)
3	Carey Lot	212-72	13.2
10	Deslaurier Lot - Town Forest	242-20	23.9
16	Giles Lot - Town Forest	235-40	29.5
17	Guptill-Lamprey Pastures Lot	222-3	101.0
18	Kelsey Mill Historic Site	224-34	0.9
19	Lalish Lot	242-21	82.0
20	Little Acorn	221-40-1	70.0
21	Narrows Brook Conservation Area	109-23	0.3
22	Narrows Brook Conservation Area	109-21	0.9
23	Narrows Brook Conservation Area	109-24	1.0
24	Narrows Brook Conservation Area	109-22	3.1
31	Parsonage Lot - Town Forest	236-90	198.0
33	School Lot - Town Forest North	244-11	32
34	School Lot - Town Forest South	244-42	102
35	Bog Lot (Brower Lot)	238-16	9.8
36	Yeaton Access Lot (Manganaro Lot)	240-20	9.9
44	Yeaton	238-6	58.8

Source: NH Geodata Portal, Conservation and Public Lands layer (Dec 2023), Town Forest Management Plan, Town of Northwood Conservation Commission

Conservation land has a high return on investment.

The Trust for Public Land found that conservation land:

- Has an \$11 return in natural goods and services to the NH economy for every \$1 invested.
- Supports key industries that depend on the availability of high-quality protected land and water, such as forestry agriculture, and commercial fishing, which generate \$2.5 billion and support 18,500 jobs.
- Is critical to the success of state and local tourism and outdoor recreation, which generates \$4.2 billion in annual consumer spending in New Hampshire.
- Helps maintain the scenic beauty of New Hampshire. This contributes to quality of life for residents and the state's ability to attract businesses and high-quality workers.
- Provides access to open space that increases physical activity and health of residents and workers, reducing health care costs related to obesity.
- Saves money. Communities save money through avoided costs on infrastructure and municipal services required by residential property owners. National studies show that while working forests and farms require an average of \$0.56 in services for every \$1 paid in taxes, residential lands require twice that amount.

Source: Trust for Public Land. [New Hampshire's Return on Investment in Land Conservation.](#)

Table 10. Protection level of conservation and public lands

Group	Description	Percent of total area of conservation and public lands
Permanent conservation land	Land permanently protected from development through legally enforceable conservation easement, deed restriction, or outright ownership by an organization or agency whose mission emphasizes protecting land in perpetuity; more than 50% of area will remain undeveloped. Examples include, but are not limited to, federal and state natural resource agency lands; tracts owned by land trusts; town lands or town forest formally assigned to the Conservation Commission through a warrant article; and lands encumbered by a perpetual conservation easement.	26.7%
Unofficial conservation land	Not permanently protected through any legal mechanisms such as deed restrictions or conservation easements. Owned by a public institution, public agency, or other organization whose mission may not be focused on conservation, but whose clear intent is to keep the land for conservation, recreation, or educational purposes and in mostly natural land cover. Examples include, but are not limited to, lands with mostly natural land cover owned by academic institutions; town lands not permanently protected through legal mechanisms; and unprotected county farms.	73.3%

Source: GRANIT Conservation/ Public Lands Layer

Figure 13 shows the total acres of conservation and public lands in Northwood compared to nearby communities, which varies considerably. Of the communities in Figure 13, Barrington has the greatest acreage of protected municipal/county owned land (3,453 acres), while Nottingham has the greatest total number of acres (10,144 acres) that are conservation and public lands. Conservation and public lands account for 34% of the total land area of Nottingham compared with 17% of the total land area of Northwood.

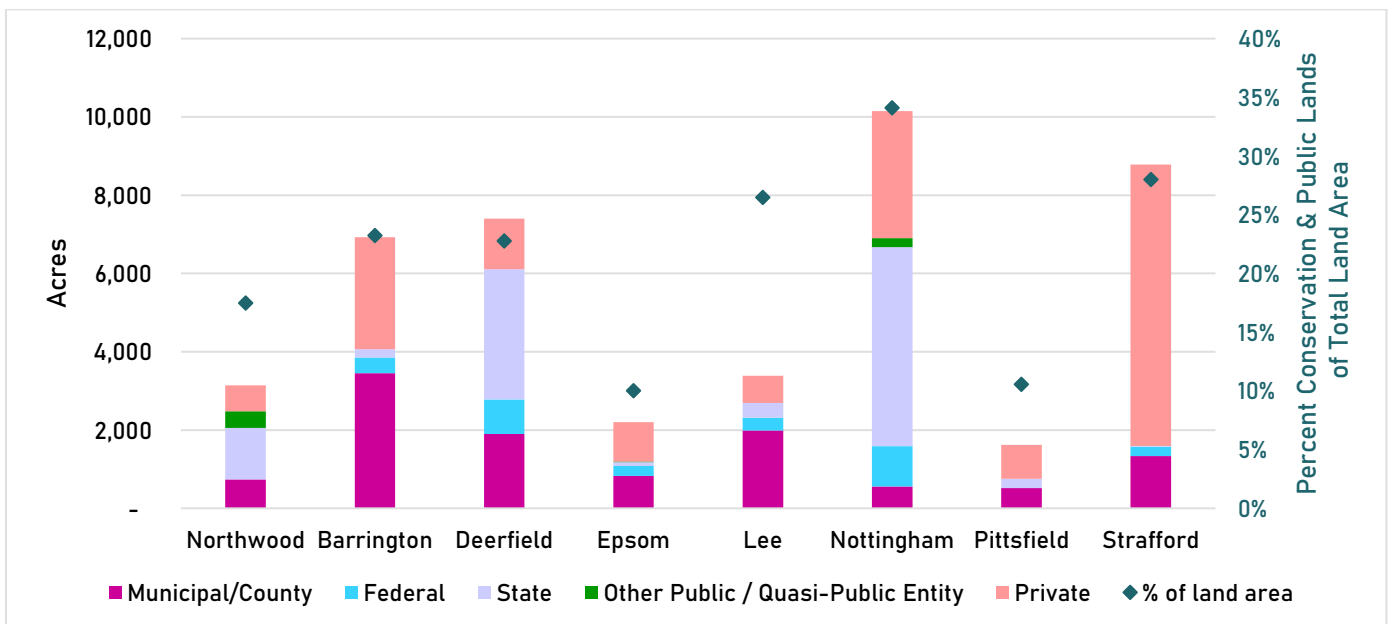


Figure 13. Acres of conservation and public lands in Northwood and nearby communities by type of land ownership (Source: GRANIT Conservation/ Public Lands Layer, Northwood Conservation Commission)

The Town's Open Space Design ordinance (Zoning Ordinance Article IX) offers an alternative development pattern to a conventional subdivision that is characterized by denser, clustered residential homes and designation of open space on a portion of the lot. Done well, this type of development can result in preservation and protection of natural resources and habitat as well as enhanced connectivity to other open space. Homeowner education and monitoring and maintenance of these open spaces is critical to their success.

Monitoring, Stewardship, and Maintenance

Conservation Commission members regularly walk trails of Town-owned lands and conserved properties and have found the boundaries of most lots. A majority of properties with trails are monitored and maintained. One of the Commission's goals is to prepare a baseline assessment for every property to document and map boundaries, habitats, trails, and any encroachment or maintenance needs. Funding is required for the baseline assessments and associated surveys.

Encroachment is an issue on some lots, such as around Lucas Pond and on the

Carey Lot. All-terrain vehicles (ATV) have caused some impacts on the School Lot and other locations such as unmaintained roads. As temperatures have warmed and snowpack has decreased, the damage caused by ATVs has increased. Town properties and State land have also been impacted by vandalism of kiosks and signs.

Invasive species remain a challenge. In the past, the Conservation Commission conducted workshops on invasive species and removal. Interest in invasive species management continues to grow and there are opportunities to educate private property owners and developers about terrestrial and aquatic invasives.

Funding Conservation

The Town voted in 1977 to establish a Northwood Conservation Fund under the provisions of RSA 36-A, to receive monies given to the Town for conservation purposes and the residues of each succeeding year's Conservation Commission budgetary allowances.

The Conservation Fund is derived from a portion of the land use change tax that is incurred when land that has been classified as open space land and assessed at current use values is changed to a use that does not qualify for current use assessment.

The Conservation Fund has been used to purchase and cover conservation easement transaction costs for the properties listed in Table 11.

Table 11. Properties purchased and conserved using funds from the Conservation Fund

Purchased	Conserved
Little Acorn	Rooney Easement
Guptill Lamprey Pasture Conservation Area	Demerritt Lot
Yeaton Lot	Village of Northwood Water District Jake's Purchase

Source: Conservation Commission

The Conservation Commission can also generate funds through sales of timber harvest which feeds a timber management fund. Utilizing funds from these sources requires a warrant article.



Municipal funds are often used as match for state or federal grants used for executing conservation easements.

Future Conservation Projects

Historically, the Conservation Commission purchased land for conservation purposes. However, in recent years, the high cost of land has resulted in greater emphasis on placing conservation easements on land than purchasing property. When assessing potential land for conservation, the Commission considers factors such as proximity to existing conservation lands, parcel size (greater than 10 acres preferred), and risk of development. The Commission also has checklists that it refers to.⁴³

Conservation Values

Respondents to the 2024 community input survey for the Master Plan update weighed in on the values and characteristics that the Conservation Commission should consider when evaluating whether to conserve or permanently protect a property from development.

Among the top responses were land that provides high quality wildlife habitat, land that protects water resources, and land that allows public access (Figure 14). Seventy-two percent of survey respondents were supportive of the Town working with interested and willing property owners to conserve a greater percentage of land in the town, while 18% were not in favor of this and 10% were not sure.

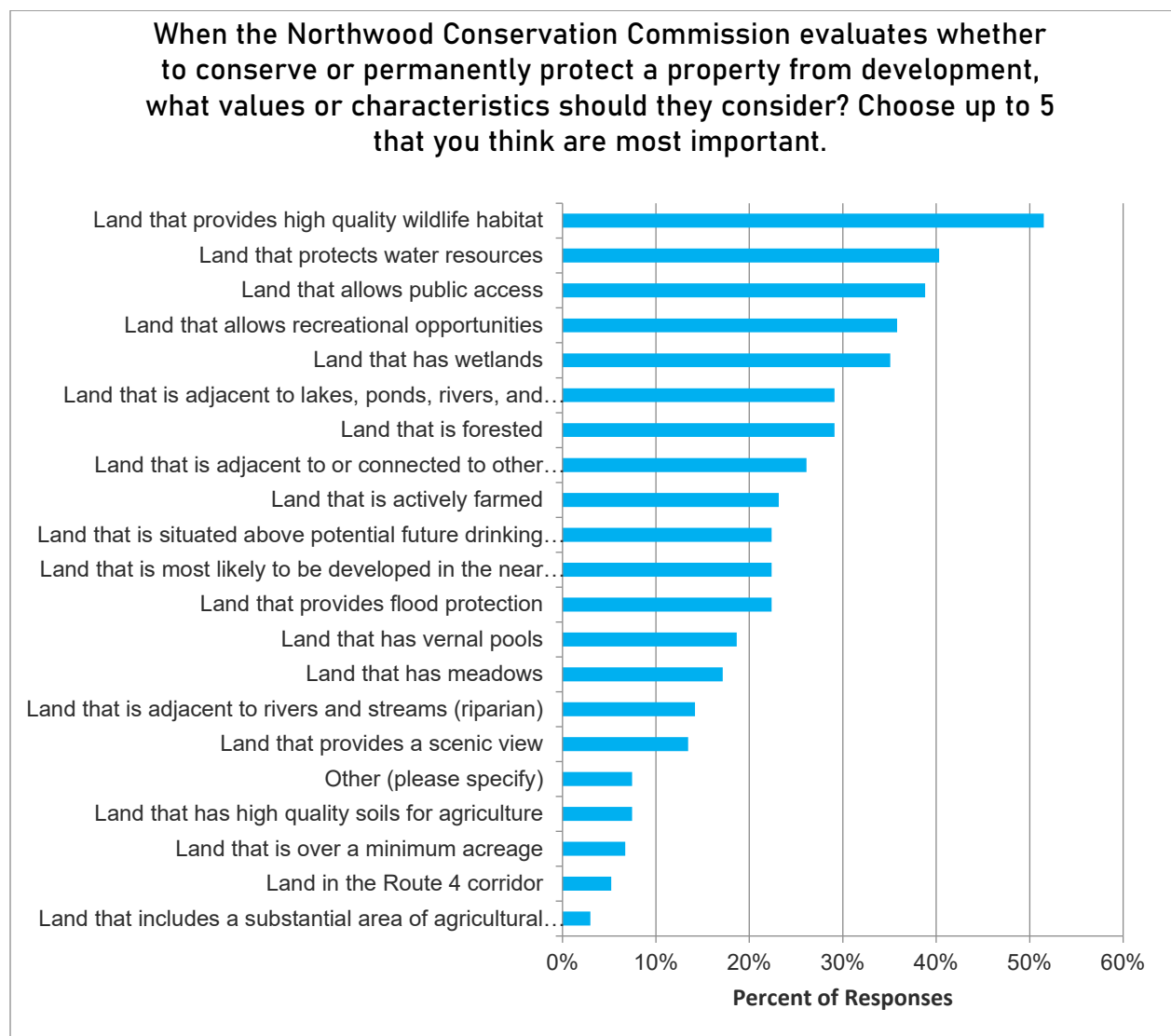


Figure 14. 2024 Master Plan Survey input

Town Forest Parcels

The Town Forest properties, known as the School Lots, Giles Lot, Parsonage Lot, and Deslaurier Lots, total 383 acres (Table 12 and Figure 15). Northwood finalized a [Forest Management Plan](#) for the Town Forest parcels in 2023.

