

N. Forest Resources

Forested land has been and will continue to be an important natural resource for several reasons. Forests provide important habitats for animal species, open space and a scenic background for tourism and recreation, and supply raw materials for the timber industry. In addition forested lands protect against soil erosion and protect water quality and serve as important natural riparian buffers.

Protection of forested lands is vital not only for the Town of Raymond, but for the region and the state as a whole. Tourism, a vital part of the state's economy, is fueled by forests and the beauty of protected natural areas. For future economic growth to occur an appropriate balance must be struck between protection of forests and the use of wood for the growth of industries. The *Society for Protection of New Hampshire Forests (SPNHF)* publishes several reports relating to natural resources preservation on an annual basis. One report on natural resource inventories cited the rapid loss of forested lands stating that, "Large blocks of uninterrupted forest lands are rapidly disappearing from much of New Hampshire's landscape." What is considered a large block is relative and varies from community to community. However, many urban areas would be hard pressed to locate contiguous blocks of 500 or more acres."⁹⁰

State Forestland Base is Declining⁹¹

The amount of forestland available statewide and at the local level is declining. Land development or subdivisions often create parcels too small to manage for resources such as timber and recreation. The demands for wood and the need for land for residential development and wildlife habitat often are not fully compatible and cause conflict. Fragmentation of landscapes and loss of forestland becomes an issue for wildlife, recreation, and scenic quality. While land use regulations protect some resources, they also limit the availability of others.

Change from a rural to a more urban environment threatens traditional forest uses. While recreation, wildlife, aesthetics, pride of ownership, and privacy are now common reasons for owning forestland, protection of these by the