Town Forest parcels with Bear Paw Regional Greenways. Ownership and management of the lots will remain with the Town. The lots will now be protected in perpetuity for the purposes of wildlife habitat, forestry, and recreation

In 2024, the Town approved a warrant article to permanently conserve the

The purpose of the Forest Management Plan is to “provide critical data, mapping, and management recommendations to help identify and guide long-term natural resource uses and management goals to promote good stewardship of the land with primary goals to improve wildlife habitats, protect water resources, maintain a healthy resilient forest, protect or enhance significant natural communities, and maintain recreational trails.”

Table 12. Town Forest parcels and long-term management goals

Parcel Name	Tax Map and Lot Number	Acres	Long-Term Goals
The School Lots	Map 244, Lot 42	102 acres	Uneven-aged forest management. Use single-tree selection and small group harvests to maintain productive forest growth and to establish desired regeneration
	Map 244, Lot 11	32 acres	
The Giles Lot	Map 236, Lot 9	29 acres	Uneven-aged forest management. Use single-tree selection and small group harvests to maintain productive forest growth and to establish desired regeneration.
The Parsonage Lot	Map 236, Lot 9	196 acres	Uneven-aged forest management. Use single-tree selection and small group harvests in stands 9, 11, and 12 to maintain productive forest growth and to establish desired regeneration.
The Deslaurier Lot	Map 242, Lot 20	24 acres	Best suited to be left unmanaged and allowed to mature via natural succession. Natural process will encourage an “old growth” forest with large diameter trees, dense crown cover, and an abundance of cavities, snags, and large woody material on the forest floor.

Source: Town of Northwood Forest Management Plan

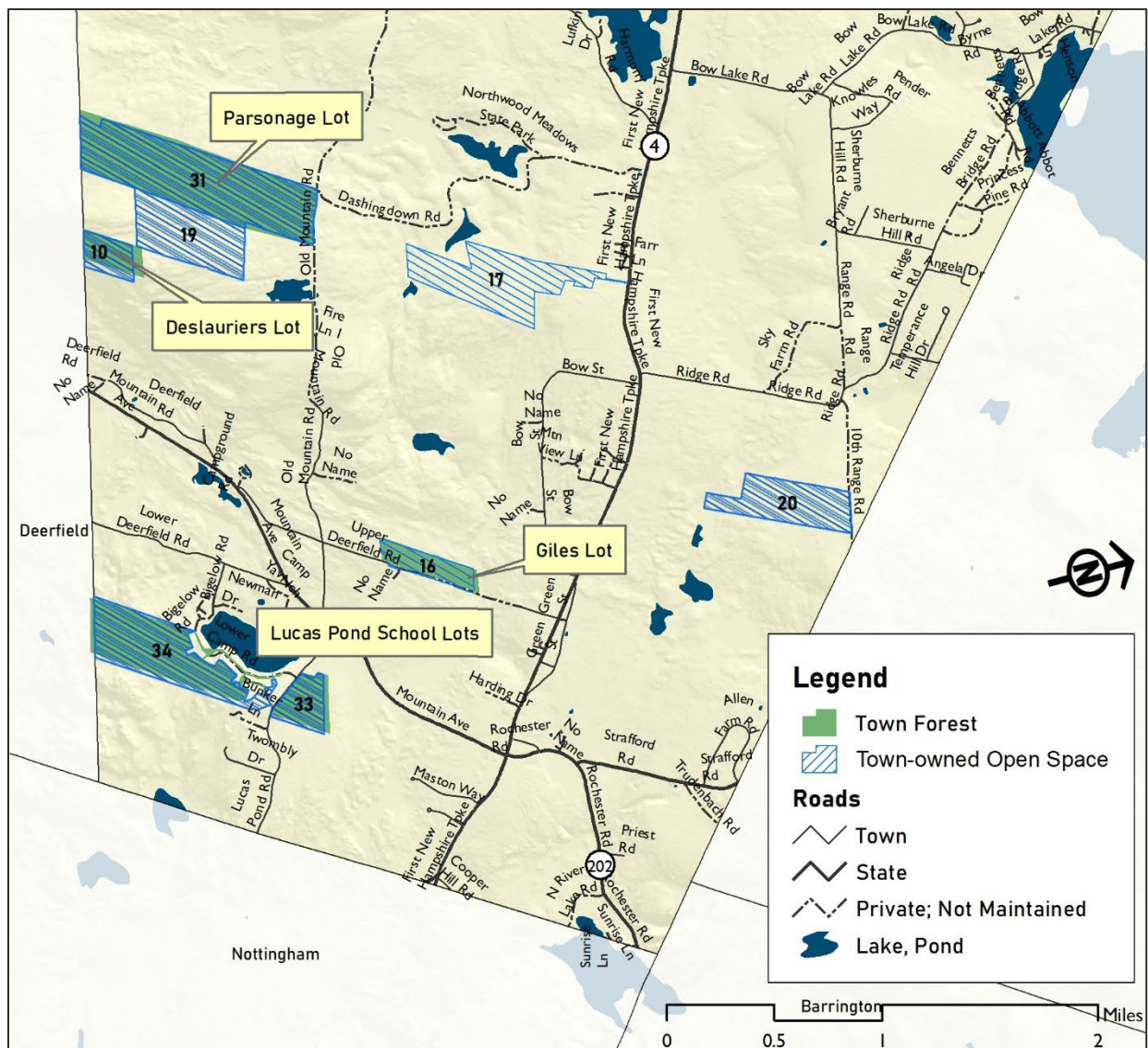


Figure 15. Map of Town Forest parcels (Source: Town of Northwood, NH Geodata Portal)

The Town Forest parcels feature:

- Upland forests containing white pine, red oak, black oak, red maple, black birch, American beech, and eastern hemlock
- Gentle to steep slopes
- Ledge outcrops
- Seasonal streams
- Forested wetlands, and
- Open water ponds. ⁴⁴

Potential wildlife species within Town Forest parcels or surrounding landscapes include:

- Blue-spotted salamander
- Jefferson salamander
- Canada warbler
- Cooper’s hawk
- Norther goshawk
- Wood turtle
- American woodcock
- White-tailed deer
- Black bear

- Ruffed grouse
- Bald eagle
- Spotted turtle
- Bobcat
- Wild turkey
- Wood thrush
- Veery
- Black racer
- Moose
- Blanding’s turtle
- Snow-shoe hare.⁴⁵

The long-term management goals for the Town Forests are included in Table 11. Maintaining passive recreation opportunities via the established trail system on the Parsonage lot and informal trails on other lots is also an objective.

Invasive species are a potential threat to the ecosystem health of Town Forest parcels. There is some existing evidence of insect infestation and potential invasion of Emerald ash borer, hemlock wooly adelgid, red pine scale, and Asian longhorn beetle, which have been detected in NH and are a potential threat to various tree species. In addition, there are some invasive plants on or near the parcels that are capable of occurring on the Town Forest Lots. These include bittersweet, multi-flora rose, barberry, buckthorn, burning bush, honeysuckle, and autumn olive.⁴⁶

Refer to the [Forest Management Plan](#) for additional information about the history of these lots, their natural resources, and management strategies

Land In Current Use

Land that is in current use taxation also contributes to Northwood’s open space network. Approximately 495 acres of

land (2.8% of the town’s land area) within 30 parcels are in current use.⁴⁷ This includes 143 acres of farmland, 195 acres of undeveloped open space, 140 acres of wetlands, and other undeveloped land.

Conservation Partners

State and federal agencies, land trusts, and other organizations have played a role in protecting land in Northwood. Two land trusts that hold easements on land in Northwood and have aided in executing conservation easements are Bear Paw Regional Greenways and Southeast Land Trust. The Society for the Protection of NH Forests, NH Fish and Game, via the Wildlife Management Areas program, US Natural Resources Conservation Services, and other agencies have also played a role in protecting land in Northwood.



Northwood Meadows State Park [Trail Map](#) (Image: NH State Parks)

Northwood Area Land Management Collaborative (NALMC)

The Northwood Area Land Management Collaborative (NALMC), an innovative land stewardship organization and partnership of public and private landowners in Northwood, formed in 2006. NALMC was established to enhance the ecological, social, recreational, and economic resources of the local landscape for present and future generations.⁴⁸ NALMC commissioned a natural resources inventory in 2016 that provided a scientific basis for management and documentation of the value of and basis for long-term stewardship by property owners and the community.⁴⁹

Northwood Meadows State Park

Northwood Meadows State Park is a 674.5-acre park located just off Route 4 in the center of town. The park is wooded with a vast wetlands area. It provides excellent connectivity to neighboring open space lands including the Forest Peters Wildlife Management Area, Guptill-Lamprey Pasture Conservation Area Trails, Coe-Brown Mead Conservation Lot, and NALMC trails. Northwood Meadows provides opportunities for fishing, non-motorized boating, biking, hiking, snowmobiling, and cross-country skiing.⁵⁰



“One of the important themes of NALMC’s efforts is for individual landowners to understand their land within the larger context of the neighborhood and beyond. Specifically, to understand their location in relation to the watersheds, extensive forests, farmlands, diverse wildlife habitats, and unique plant communities that stretch across multiple ownerships.”

-NALMC Resource Book: [Connecting People to Nature \(CPN\) Part One: The Social Fabric of the NALMC Neighborhood](#)

NALMC Kiosk (Liz Durfee)



Guptill Lamprey Pasture- Trailhead at Northwood Athletic Fields (Liz Durfee)

Climate change is a threat to habitats. While storms and flooding can cause immediate impacts to stream flow, pollution, and sediment in water bodies, other impacts, such as shifting habitat, occur more gradually. Habitat shifts are caused by changing temperatures, precipitation, and sea-level rise as well as chemical changes in water and soil. These changes impact the distribution of suitable habitat for species and natural communities. Habitat shift can also result in a geographic mismatch between the location of protected land and the habitat that was intended to be protected is located.

Wildlife is vulnerable to:

- Extreme storms and flooding
- Shifts in plant communities and wildlife
- Phenology (timing of biological events throughout the year, i.e. migration)
- Snow depth and winter ice
- Loss of thermal habitat
- Invasive species

Source: NH Wildlife Action Plan, Chapter 4 Climate Change

HABITAT & AREAS OF ECOLOGICAL SIGNIFICANCE

Wildlife Action Plan Habitat

As identified in the [2015 NH Wildlife Action Plan \(WAP\)](#), the dominant habitat types in Northwood are hemlock-hardwood pine and Appalachian oak-pine forests (Table 13 and Figure 16). Hemlock-hardwood-pine forests are the most common forest type in the state and are comprised of mostly hemlock, white pine, beech, and oak trees. This is a transitional forest type that can occur in a variety of elevations and soils. Development and fragmentation are a threat to this forest type and the large blocks of this habitat that many species that occupy it require.⁵¹

Appalachian oak-pine forests are found at lower elevations and are typically comprised of oak, hickory, mountain laurel, and sugar maple. This habitat diversity was influenced by frequent fires, which led to a varied forest structure and wildlife diversity. Development has had a major impact on the state's Appalachian oak-pine forests as well.

Two habitats found in Northwood, peatland and cliff and talus, are less common in New Hampshire. Peatland is characterized by low nutrients and high acidity, resulting in conditions that draw out plant and animal decomposition. Because of this, peatlands provide a critical role sequestering carbon. This habitat type also supports many rare plant and wildlife species. Peatland is threatened by altered hydrology, unsustainable forest harvesting, and non-point source pollutants.

Cliff and talus habitat consists of loose or stable boulders and rocks, range from open, lichen covered talus 'barrens' and closed-canopy forested talus communities.⁵² This habitat is found south of the east end of Northwood Lake. Cliff and talus can be vulnerable to development for utilities and recreational activity like rock climbing.

Detailed descriptions of each habitat and the species found in these habitats are available through the [NH Fish & Game's WAP website](#).



Northwood Meadows State Park Sign (Liz Durfee)

Table 13. Acreage of habitat types in Northwood

Habitat	Total Acres	% of Town
Hemlock-hardwood-pine	7,567.8	39.1%
Appalachian oak-pine	5,925.8	30.6%
Open water	1,540.2	8.0%
Developed Impervious	1,077.3	5.6%
Developed or Barren land	969.0	5.0%
Grassland	968.9	5.0%
Wet meadow/shrub wetland	670.7	3.5%
Peatland	335.9	1.7%
Temperate swamp	270.7	1.4%
Cliff and Talus	14.5	0.1%
Rocky ridge	10.5	0.1%
Sand/Gravel	5.8	0.0%

Source: NH Geodata Portal. NH Wildlife Action Plan

WAP Habitat Ranking

In addition to mapping habitat types, the Wildlife Action Plan also ranks habitats in relation to other habitats in New Hampshire and in the biological region. This information can be used to identify lands that are valuable to protect from a habitat perspective. As shown in Figure 16, there are two large and relatively contiguous blocks of 'highest ranked habitat' within Northwood. While much of the block to the south of Route 4 is protected via conservation easement or

other mechanisms, the large swath of highest ranked habitat land to the north of Route 4 (known locally as the Big Woods) does not coincide with conservation and public lands.

Table 14. NH WAP Habitat ranking

WAP Tier Rank	Acres	% of Area of Northwood
1	4,804.4	24.8%
2	4,149.7	21.4%
3	5,207.9	26.9%
None	5,195.0	26.8%
	19,357.0	100.0%

Source: NH Geodata Portal, WAP

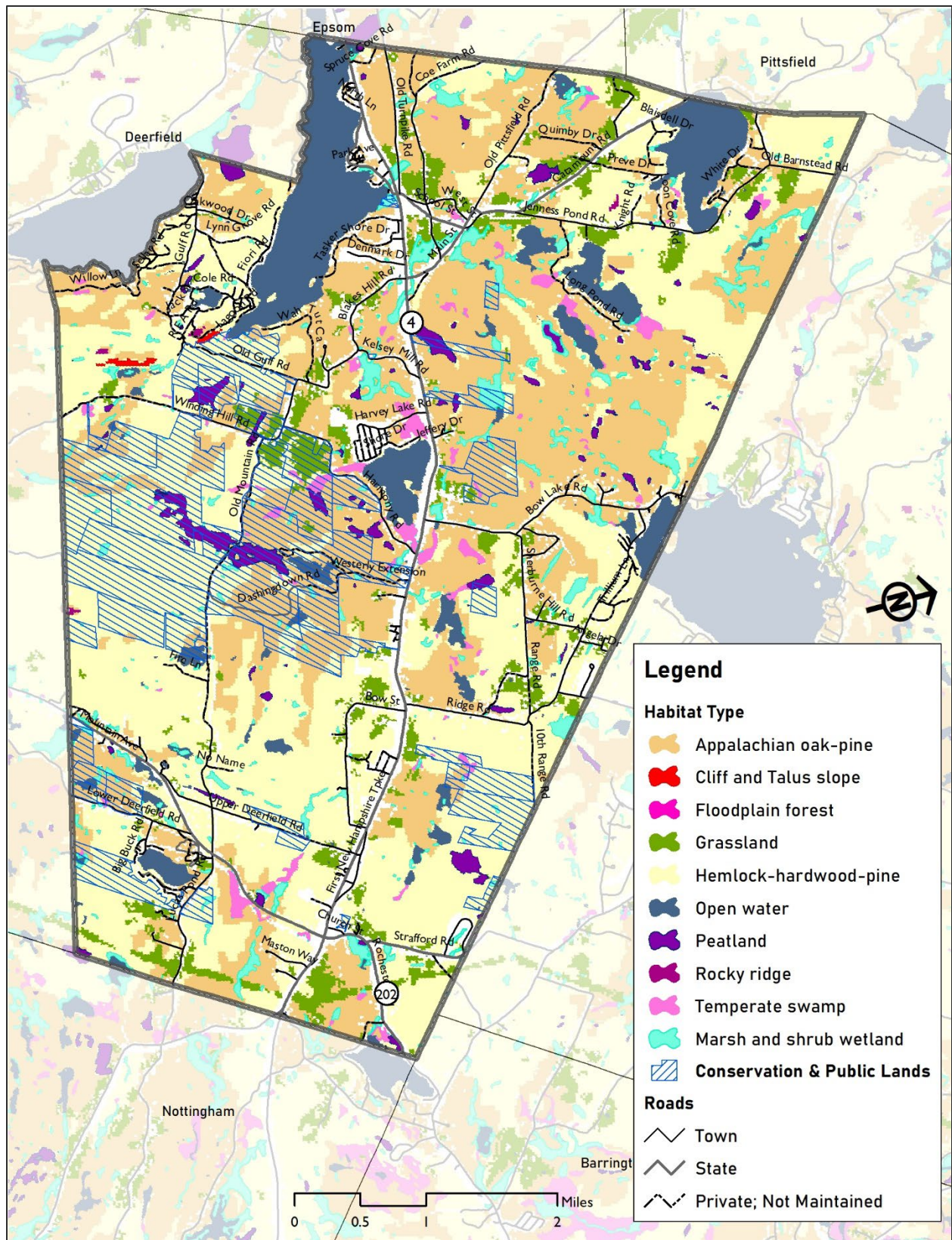


Figure 16. Map of Wildlife Action Plan habitats (Source: NH Geodata Portal, WAP)

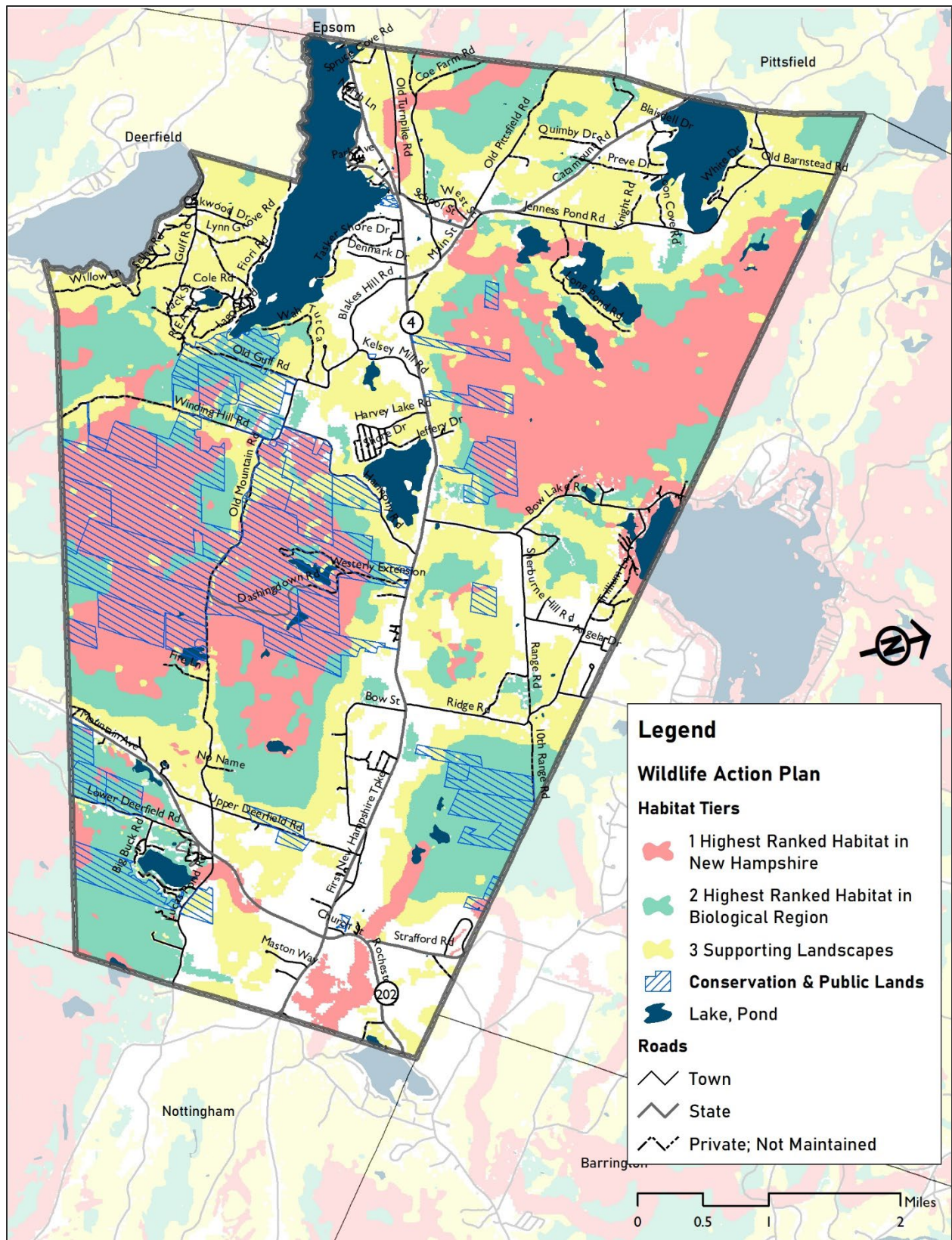


Figure 17. Map of Wildlife Action Plan habitats (Source: NH Geodata Portal, WAP)

[Coastal Watershed Conservation Plan](#)
[New Hampshire's Coastal Watershed Conservation Plan](#) identifies key conservation priorities across the coastal watershed that drain to the Atlantic Ocean via the Piscataqua River and through the Hampton-Seabrook Estuary. The plan identifies and prioritizes high value natural resources to conserve and restore through land protection, land use decision making, and management:

- **Coastal Conservation Focus Areas** that encompass conservation priorities to maintain ecological function and integrity across a landscape that is under threat from habitat loss, habitat degradation, and the impacts of climate change, and
- **Coastal Priority Agricultural Resources**, which represent the highest priority agricultural lands based on their productivity, versatility, and resilience.

Figure 18 displays the conservation focus areas identified in the Coastal Watershed Conservation Plan in

Northwood. Within Northwood, approximately 40% (7,739 acres) of the area of the town was identified as a conservation focus area. Approximately 34% percent of the areas identified as conservation focus areas are conservation or public lands.

These priority lands provide migration pathways between habitats, which are essential for the sustainability of long-term wildlife populations. These pathways will be particularly important as changes in temperature and precipitation alter the distribution of habitat, driving wildlife to navigate and occupy new landscapes over time.

In addition to conservation focus areas, there are just over 400 acres of land in Northwood that are identified as priority agricultural lands in the Coastal Watershed Conservation Plan. Approximately 11% of these lands (42.1 acres) in Northwood are conserved or public lands, while the remaining 89% of these lands could potentially be lost to development.

Geographic data from the Wildlife Action Plan, New Hampshire's Coastal Watershed Conservation Plan, and other sources can be viewed online through [the NH Geodata Portal](#). These datasets can provide landowners with information about the natural resources in the vicinity of their property. This data can also be used by the Conservation Commission when developing land protection criteria and evaluating future land acquisition and protection efforts. .

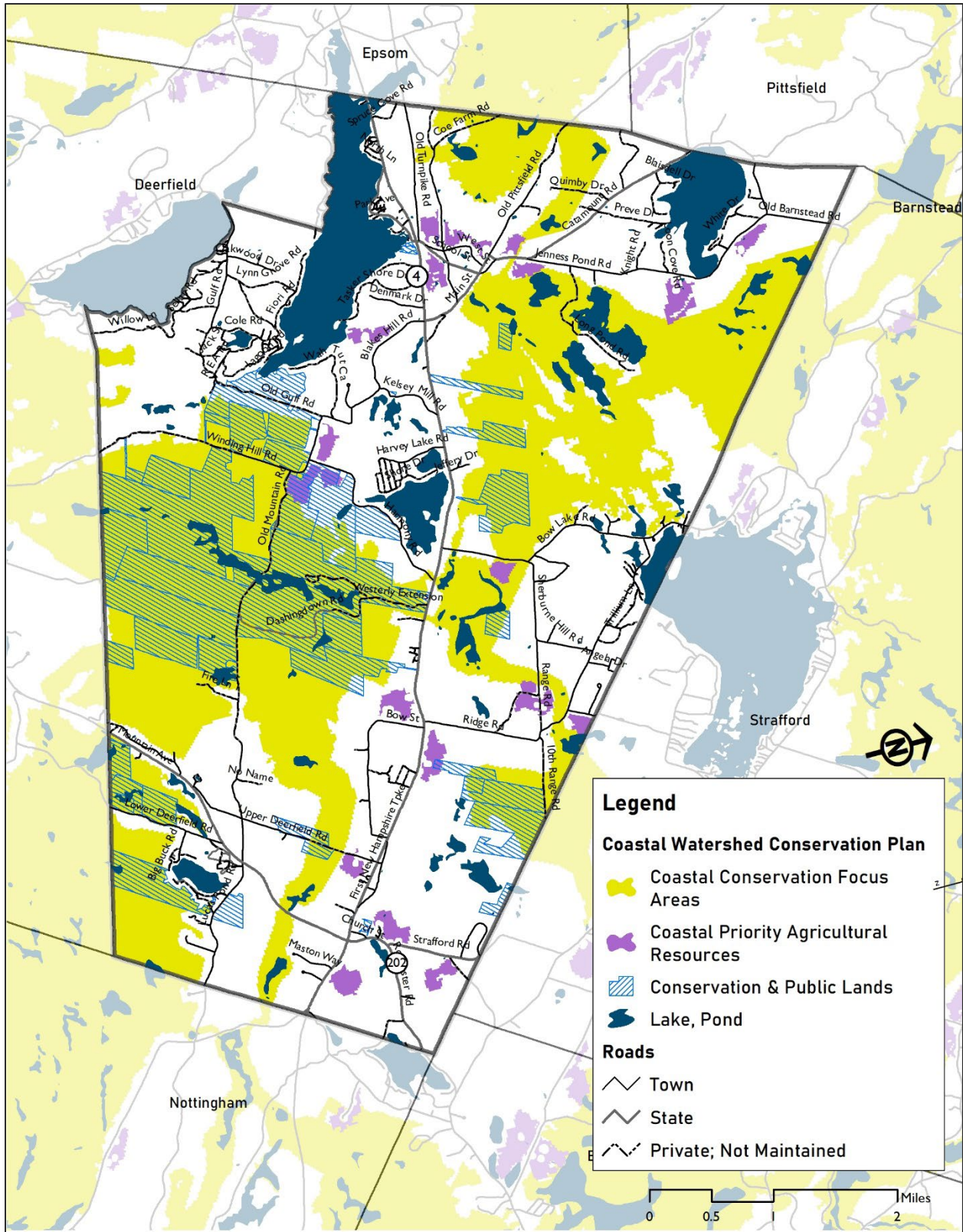


Figure 18. Coastal Conservation Focus Areas and Priority Agricultural Resources (Source: NH Geodata Portal, Coastal Watershed Conservation Plan) Note: Northwood lies partially within the coastal watershed, however the extend of the Coastal Conservation Focus Area data layer includes all the town.



Resilient Lands

Many of the areas identified as Conservation Focus Areas priorities are also identified by The Nature Conservancy as being resilient areas (Figure 19). These areas are identified as being somewhat protected from climate change due to the presence of micro-climates that create options for

species that are faced with changes in temperature and precipitation and impacts to ecosystems. Some areas, such as those in the upper and lower west corner of Northwood, are identified as resilient areas with confirmed rare species or unique communities based on ground inventory. These areas may be particularly important to target for conservation for wildlife protection.

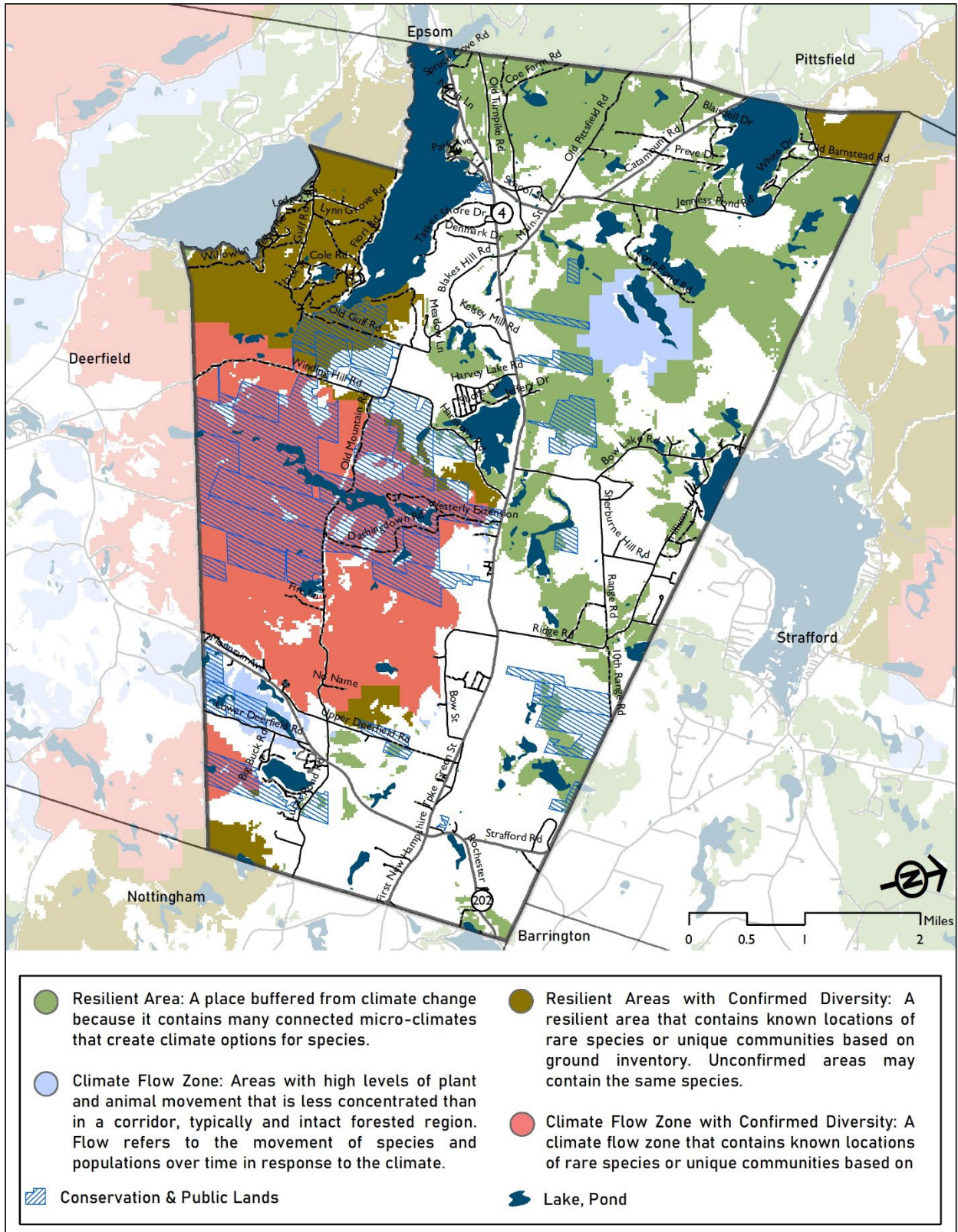


Figure 19. Resilient areas and climate flow zones map (Source: TNC, NH Geodata Portal)



Common Loon (Wikipedia)



Ringed Boghaunter (Pam Hunt)



Blandings' Turtle (UNH Extension)

SPECIES OF SIGNIFICANCE

Rare, Endangered, Threatened

Northwood is home to several species of rare birds (Bald Eagle, Common Loon), reptiles (Blanding's Turtle, Smooth Green Snake, Wood Turtle), and one invertebrate (Ringed Boghaunter, a species of dragonfly). Table 15 shows the Natural Heritage Bureau's listing of rare plants, rare

animals, and exemplary natural communities for Northwood. Four plants that are listed as endangered or threatened in the state were historically reported in Northwood. There is one exemplary natural community that has been reported in the last 20 years: black gum–red maple basin swamp. This community has only been reported in 28 locations in the state in the last two decades.

Table 15. Reported rare plants, rare animals, and exemplary natural communities in Northwood

Flag	Species or Community Name	Listed in US	Listed in NH	Reported Sightings in the Last 20 Years	
				In Northwood	In NH
Natural Communities – Palustrine					
***	Black gum – red maple basin swamp	--	--	1	28
~	Medium level fen system	--	--	Historical	51
~	Poor level fen/bog system	--	--	Historical	29
Plants					
~	American water-awwort (<i>Subularia aquatica</i> spp. <i>Americana</i>)	--	E	Historical	7
~	Dwarf huckleberry (<i>Gaylussacia bigeloviana</i>)	--	T	Historical	12
~	Peat moss (<i>Sphagnum flavicomans</i>)	--	E	Historical	3
~	Resupinate bladderwort (<i>Utricularia resupinate</i>)	--	E	Historical	15
Birds					
**	Bald Eagle (<i>Haliaeetus leucocephalus</i>)	T	SC	2	140
**	Common Loon (<i>Gavia immer</i>)	--	T	6	339
Reptiles					
***	Blanding's Turtle (<i>Emydoidea blandingii</i>)	--	E	7	1098
**	Smooth Green Snake (<i>Opheodrys vernalis</i>)	--	SC	1	85
~	Spotted Turtle (<i>Clemmys guttata</i>)	--	T	Historical	165
**	Wood Turtle (<i>Glyptemys insculpta</i>)	--	SC	1	281
Invertebrates - Dragonflies & Damselflies					
***	Ringed Boghaunter (<i>Williamsonia lintneri</i>)	--	E	1	15
Listed?	E = Endangered T = Threatened		SC = Special Concern		
Flags:	**** = Highest Importance *** = Extremely high importance ** = Very high importance * = High importance ~ = Historical record		Flags are based on a combination of (1) how rare the species or community is and (2) how large or healthy its examples are in that town.		

Source: NH Natural Heritage Bureau. List of Rare Plants, Rare Animals, and Exemplary Natural Communities in New Hampshire Towns. May 2022

Visit the [Natural Heritage's Bureau's website](#) to access forms to report sightings of rare plants, animals, and natural communities.

RECREATIONAL OPPORTUNITIES

Whether on a trail or beach or boat, outdoor recreation provides a way for people to connect with nature, relax, and improve their health. Ensuring the community has ample opportunities to enjoy natural resources and water resources plays an important role in building appreciation of the value of these resources and support for their protection. Master Plan Survey respondents generally indicated that natural resources are accessible to them for various activities, such as hiking or snowshoeing (Figure 20). Activities using all-terrain vehicles were identified as not as accessible in Northwood as snowmobiling or non-motorized activities. Nearly 70% of respondents agree or strongly agree that water resources are accessible to them, while 12% disagreed or strongly disagreed with this statement (Figure 21). Maintaining and enhancing access for people of all ages and abilities to

pursue a variety of outdoor activities is a key to maintaining a high quality of life for residents. Maintenance, signage, and management of trails, boat ramps, beaches, and other amenities will help keep the Town’s natural resources and water resources both accessible and protected.

Refer to the Recreation Chapter of this Master Plan for information about recreational opportunities in Northwood.

Northwood's water resources are accessible to me.

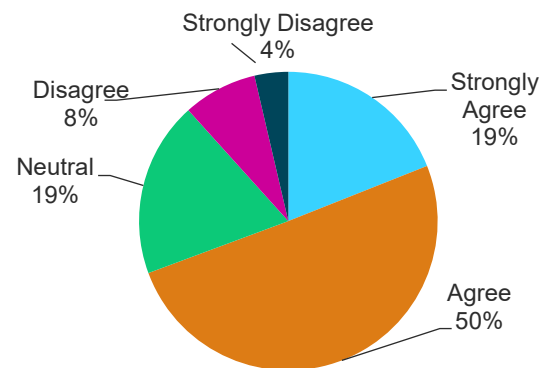


Figure 20. Master Plan Survey Input

Northwood's natural resources are accessible to me for these activities:

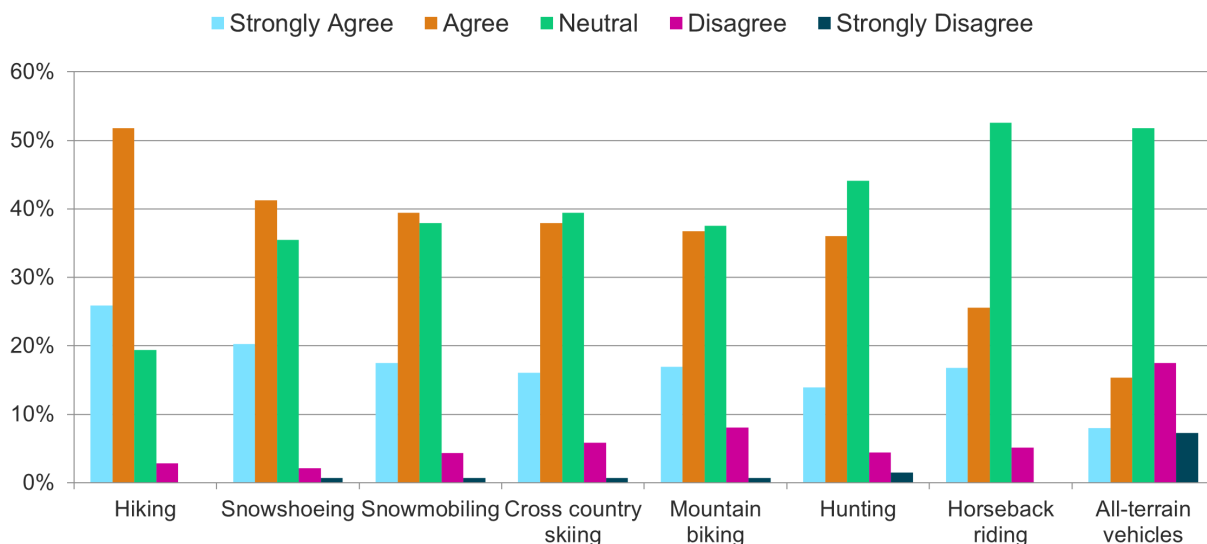


Figure 21. Master Plan Survey Input

SOLAR ENERGY

In 2022, approximately 14% of New Hampshire’s in-state electricity generation came from renewable resources.⁵³ Solar energy, derived primarily from small-scale installations less than 1 megawatt (MW), accounted for 1% of total net generation in the state. The total installed capacity of solar in the state was around 213 MW by mid-2023.⁵⁴

New Hampshire’s [Renewable Portfolio Standard](#) statute (RSA 362-F), enacted in 2007, set a goal of achieving 25.2% renewable energy by 2025. The RPS requires each electricity provider to meet customer load by purchasing or acquiring certificates representing generation from renewable energy based on total megawatt-hours supplied.⁵⁵ Solar energy plays a key role in reducing greenhouse gas emissions and mitigating climate change.

Residential solar photovoltaic (PV) installations are generally between two and 20 kilowatts (kW).⁵⁶ Larger, ground-mounted installations of 250 kW typically have about 833 panels and occupy one acre, while larger arrays require significantly more land (Table 16). Community solar projects typically are less than 5 MW in size.ⁱⁱⁱ

ⁱⁱⁱ Community solar refers to local solar facilities shared by multiple community subscribers who receive credit on their electricity bills for their share

Table 16. Minimum acreage required for solar arrays of varying capacity

Capacity	Minimum Acreage
250 kw	1 acre
1 mw	4 acres
5 mw	20 acres
10 mw	40 acres
30 mw	120 acres

Source: NHSEA Model Solar Zoning Ordinance

The Town of Northwood does not currently have a solar ordinance. Developing regulations for solar can help guide interested solar developers as well as protect valuable forest and farmland.

Coupling agriculture and solar energy production offers an opportunity to preserve valuable agricultural lands while providing energy and potential revenue to property owners. Often referred to as agrivoltaics, this combination of solar production and cultivation allows producers to maximize the use of land, increasing pollinator habitat, diversifying ecosystem services, and increasing revenue.⁵⁷



Image: Werner Slocum / National Renewable Energy Laboratory

of the power produced (Source: Solar Energy Industry Association)

Hosting Capacity

Eversource's transmission lines in Northwood have a Hosting Capacity^{iv} ranging from 0.05 to 1 MW to 3-5 MW of three phase power, as well as 0.05 MW single capacity in other locations in town (see [Eversource's Hosting Capacity](#) map). Larger projects can apply for interconnection but may be required to fund necessary upgrades to increase the system hosting capacity in order to accommodate the project. The maximum allowable generation capacity

^{iv} Hosting capacity is the estimated maximum amount of power from Distributed Energy Resources (DER, such as solar panels) that can be accommodated on the distribution system at a given location. This capacity is an estimated value under

Resources for Solar Development

Having regulations in place for solar installations will help guide and encourage this land use while minimizing any potential impacts. Resources include:

- The New Hampshire Sustainable Energy Association has developed [Model Solar Zoning Ordinance for New Hampshire](#), which may be a useful resource for crafting language for Rochester's Zoning Ordinance to regulate solar arrays.
- The Maine Department of Agriculture, Conservation and Forestry (DACF) has developed [technical guidance document](#) regarding the siting of utility-scale solar projects with consideration for valuable agricultural land, forest resources, and rare or unique natural areas. This resource includes best practices that are applicable in other states.
- Refer to the American Farmland Trust's [four principles to guide smart solar development](#) for information about solar and agricultural land.
- Learn more about innovative financing options, best practices, and sustainable agri-solar opportunities at: <https://www.agrisolarclearinghouse.org/about/>.
- Learn more about model ordinance language for developing solar in New Hampshire from the New Hampshire Sustainable Energy Association at: <https://farmlandinfo.org/wp-content/uploads/sites/2/2020/07/Model-Zoning-Ordinance-NH.pdf>.
- More information about renewable energy is available at: <https://www.eia.gov/energyexplained/renewable-sources/>

existing grid conditions and operations without requiring significant infrastructure upgrades. This capacity takes into consideration safety, power quality, reliability, and other operational criteria (Source: Eversource)

RECOMMENDATIONS

Policy & Initiatives (P)

- P1 Conduct a comprehensive Natural Resources Inventory. Guidance is available from University of New Hampshire Extension: NH NRI Guide.
- P2 Conduct land surveys on Town Forests in preparation for conservation easements.
- P3 Prepare and prioritize a list of maintenance and management needs and estimated costs for Town-owned conservation properties.
- P4 As new trails on conservation lands are established and if old trails are modified, create appropriate signage and maps. Post copies of current maps on the town website and other trail websites.
- P5 Continue to collaborate with organizations like the New England Mountain Bike Association, the Northwood Crankpullers Snowmobile Club, and others to develop and maintain trails.
- P6 Collaborate with the Pleasant Lake Preservation Association and Town of Deerfield to implement recommendations from the Pleasant Lake Watershed Restoration Plan, and work with the Northwood Lake Watershed Association to implement recommendations from the watershed plan being developed for Northwood Lake.
- P7 Support establishment of recreational trails for public use on public lands.
- P8 Identify volunteers and businesses that may contribute time or supplies for maintenance and management, such as materials, heavy equipment, hand tools, a metal detector, and wildlife cams
- P9 Document parking and access-related needs at Town-owned property, prepare a cost estimate for these improvements, and identify funding options.
- P10 Develop a Town policy to prohibit all-terrain vehicles (ATV)s on Class VI roads.
- P11 Support water quality protection measures to ensure that surface waters meet state standards that support aquatic life, fish consumption, primary and secondary contact recreation, and wildlife.
- P12 Partner with Bear-Paw Regional Greenways, other conservation partners, watershed groups, and neighboring municipalities to identify shared goals and priorities for natural resource protection and land conservation.
- P13 Protect large unfragmented blocks, wildlife corridors, natural communities, and rare, threatened and endangered species as part of land conservation and open space planning.

- P14 Collaborate with organizations, schools, businesses, Nature Groupie, and others to conduct invasive species removal workdays.
- P15 Investigate potential sites for future drinking water supplies, including the Big Woods. Guidance is available from NHDES. See Factsheets: Technical Guidance for the New Hampshire Drinking Water Source Protection Program.
- P16 Work with NHDES to remove and upgrade culverts that allow reduced or no aquatic organism passage and culverts with low geomorphic compatibility.
- P17 Incorporate culvert replacement and upgrades into road maintenance schedule
- P18 Work with NHDES to remove dams that are obsolete or in disrepair to restore river flow.
- P19 Continue to support aquatic invasive species education and management.
- P20 Collaborate with staff, boards, commissions, and committees to discuss and identify barriers to enforcement of regulations and ordinances.
- P21 Continue to host and promote annual Green Up cleanup event.
- P22 Track land purchases and easements that are funded or partially funded by the Conservation Fund.
- P23 Create a full-time code enforcement officer position (separate from the building inspector position).
- P24 Create baseline documents for conservation lands
- P25 Review and update Public Use Policy for Town Conservation Lands
- P26 Blaze and tag boundaries of Town Conservation Lands

Regulatory (R)

- R1 Conduct a comprehensive review of the Floodplain Ordinance against the State's model floodplain ordinance. Consider incorporating measures from the State's Menu of Higher Standards to strengthen regulations.
- R2 Strengthen setbacks for septic systems and primary structures for all waterbodies. Consider adopting a 100' setback requirement.
- R3 Amend the Wetland Regulations to require a minimum 20-foot no disturbance vegetated buffer around wetlands and waterbodies. See the NH Innovative Land Use Planning Techniques Handbook Section 2.6 for guidance.
- R4 Consider establishing pesticide, fertilizer, and herbicide regulations, including setbacks from all waterbodies.
- R5 Require use of Best Management Practices for Agriculture. Guidance is available from the Manual of Best Management Practices (BMPs) for Agriculture in New Hampshire.

- R6 Require use of the New Hampshire Best Management Practices for Erosion Control on Timber Harvesting Operations.
- R7 Inventory and map vernal pools. Guidance is available from Identifying and Documenting Vernal Pools.
- R8 Conduct an updated wetlands survey and prepare a more accessible prime wetlands map.
- R9 Strengthen the landscaping and buffer standards of the Open Space Design ordinance (Article IX). Investigate a policy for restricting use and activity on open space within subdivisions and a mechanism for monitoring and enforcing this land. Require that open space association with conservation subdivisions be monitored
- R10 Require the use of native plants and trees in landscaping plans as part of subdivision and site plan review approvals.
- R11 Require subdivision and site plan review applicants to identify areas of ecological significance, including those identified through the Wildlife Action Plan, Connect the Coast, and The Coastal Watershed Conservation Plan.
- R12 Consider establishing a local shoreland protection overlay district.
- R13 Conduct a comprehensive review and update of the Town's stormwater regulations. Consider using the Southeast Watershed Alliance's Model Ordinance as a guide.
- R14 Require that public and private development utilize the most up to date data for extreme precipitation in stormwater design calculations.
- R15 Require low impact development stormwater management techniques to provide aquifer recharge on all development sites.
- R16 Continue to include preservation of farmland soils as criteria for prioritization and acquisition of lands for conservation. Utilize the priority agricultural lands identified in the Coastal Watershed Conservation Land as a guide.
- R17 Periodically review zoning and land use regulations to ensure agricultural uses and accessory uses that help make agriculture economically viable are allowed.
- R18 Use the NH Sustainable Energy Alliance's Model Solar Ordinance as a guide to developing solar regulations. Ensure compatibility between using land for agriculture and solar energy generation. Encourage solar collection systems on rooftops and in parking lots while discouraging deforestation for the purpose of installing solar arrays.

- R19 Consider amending the Site Plan Review and Subdivision Regulations to require an invasive species assessment and remediation for large subdivisions and major site plans.

Education (E)

- E1 Encourage homeowners to conduct private well water tests.
- E2 Educate property owners about groundwater protection.
- E3 Conduct a septic system maintenance and replacement campaign. Seek funding to assist with septic system replacements.
- E4 Conduct education and outreach to landowners, businesses, and residents about reduction and proper disposal of yard waste, pet waste and trash, especially in riparian areas, to protect water quality.
- E5 Educate residents about stormwater management and programs like Soak up the Rain. Guidance is available from NH Homeowner's Guide to Stormwater Management and Soak up the Rain NH.
- E6 Provide property owners with education about conservation easements and the value of enhancing connectivity between protected landscapes.
- E7 Educate about pollinator habitat.
- E8 Educate landowners and business owners about the benefits of native plants and the negative impacts of invasive species on native ecosystems. Educate landowners about how to manage or eliminate invasive species and encourage voluntary removal of invasive species.
- E9 Make guidance on habitats and their protection from the Wildlife Action Plan readily accessible to landowners and provide education about protection and conservation.
- E10 Provide education about and encourage planting and restoration of riparian buffers on municipal and private properties.
- E11 Educate the community about floodplains, their value in protecting property from flooding, and the importance of minimizing development within floodplains.
- E12 Identify best practices for minimizing drought impacts, such as the NHDES Drought Guidance for Municipalities, and incorporate measures into Town ordinances and policies.
- E13 Educate the community about forest management.

IMPLEMENTATION

Implementation Table

Key

Recommendation # Category

P	Policy & Initiatives
R	Regulatory
E	Education

Cost

Minimal	<\$5,000 or in kind/volunteer hours
Low	>\$5,000-\$10,000
Medium	>\$10,000-\$50,000
High	>\$50,000

Responsible Party

BC	Budget Committee
CC	Conservation Commission
CEO	Code Enforcement Officer
CML	Chesley Memorial Library
LUD	Land Use Department
PB	Planning Board
PD	Police Department
PSC	Public Safety Facilities Comm.
PW	Public Works
RC	Recreation Committee
RD	Recreation Department
SB	Selectboard
TA	Town Administrator
TC/TX	Clerk & Tax Collector
ZBA	Zoning Board of Adjustment

Priority

Low, Medium, High ranking is based on the Master Plan Subcommittee and Planning Board's determination of which projects are most important to complete at the time this chapter was prepared. Ease of implementation was considered during the prioritization.

Potential Partner

CBNA	Coe-Brown Northwood Academy
LAs	Lake Associations
NCSC	Northwood Crankpullers Snowmobile Club
NEMBA	New England Mountain Bike Association
NES	Northwood Elementary School
NG	Nature Groupie
NHACC	NH Association of Conservation Commissions
NHBEA	NH Dept. of Business & Economic Affairs
NHCAW	NH Coastal Adaptation Workgroup
NHDES	NH Dept. Of Environmental Services
NHDHHS	NH Dept. of Health & Human Services
NHDNCR	NH Dept. of Natural & Cultural Resources
NHDOE	NH Dept. of Energy
NHDRA	NH Dept. of Revenue Administration
NHFG	NH Fish & Game
NHMA	NH Municipal Association
NHOPD	NH Office of Planning & Dept.
NRCS	Natural Resources Conservation Services
PREP	Piscataqua Region Estuaries Partnership
RCCD	Rockingham County Conservation District
SELT	Southeast Land Trust
SPNHF	Society for the Protection of NH Forests
SRPC	Strafford Regional Planning Commission
UNH CE	University of NH Cooperative Extension

#	Recommendation	Responsible Party(ies)	Target Date	Priority	Cost	Potential Partners
P1	Conduct a comprehensive Natural Resources Inventory. Guidance is available from University of New Hampshire Extension: NH NRI Guide.	CC	ongoing	Medium	Medium	Consultant
P2	Conduct land surveys on Town Forests in preparation for conservation easements.	CC	2025	High	Medium	Consultant
P3	Prepare and prioritize a list of maintenance and management needs and estimated costs for Town-owned conservation properties.	CC	2024	High	Minimal	
P4	As new trails on conservation lands are established and if old trails are modified, create appropriate signage and maps. Post copies of current maps on the town website and other trail websites.	CC, RC, RD	ongoing	Medium	Low	SRPC, Consultant
P5	Continue to collaborate with organizations like the New England Mountain Bike Association, the Northwood Crankpullers Snowmobile Club, and others to develop and maintain trails.	CC, RC	ongoing	Medium	Minimal	NHMBA, NCSC
P6	Collaborate with the Pleasant Lake Preservation Association and Town of Deerfield to implement recommendations from the Pleasant Lake Watershed Restoration Plan, and work with the Northwood Lake Watershed Association to implement recommendations from the watershed plan being developed for Northwood Lake.	CC, PB	ongoing	High	Medium	LA, NHDES
P7	Support establishment of recreational trails for public use on public lands.	CC, RC, RD	ongoing	High	Minimal	Boy Scouts, NHMBA, NH State Parks
P8	Identify volunteers and businesses that may contribute time or supplies for maintenance and management, such as materials, heavy equipment, hand tools, a metal detector, and wildlife cams	CC, LUD	2024	Low	Minimal	Local Businesses
P9	Document parking and access-related needs at Town-owned property, prepare a cost estimate for these improvements, and identify funding options.	CEO, RC, CC, PB, RD, SB	2025	High	Low	
P10	Develop a Town policy to prohibit all-terrain vehicles (ATV)s on Class VI roads.	CC, SB	2025	High	Minimal	NHDOT, NHDNCR
P11	Support water quality protection measures to ensure that surface waters meet state standards that support aquatic life, fish consumption, primary and secondary contact recreation, and wildlife.	PB, CC	2024	High	Minimal	NHDES
P12	Partner with Bear-Paw Regional Greenways, other conservation partners, watershed groups, and neighboring municipalities to identify shared goals and priorities for natural resource protection and land conservation.	PB, CC	ongoing	High	Minimal	BPRG, NRCS, SPNHF, SELT, LA
P13	Protect large unfragmented blocks, wildlife corridors, natural communities, and rare, threatened and endangered species as part of land conservation and open space planning.	CC	ongoing	Medium	High	UNHCE, BPRG

#	Recommendation	Responsible Party(ies)	Target Date	Priority	Cost	Potential Partners
P14	Collaborate with organizations, schools, businesses, Nature Groupie, and others to conduct invasive species removal workdays.	CC, RC, RD	ongoing	Medium	Minimal	NG, NES, CBNA
P15	Investigate potential sites for future drinking water supplies, including the Big Woods. Guidance is available from NHDES. See Factsheets: Technical Guidance for the New Hampshire Drinking Water Source Protection Program.	SB, CC	2025	High	Medium	NHDES, Consultant
P16	Work with NHDES to remove and upgrade culverts that allow reduced or no aquatic organism passage and culverts with low geomorphic compatibility.	HWD	ongoing	Medium	High	NHDES, SRPC
P17	Incorporate culvert replacement and upgrades into road maintenance schedule	HWD	2025	Medium	Minimal	SRPC
P18	Work with NHDES to remove dams that are obsolete or in disrepair to restore river flow.	SB	ongoing	Medium	High	NHDES
P19	Continue to support aquatic invasive species education and management.	CC, RC, RD	ongoing	High	Minimal	LA, NHDES
P20	Collaborate with staff, boards, commissions, and committees to discuss and identify barriers to enforcement of regulations and ordinances.	CEO, SB, Staff, PB, CC	ongoing	High	Minimal	
P21	Continue to host and promote annual Green Up cleanup event.	LUD, CC, RC, RD, CML	ongoing	High	Minimal	
P22	Track land purchases and easements that are funded or partially funded by the Conservation Fund.	CC, BC, TA	ongoing	High	Minimal	
P23	Create a full-time code enforcement officer position (separate from the building inspector position).	TA	2025	High	High	
P24	Create baseline documents for conservation lands	CC	2026	High	Low	
P25	Review and update Public Use Policy for Town Conservation Lands	CC, SB	2025	High	Minimal	
P26	Blaze and tag boundaries of Town Conservation Lands	CC	ongoing	High	Minimal	Volunteers, RC, Boy Scouts

#	Recommendation	Responsible Party(ies)	Target Date	Priority	Cost	Potential Partners
R1	Conduct a comprehensive review of the Floodplain Ordinance against the State's model floodplain ordinance. Consider incorporating measures from the State's Menu of Higher Standards to strengthen regulations.	PB	2026	Low	Low	SRPC, Consultant, NHOPD
R2	Strengthen setbacks for septic systems and primary structures for all waterbodies. Consider adopting a 100' setback requirement.	PB, CC	ongoing	Medium	Low	SRPC, Consultant
R3	Amend the Wetland Regulations to require a minimum 20-foot no disturbance vegetated buffer around wetlands and waterbodies. See the NH Innovative Land Use Planning Techniques Handbook Section 2.6 for guidance.	PB, CC	ongoing	High	Minimal	
R4	Consider establishing pesticide, fertilizer, and herbicide regulations, including setbacks from all waterbodies.	PB, CC	ongoing	High	Low	SPRC, Consultant
R5	Require use of Best Management Practices for Agriculture. Guidance is available from the Manual of Best Management Practices (BMPs) for Agriculture in New Hampshire.	PB	2025	Medium	Minimal	SPRC, Consultant
R6	Require use of the New Hampshire Best Management Practices for Erosion Control on Timber Harvesting Operations.	PB	2025	Medium	Minimal	SPRC, Consultant
R7	Inventory and map vernal pools. Guidance is available from Identifying and Documenting Vernal Pools.	CC	2026	Medium	Medium	Consultant
R8	Conduct an updated wetlands survey and prepare a more accessible prime wetlands map.	CC	2026	Medium	Medium	Consultant
R9	Strengthen the landscaping and buffer standards of the Open Space Design ordinance (Article IX). Investigate a policy for restricting use and activity on open space within subdivisions and a mechanism for monitoring and enforcing this land. Require that open space association with conservation subdivisions be monitored	PB, CC	2024-2025	High	Low	SPRC, Consultant, NHACC
R10	Require the use of native plants and trees in landscaping plans as part of subdivision and site plan review approvals.	PB	2025	Medium	Minimal	
R11	Require subdivision and site plan review applicants to identify areas of ecological significance, including those identified through the Wildlife Action Plan, Connect the Coast, and The Coastal Watershed Conservation Plan.	PB	2025	Medium	Minimal	
R12	Consider establishing a local shoreland protection overlay district.	PB, CC	ongoing	Medium	Low	SRPC, Consultant
R13	Conduct a comprehensive review and update of the Town's stormwater regulations. Consider using the Southeast Watershed Alliance's Model Ordinance as a guide.	PB	2027	High	Medium	SRPC, Consultant
R14	Require that public and private development utilize the most up to date data for extreme precipitation in stormwater design calculations.	PB	2025	Medium	Minimal	SRPC, Consultant

#	Recommendation	Responsible Party(ies)	Target Date	Priority	Cost	Potential Partners
R15	Require low impact development stormwater management techniques to provide aquifer recharge on all development sites.	PB	2025	High	Low	SPRC, Consultant
R16	Continue to include preservation of farmland soils as criteria for prioritization and acquisition of lands for conservation. Utilize the priority agricultural lands identified in the Coastal Watershed Conservation Land as a guide.	CC	ongoing	Medium	Minimal	
R17	Periodically review zoning and land use regulations to ensure agricultural uses and accessory uses that help make agriculture economically viable are allowed.	PB	2026	Medium	Minimal	
R18	Use the NH Sustainable Energy Alliance's Model Solar Ordinance as a guide to developing solar regulations. Ensure compatibility between using land for agriculture and solar energy generation. Encourage solar collection systems on rooftops and in parking lots while discouraging deforestation for the purpose of installing solar arrays.	PB	2025	Medium	Medium	SRPC, Consultant
R19	Consider amending the Site Plan Review and Subdivision Regulations to require an invasive species assessment and remediation for large subdivisions and major site plans.	PB	2025	Low	Minimal	CC

#	Recommendation	Responsible Party(ies)	Target Date	Priority	Cost	Potential Partners
E1	Encourage homeowners to conduct private well water tests.	PB, CC, staff	ongoing	Medium	Minimal	NHDES
E2	Educate property owners about groundwater protection.	PB, CC, staff	ongoing	Medium	Minimal	NHDES
E3	Conduct a septic system maintenance and replacement campaign. Seek funding to assist with septic system replacements.	PB, CC, staff	ongoing	High	Low	SRPC, PREP, NHDES
E4	Conduct education and outreach to landowners, businesses, and residents about reduction and proper disposal of yard waste, pet waste and trash, especially in riparian areas, to protect water quality.	CC, staff	ongoing	Medium	Minimal	NHDES
E5	Educate residents about stormwater management and programs like Soak up the Rain. Guidance is available from NH Homeowner's Guide to Stormwater Management and Soak up the Rain NH.	PC, CC	ongoing	High	Minimal	NHDES
E6	Provide property owners with education about conservation easements and the value of enhancing connectivity between protected landscapes.	CC	ongoing	High	Minimal	BPRG, NHACC
E7	Educate about pollinator habitat.	CC	ongoing	Low	Minimal	UNHCE
E8	Educate landowners and business owners about the benefits of native plants and the negative impacts of invasive species on native ecosystems. Educate landowners about how to manage or eliminate invasive species and encourage voluntary removal of invasive species.	CC, RC	ongoing	Low	Minimal	UNHCE
E9	Make guidance on habitats and their protection from the Wildlife Action Plan readily accessible to landowners and provide education about protection and conservation.	LUD, CC	ongoing	Low	Minimal	SRPC, UNHCE, NHFG
E10	Provide education about and encourage planting and restoration of riparian buffers on municipal and private properties.	LUD, CC	ongoing	Low	Minimal	SRPC, UNHCE, NHFG
E11	Educate the community about floodplains, their value in protecting property from flooding, and the importance of minimizing development within floodplains.	PB, LUD, CC	ongoing	Medium	Minimal	SRPC, NHOPD
E12	Identify best practices for minimizing drought impacts, such as the NHDES Drought Guidance for Municipalities, and incorporate measures into Town ordinances and policies.	PB	2026	Medium	Minimal	NHDES, SRPC, Consultant
E13	Educate the community about forest management.	CC	2025	High	Minimal	UNHCE

Potential Funding Sources

Agency/Organization	Grant/Program Name	Conservation	Stream/Wetland Restoration	Dam/Culvert Removal	Water Quality/Nonpoint Source Pollution	Drinking Water	Forest Restoration	Trails/Parks	Agriculture	Climate Adaptation
Piscataqua Region Environmental Planning Assessment	Piscataqua Region Environmental Planning Assessment Grant		X		X		X			X
NH Dept. Environmental Services	Clean Water State Revolving Fund				X					
NH Dept. Environmental Services	319 Watershed Assistance Grant				X					
NH Dept. Environmental Services	Aquatic Resource Mitigation Fund (ARM)		X		X					
NH Dept. Environmental Services	Source Water Protection Fund				X	X				
NH Dept. Agriculture, Markets & Food	NH State Conservation Committee Grant Program/Moose Plate Grant	X							X	
Land and Community Heritage Investment Program	Land and Community Heritage Investment Program (LCHIP)	X							X	
NH Dept. Natural & Cultural Resources	Land and Water Conservation Fund Grant Program	X						X		
US Fish & Wildlife Service	National Fish Passage Program	X	X	X						
US Fish & Wildlife Service	North American Wetlands Conservation Act Grant	X	X							
US Fish & Wildlife Service	Five Star and Urban Waters Restoration Grants				X					
National Fish & Wildlife Federation	New England Forest and River Grant Program		X	X			X			
USDA Natural Resources Conservation Service	Regional Conservation Partnership Program						X		X	
USDA Natural Resources Conservation Service	Agricultural Conservation Easement Program								X	
USDA Natural Resources Conservation Service	Conservation Stewardship Program	X							X	
Open Space Institute	Resilient Landscapes Initiatives	X								X

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- ¹ The major watersheds (Hydrologic Code Unit (HUC) 4) in New Hampshire are the Merrimack, Connecticut, Saco, and Androscoggin.
- ² Alexander, Richard B., et al. The Role of Headwaters Streams in Downstream Water Quality. Journal of the American Water Resources Association. Feb 2007. 43(1): 41-59.
- ³ University of New Hampshire Extension. Headwaters Streams. <https://extension.unh.edu/resource/headwater-streams#:~:text=Stewardship%20Guidelines%20for%20Headwater%20Streams,at%20the%20source%20and%20downstream>.
- ⁴ NHDES Factsheet. 2023. NH Rivers Management and Program. <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/rl-2.pdf>
- ⁵ NH Geodata Portal. NHD Water Body layer.
- ⁶ NHDES. 2019. Sources of Information and Explanation of Lake Trophic Data. <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/laketrophic-explain-current.pdf>
- ⁷ NHDES Factsheet. Lake Eutrophication. 2019. <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/bb-3.pdf>
- ⁸ Ibid.
- ⁹ NHDES. Rivers and Lakes. Accessed February 2024. <https://www.des.nh.gov/water/rivers-and-lakes>
- ¹⁰ NHDES. 2020/2022 Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology. February 18, 2022. <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/r-wd-20-20.pdf>
- ¹¹ NHDES. Rivers and Lakes. Accessed February 2024. <https://www.des.nh.gov/water/rivers-and-lakes>
- ¹² NHDES. 2020/2022 Section 305(b) and 303(d) Consolidated Assessment and Listing Methodology. February 18, 2022. <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/r-wd-20-20.pdf>
- ¹³ NHDES. Wetlands. Accessed February 2024. <https://www.des.nh.gov/water/wetlands>
- ¹⁴ Ibid.
- ¹⁵ The Nature Conservancy. Land Conservation Priorities for the Protection of Coastal Water Resources: A Supplement to the Land Conservation Plan for New Hampshire's Coastal Watersheds. Technical Report. 2016. chrome-extension://efaidnbnmnibpcjpcglclefindmkaj/http://www.greatbaypartnership.org/wp-content/uploads/Coastal_Plan_Water_Resources_Technical-Report-20160715.pdf
- ¹⁶ NH Geodata portal NH Dams inventory. Accessed March 2024. <https://www.nhgeodata.unh.edu/datasets/bc5c6b4c998b4100b7c4f8089f702717/explore>
- ¹⁷ Northwood Meadows State Park. Dam Reconstruction Project. https://www.nhstateparks.org/NHStateParks/media/NHStateParks/PDFs/Parks/northwood_meadows_project_poster_2024.pdf and personal conversation with NH DNCR staff March 22, 2024.
- ¹⁸ NH Aquatic Restoration Mapper. Accessed March 2024. <https://nhdes.maps.arcgis.com/apps/webappviewer/index.html?id=21173c9556be4c52bc20ea706e1c9f5a>
- ¹⁹ NHDES. Aquatic Organism Passage. <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/aquatic-organism-passage.pdf>
- ²⁰ NH Aquatic Restoration Mapper. Accessed March 2024. <https://nhdes.maps.arcgis.com/apps/webappviewer/index.html?id=21173c9556be4c52bc20ea706e1c9f5a>
- ²¹ NH Geodata Portal. National Flood Hazard Layer
- ²² <https://www.des.nh.gov/water/groundwater>
- ²³ Natural Resource Inventory for Lyme, NH. https://www.lymenh.gov/sites/g/files/vyhlif4636/f/uploads/1.7-drift_aquifers_slope_binder32-34.pdf#:~:text=The%20basic%20difference%20is%20that,are%20sorted%20sand%20and%20gravel.
- ²⁴ NHDES Multiple studies were conducted by the U.S. Geological Survey, in cooperation with the New Hampshire Department of Environmental Services, Water Resources Division, to describe the geohydrology and water quality of stratified-drift aquifers river basins throughout New Hampshire. These studies were published between 1989 and 1998. https://granit.unh.edu/datasets/dea562f78b2449898e53faf8e4b4db6f_27/about
- ²⁵ NHDES Factsheet. 2020. Using Stratified-Drift Aquifer Maps to Plan for Potential Future Community Wells. <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/dwgb-22-12.pdf>

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- ²⁶ NH Department of Health and Human Services. Private Wells in New Hampshire. <https://www.dhhs.nh.gov/sites/g/files/ehbemt476/files/documents/2021-12/phl-fs-well.pdf>
- ²⁷ NHDES Factsheet. Bedrock (Artesian, Drilled) Well Design. 2021. <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/dwgb-1-2.pdf>
- ²⁸ NHDES Onestop. Accessed January 30, 2024.
- ²⁹ Ibid.
- ³⁰ Ibid.
- ³¹ Town of Northwood. Village of Northwood Ridge Water District. <https://www.northwoodnh.org/entity/Village-of-Northwood-Ridge-Water-District-47>
- ³² New Hampshire Department of Environmental Services. Water Use Registration and Reporting. <https://www.des.nh.gov/water/groundwater/water-use-and-withdrawal/registration-and-reporting>
- ³³ NHDES Exotic Aquatic Species Program Report. 2013-2017. <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/r-wd-18-19.pdf>
- ³⁴ NHDES. Infested Waterbodies in New Hampshire (Updated September 2023). <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/nh-infested-waterbodies-tracking-list.pdf>
- ³⁵ NHDES Factsheet. 2023. Cyanobacteria in New Hampshire Waters. <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/wmb-10.pdf>
- ³⁶ FB Environmental. Northwood Lake WMP Contract. July 5, 2023.
- ³⁷ U.S. Environmental Protection Agency. National Pollutant Discharge Elimination System (NPDES). <https://www.epa.gov/npdes/npdes-permit-basics>
- ³⁸ NHDES OneStop Mapper. <https://www4.des.state.nh.us/onestopdatamapper/onestopmapper.aspx>
- ³⁹ Lemcke-Stampone, Mary D.; Wake, Cameron P.; and Burakowski, Elizabeth, "New Hampshire Climate Assessment 2021" (2022). The Sustainability Institute. 71. <https://scholars.unh.edu/sustainability/71>
- ⁴⁰ Ibid.
- ⁴¹ EPA. Climate Change Impacts on Freshwater Resources. Accessed March 2024. <https://www.epa.gov/climateimpacts/climate-change-impacts-freshwater-resources#:~:text=Climate%20change%20is%20expected%20to,lead%20to%20harmful%20algal%20blooms.>
- ⁴² NH Geodata Portal, NRCS Soils Layer, 2015 Land Use Layer
- ⁴³ Discussion with Conservation Commission members 3/4/24
- ⁴⁴ Comeau, Bryan. Forest Management Plan. Northwood Town Forest Parcels. March 8, 2023. https://www.northwoodnh.org/file/4557/FINAL-PUBLIC_Northwood_Town_Forest.pdf
- ⁴⁵ Ibid.
- ⁴⁶ Ibid.
- ⁴⁷ Northwood Parcel Report, provided by Land Use Department in August 2022.
- ⁴⁸ Northwood Area Land Management Collaborative (NALMC). NALMC Resource Book: Connecting People to Nature, Part One: The Social Fabric of the NALMC Neighborhood. Sept 2006-Sep 2016. https://extension.unh.edu/sites/default/files/migrated_unmanaged_files/Resource006623_Rep9492.pdf
- ⁴⁹ Northwood Area Land Management Collaborative (NALMC). NALMC Resource Book: Connecting People to Nature, Part One: The Social Fabric of the NALMC Neighborhood. Sept 2006-Sep 2016. https://extension.unh.edu/sites/default/files/migrated_unmanaged_files/Resource006623_Rep9492.pdf
- ⁵⁰ NH State Parks. Northwood Meadows State Park. Accessed March 2024. <https://www.nhstateparks.org/find-parks-trails/northwood-meadows-state-park>
- ⁵¹ NH Fish & Game Department. Habitat Types and Species. Accessed March 2024. <https://www.wildlife.nh.gov/wildlife-and-habitat/wildlife-habitat-program/habitat-types-and-species>
- ⁵² Ibid.
- ⁵³ US Energy Information Administration. New Hampshire State Profile and Energy Estimates. Accessed April 2024. <https://www.eia.gov/state/analysis.php?sid=NH>
- ⁵⁴ Ibid.
- ⁵⁵ NH Department of Energy. Renewable Portfolio Standard. Accessed April 2024. <https://www.energy.nh.gov/renewable-energy/renewable-portfolio-standard#:~:text=New%20Hampshire's%20RPS%20statute%2C%20RSA,sources%20into%20four%20separate%20cl asses.>

⁵⁶ Clean Energy States Alliance. A Homeowner’s Guide to Solar Financing. Leases, Loans, and PPAs. 2018. <https://www.cesa.org/wp-content/uploads/Homeowners-Guide-to-Solar-Financing.pdf>

⁵⁷ Agrisolar Clearing House. Accessed March 2024. <https://www.agrisolarclearinghouse.org/>

APPENDIX A – 303(d) 2020-2022 List

Assessment Unit ID (AUID)	Assessment Unit Name	Town(s) Primary Town is Listed First	Water Size (acres)	Designated Use	Parameter Name	Parameter Level -	TMDL Priority	Beach	Last Sample	Last Exceedance
NHLAK600030705-03	NORTH RIVER POND	NOTTINGHAM, BARRINGTON, NORTHWOOD	83.647	Aquatic Life Integrity	Chlorophyll-a	5-M	LOW	N	2015	NLV
NHLAK600030705-03	NORTH RIVER POND	NOTTINGHAM, BARRINGTON, NORTHWOOD	83.647	Aquatic Life Integrity	Phosphorus (Total)	5-M	LOW	N	2014	NLV
NHLAK600030705-05	DEMERRITT POND	NOTTINGHAM, NORTHWOOD	14.259	Aquatic Life Integrity	pH	5-M	LOW	N	2000	2000
NHLAK700060502-05	HARVEY LAKE	NORTHWOOD	116.165	Aquatic Life Integrity	pH	5-M	LOW	N	2019	2019
NHLAK700060502-06	JENNESS POND	NORTHWOOD, PITTSFIELD	266.224	Aquatic Life Integrity	Chlorophyll-a	5-M	LOW	N	2019	NLV
NHLAK700060502-06	JENNESS POND	NORTHWOOD, PITTSFIELD	266.224	Aquatic Life Integrity	Phosphorus (Total)	5-M	LOW	N	2019	NLV
NHLAK700060502-06	JENNESS POND	NORTHWOOD, PITTSFIELD	266.224	Primary Contact Recreation	Cyanobacteria hepatotoxic microcystins	5-M	LOW	N	2011	2011
NHLAK700060502-07	LONG POND	NORTHWOOD	89.738	Aquatic Life Integrity	Dissolved oxygen saturation	5-M	LOW	N	2002	2002
NHLAK700060502-08-04	NORTHWOOD LAKE - LYNN GROVE ASSOCIATION BEACH	NORTHWOOD	0.165	Primary Contact Recreation	Escherichia coli	5-P	LOW	Y	2019	2018
NHLAK700060502-09-01	PLEASANT LAKE	DEERFIELD, NORTHWOOD	477.695	Aquatic Life Integrity	Dissolved oxygen saturation	5-M	LOW	N	2019	2019
NHLAK700060502-09-01	PLEASANT LAKE	DEERFIELD, NORTHWOOD	477.695	Aquatic Life Integrity	Oxygen, Dissolved	5-P	LOW	N	2019	2019
NHLAK700060502-10	CONSERVATION POND	NORTHWOOD	11.192	Aquatic Life Integrity	pH	5-M	LOW	N	2008	2008
NHRIV600030605-14	STONEHOUSE BROOK - HALL BROOK	BARRINGTON, NORTHWOOD, STRAFFORD	7.020	Aquatic Life Integrity	Oxygen, Dissolved	5-P	LOW	N	2009	2009

APPENDIX A – 303(d) 2020-2022 List

Assessment Unit ID (AUID)	Assessment Unit Name	Town(s) Primary Town is Listed First	Water Size (acres)	Designated Use	Parameter Name	Parameter Level -	TMDL Priority	Beach	Last Sample	Last Exceedance
NHRIV600030605-14	STONEHOUSE BROOK - HALL BROOK	BARRINGTON, NORTHWOOD, STRAFFORD	7.020	Aquatic Life Integrity	pH	5-P	LOW	N	2009	2009
NHRIV600030701-01	LAMPREY RIVER - AND HEADWATER TRIBUTARIES	NORTHWOOD, DEERFIELD	13.652	Aquatic Life Integrity	Dissolved oxygen saturation	5-P	LOW	N	2016	2014
NHRIV600030701-01	LAMPREY RIVER - AND HEADWATER TRIBUTARIES	NORTHWOOD, DEERFIELD	13.652	Aquatic Life Integrity	Oxygen, Dissolved	5-P	LOW	N	2016	2016
NHRIV600030701-01	LAMPREY RIVER - AND HEADWATER TRIBUTARIES	NORTHWOOD, DEERFIELD	13.652	Aquatic Life Integrity	pH	5-P	LOW	N	2016	2016
NHRIV700060502-01	TUCKER BROOK - UNNAMED BROOK	NORTHWOOD	2.983	Aquatic Life Integrity	pH	5-M	LOW	N	2019	2019
NHRIV700060502-02	KELSEY BROOK	NORTHWOOD	0.667	Aquatic Life Integrity	pH	5-M	LOW	N	2019	2019
NHRIV700060502-03	JENNESS BROOK	NORTHWOOD	1.615	Aquatic Life Integrity	pH	5-M	LOW	N	2016	2015
NHRIV700060502-04	LITTLE SUNCOOK RIVER - KELSEY BROOK - NARROWS BROOK	NORTHWOOD	6.452	Aquatic Life Integrity	pH	5-M	LOW	N	2019	2017
NHRIV700060502-05	FLAT MEADOW BROOK	NORTHWOOD, EPSOM, PITTSFIELD	6.040	Aquatic Life Integrity	pH	5-M	LOW	N	2019	2019
NHRIV700060502-05	FLAT MEADOW BROOK	NORTHWOOD, EPSOM, PITTSFIELD	6.040	Primary Contact Recreation	Escherichia coli	5-P	LOW	N	2019	2018
NHRIV700060502-06	THE GULF	NORTHWOOD	1.362	Aquatic Life Integrity	pH	5-P	LOW	N	2016	2016
NHRIV700060502-07	UNNAMED BROOK - FROM PLEASANT LAKE TO NORTHWOOD LAKE	DEERFIELD, NORTHWOOD	1.513	Aquatic Life Integrity	pH	5-P	LOW	N	2019	2019
NHRIV700060502-19	THURBER BROOK	NORTHWOOD	0.614	Aquatic Life Integrity	pH	5-M	LOW	N	2016	2016

APPENDIX A – 303(d) 2020-2022 List

Assessment Unit ID (AUID)	Assessment Unit Name	Town(s) Primary Town is Listed First	Water Size (acres)	Designated Use	Parameter Name	Parameter Level -	TMDL Priority	Beach	Last Sample	Last Exceedance
NHRIV700060502-21	BAPPLE SPRING BROOK	PITTSFIELD, NORTHWOOD	0.452	Aquatic Life Integrity	pH	5-M	LOW	N	2018	2016
NHRIV700060502-22	HOOD BROOK	NORTHWOOD	0.267	Aquatic Life Integrity	pH	5-M	LOW	N	2013	2013
NHRIV700060502-30	LYNN GROVE BROOK	NORTHWOOD	0.320	Aquatic Life Integrity	pH	5-P	LOW	N	2011	2011
NHRIV700060502-32	NORTHWOOD LAKE-LOWER WTC INLET	NORTHWOOD	0.736	Aquatic Life Integrity	pH	5-P	LOW	N	2019	2019
NHRIV700060502-35	PHILBRICK BROOK	NORTHWOOD, DEERFIELD	0.850	Aquatic Life Integrity	pH	5-P	LOW	N	2019	2019
NHRIV700060502-36	ATHERTON BROOK	NORTHWOOD	0.360	Aquatic Life Integrity	pH	5-P	LOW	N	2019	2019
NHRIV700060502-44	NORTHWOOD LAKE-BRIDGE INLET	NORTHWOOD	0.744	Aquatic Life Integrity	pH	5-M	LOW	N	2019	2017
NHRIV700060502-50	NORTHWOOD LAKE INLET	NORTHWOOD	0.189	Aquatic Life Integrity	pH	5-P	LOW	N	2014	2014

APPENDIX B – ACTIVE DAMS

Dam	Name	Hazard Class	USE	River	Owner
D183017	WOODMAN MARSH DAM	Low	Conservation/ agriculture	WOODMAN MARSH	NH FISH AND GAME DEPARTMENT
D183016	MEADOW LAKE DAM	Low	Recreation	LAMPREY RIVER	NH DNCR
D183013	SAULS POND DAM	Low	Recreation	UNNAMED STREAM	MR ALFRED BROWN
D183018	DOLE MARSH DAM	Low	Recreation	UNNAMED BROOK	NH FISH AND GAME DEPARTMENT
D183010	HARVEY LAKE DAM	Non menace	Recreation	KELSEY BROOK	TOWN OF NORTHWOOD
D183022	POTREPKA WILDLIFE POND DAM	Non menace	Conservation/ agriculture	UNNAMED STREAM	JOSEPH AND MARIE POTREPKA
D183023	SPAULDING WILDLIFE DAM	Non menace	Conservation/ agriculture	UNNAMED STREAM	MR WILLIAM SPAULDING
D183008	LUCAS POND DAM	Non menace	Recreation	NORTH RIVER	NH FISH AND GAME DEPARTMENT
D183003	DURGIN POND OUTLET DAM	Non menace	Recreation	NARROWS BROOK	BARBARA J HAM TRUSTEE
D183015	TUDOR WILDLIFE POND DAM	Non menace	Recreation	TR NORTH RIVER	MR MELTON TUDOR
D183009	SHERBURNE BROOK DAM	Non menace	Recreation	SHERBURNE BROOK	UNKNOWN
D183026	HANNAFORD DET POND DAM	Non menace	Detention	RUNOFF	HANNAFORD BROTHERS COMPANY
D183024	NEWMAN RECREATION POND DAM	Non menace	Recreation	UNNAMED STREAM	MR JOHN NEWMAN
D183019	NORTHWOOD LAKE MARSH DAM	Non menace	Recreation	NORTHWOOD LAKE	NH FISH AND GAME DEPARTMENT
D183021	JENNESS POND DAM	Non menace	Recreation	JENNESS BROOK	JENNESS POND SHORE OWNERS INC
D183014	LAKESHORE FARM POND DAM	Non menace	Conservation/ agriculture	UNNAMED STREAM	LAKE SHORE FARM INC
D183012	GULCH MOUNTAIN POND DAM	Significant	Recreation	TR NORTHWOOD LAKE	TOWN OF NORTHWOOD

Source: NHDES

APPENDIX C - SOILS

Soil Name	Acres
Canton gravelly fine sandy loam, 15 to 25 percent slopes, very stony	375.4
Canton gravelly fine sandy loam, 15 to 35 percent slopes, extremely bouldery	161.2
Canton gravelly fine sandy loam, 25 to 35 percent slopes, very stony	124.6
Canton gravelly fine sandy loam, 3 to 8 percent slopes	110.3
Canton gravelly fine sandy loam, 3 to 8 percent slopes, very stony	183.7
Canton gravelly fine sandy loam, 8 to 15 percent slopes, extremely bouldery	97.3
Canton gravelly fine sandy loam, 8 to 15 percent slopes, very stony	1,344.9
Charlton extremely stony fine sandy loam, 8 to 25 percent slopes	1.0
Charlton fine sandy loam, 15 to 25 percent slopes, very stony	13.9
Charlton fine sandy loam, 3 to 8 percent slopes, very stony	5.4
Charlton fine sandy loam, 8 to 15 percent slopes, very stony	34.0
Chatfield-Hollis-Canton complex, 15 to 35 percent slopes, very stony	2,049.1
Chatfield-Hollis-Canton complex, 3 to 8 percent slopes, very stony	893.4
Chatfield-Hollis-Canton complex, 8 to 15 percent slopes, very stony	4,397.4
Chatfield-Hollis-Montauk complex, 15 to 35 percent slopes, very stony	0.2
Chocorua mucky peat	66.4
Deerfield fine sandy loam, 0 to 3 percent slopes	26.0
Gloucester extremely stony fine sandy loam, 8 to 25 percent slopes	5.2
Greenwood and Ossipee soils, ponded	468.7
Greenwood mucky peat	351.6
Hinckley fine sandy loam, 15 to 60 percent slopes	60.9
Hinckley fine sandy loam, 3 to 8 percent slopes	67.1
Hinckley fine sandy loam, 8 to 15 percent slopes	26.0
Hollis-Charlton very rocky fine sandy loams, 15 to 25 percent slopes	2.5
Hollis-Charlton very rocky fine sandy loams, 8 to 15 percent slopes	4.1
Hollis-Gloucester extremely rocky fine sandy loams, 25 to 60 percent slopes	0.5
Hollis-Gloucester extremely rocky fine sandy loams, 8 to 25 percent slopes	26.0
Hollis-Rock outcrop-Chatfield complex, 15 to 60 percent slopes	24.5
Leicester-Ridgebury very stony fine sandy loams, 3 to 8 percent slopes	1.1
Lim-Pootatuck complex	24.1
Montauk fine sandy loam, 15 to 25 percent slopes, very stony	126.8
Montauk fine sandy loam, 3 to 8 percent slopes	30.9
Montauk fine sandy loam, 3 to 8 percent slopes, very stony	49.7
Montauk fine sandy loam, 8 to 15 percent slopes, very stony	164.5
Ossipee mucky peat	272.5
Paxton fine sandy loam, 0 to 8 percent slopes	0.6
Paxton fine sandy loam, 15 to 25 percent slopes	77.4
Paxton fine sandy loam, 15 to 25 percent slopes, very stony	392.9

APPENDIX C - SOILS

Soil Name	Acres
Paxton fine sandy loam, 25 to 35 percent slopes, very stony	102.4
Paxton fine sandy loam, 3 to 8 percent slopes	473.3
Paxton fine sandy loam, 3 to 8 percent slopes, very stony	343.2
Paxton fine sandy loam, 8 to 15 percent slopes	509.5
Paxton fine sandy loam, 8 to 15 percent slopes, very stony	666.7
Paxton very stony fine sandy loam, 15 to 25 percent slopes	3.1
Paxton very stony fine sandy loam, 8 to 15 percent slopes	3.5
Pipestone sand, 0 to 5 percent slopes	24.2
Pits, sand and gravel	12.2
Ridgebury very fine sandy loam, 0 to 3 percent slopes, very stony	365.7
Ridgebury very fine sandy loam, 0 to 5 percent slopes	13.8
Ridgebury very fine sandy loam, 3 to 8 percent slopes, very stony	615.4
Ridgebury very stony fine sandy loam, 3 to 8 percent slopes	1.5
Scarboro muck	8.7
Scarboro muck, very stony	44.3
Scituate-Newfields complex, 3 to 8 percent slopes	55.0
Scituate-Newfields complex, 3 to 8 percent slopes, very stony	398.5
Scituate-Newfields complex, 8 to 15 percent slopes, very stony	184.4
Udorthents, smoothed	85.0
Urban land-Canton complex, 3 to 15 percent slopes	4.3
Walpole very fine sandy loam, 0 to 3 percent slopes, very stony	260.2
Walpole very fine sandy loam, 0 to 5 percent slopes	55.0
Walpole very fine sandy loam, 3 to 8 percent slopes, very stony	287.7
Windsor loamy sand, 15 to 60 percent slopes	9.6
Windsor loamy sand, 3 to 8 percent slopes	39.6
Woodbridge fine sandy loam, 0 to 3 percent slopes	61.0
Woodbridge fine sandy loam, 3 to 8 percent slopes	182.1
Woodbridge fine sandy loam, 3 to 8 percent slopes, very stony	958.4
Woodbridge fine sandy loam, 8 to 15 percent slopes, very stony	266.9
Woodbridge very stony fine sandy loam, 0 to 8 percent slopes	1.8
Woodbridge very stony fine sandy loam, 8 to 15 percent slopes	1.5
Water	1,257.1
Total	19,357.0

Source: NRCS

APPENDIX D - CONSERVATION PUBLIC LANDS
Natural Resources Water Resources Chapter

Data Sources: NH GRANIT Conservation and Public Lands Layer,
 Northwood Town Forest Management Plan, Conservation Commission

Map #	Name	Tax Map & Lot	Type of Land Ownership	Primary Protection Agency/Organization	Primary Protection Type	Level of Public Access	Level	Acres in Town
1	Bennett Island Easement	208-6	Private	Bear Paw Regional Greenways	Conservation Easement	Restricted to Certain Areas	Permanent conservation land	0.9
2	C.B. & J.G. Johnson Revocable Living Trust	123-1	Private	Society for the Protection of NH Forests	Conservation Easement	No response received	Permanent conservation land	44.6
3	Carey Lot	212-72	Municipal	Northwood	Fee Ownership	No response received	Unofficial conservation land	13.2
4	Coe-Brown Academy Forestry Lot Easement	229-1	Other Public/Quasi-Public Entity	Bear Paw Regional Greenways	Conservation Easement	Allowed	Permanent conservation land	51.5
5	Coe-Brown Academy Forestry Lots	218-39	Other Public/Quasi-Public Entity	Coe-Brown Northwood Academy	Fee Ownership	No response received	Unofficial conservation land	26.9
6	Coe-Brown Academy Forestry Lots	216-78	Other Public/Quasi-Public Entity	Coe-Brown Northwood Academy	Fee Ownership	No response received	Unofficial conservation land	27.3
7	Coe-Brown Academy Forestry Lots	217-44	Other Public/Quasi-Public Entity	Coe-Brown Northwood Academy	Fee Ownership	No response received	Unofficial conservation land	44.5
8	Coe-Brown Academy Forestry Lots	217-62, 216-65	Other Public/Quasi-Public Entity	Coe-Brown Northwood Academy	Fee Ownership	No response received	Unofficial conservation land	107.3
9	Demeritt Lot	235-1	Private	Northwood	Conservation Easement	Allowed	Permanent conservation land	14.6
10	Deslaurier Lot - Town Forest	242-20	Municipal	Northwood	Fee Ownership	Allowed	Permanent conservation land	23.9
11	Doles Marsh WMA	242-2	State	NH Fish & Game	Fee Ownership	Allowed	Permanent conservation land	3.5
12	Forest Peters WMA	237-5	State	NH Fish & Game	Fee Ownership	Allowed	Permanent conservation land	456.0
13	Village of Northwood Ridge Water District Ackley Lot	221-38	Other Public/Quasi-Public Entity	Northwood Ridge Village Water District	Fee Ownership	Allowed	Unprotected water supply land	26.3
14	Village of Northwood Ridge Water District Jake's Purchase	220-2, 220-5, 220-7, 220-8	Other Public/Quasi-Public Entity	Northwood Ridge Village Water District	Conservation Easement	Allowed	Permanent conservation land	129.0
15	Gallagher	228-3	Private	Southeast Land Trust	Conservation Easement	Not Allowed	Permanent conservation land	78.8
16	Giles Lot - Town Forest	235-40	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	29.5
17	Guptill-Lamprey Pastures Lot	222-3	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	101.0
18	Kelsey Mill Historic Site	224-34	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	0.9
19	Lalish Lot	242-21	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	82.0
20	Little Acorn	221-40-1	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	70.0
21	Narrows Brook Conservation Area	109-23	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	0.3
22	Narrows Brook Conservation Area	109-21	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	0.9

APPENDIX D - CONSERVATION PUBLIC LANDS
Natural Resources Water Resources Chapter

Data Sources: NH GRANIT Conservation and Public Lands Layer,
 Northwood Town Forest Management Plan, Conservation Commission

Map #	Name	Tax Map & Lot	Type of Land Ownership	Primary Protection Agency/Organization	Primary Protection Type	Level of Public Access	Level	Acres in Town
23	Narrows Brook Conservation Area	109-24	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	1.0
24	Narrows Brook Conservation Area	109-22	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	3.1
26	Northwood Meadows State Park	222-46	State	NH DNCR	Fee Ownership	Allowed	Permanent conservation land	1.8
25	Northwood Meadows State Park	222-42	State	NH DNCR	Fee Ownership	No response received	Permanent conservation land	664.2
27	Hannaford	234-2	Private	Northwood	Conservation Easement	Allowed	Permanent conservation land	2.0
28	Anthony	228-17	Private	NRCS	Conservation Easement	No response received	Permanent conservation land	72.0
29	Lalish (now owned by Watkinsons)	236-8	Private	NRCS	Conservation Easement	No response received	Permanent conservation land	50.3
30	WaTutCa Scout Camp	224-90	Private	NRCS	Conservation Easement	No response received	Permanent conservation land	182.9
31	Parsonage Lot - Town Forest	236-90	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	198.0
32	Rooney Easement	220-10	Private	Bear Paw Regional Greenways	Conservation Easement	Unknown	Permanent conservation land	14.7
33	School Lot - Town Forest North	244-11	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	32
34	School Lot - Town Forest South	244-42	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	102
35	Bog Lot (Brower Lot)	238-16	Municipal	Northwood	Fee Ownership	Allowed	Unofficial conservation land	9.8
36	Yeaton Access Lot (Manganaro Lot)	240-20	Municipal	Northwood	Fee Ownership	No response received	Unofficial conservation land	9.9
37	UNH - Saddleback Mountain	241-1, 241-3	State	University of New Hampshire	Fee Ownership	No response received	Unofficial conservation land	75.2
38	Village of Northwood Ridge Water District	221-39	Other Public/Quasi-Public Entity	Northwood Ridge Village Water District	Fee Ownership	No response received	Unprotected water supply land	12.3
39	Wallman #1	228-2	Private	Southeast Land Trust	Conservation Easement	Not Allowed	Permanent conservation land	157.6
40	Wallman #2	228-16	Private	Southeast Land Trust	Conservation Easement	Not Allowed	Permanent conservation land	41.7
41	Woodman Marsh WMA	243-1	State	NH Fish & Game	Fee Ownership	Allowed	Permanent conservation land	29.2
42	Woodman Marsh WMA	243-11	State	NH Fish & Game	Fee Ownership	Allowed	Permanent conservation land	44.2
43	Woodman State Forest	246-9	State	NH DNCR	Fee Ownership	Allowed	Permanent conservation land	47.6
44	Yeaton	238-6	Municipal	Northwood	Fee Ownership	No response received	Unofficial conservation land	58.8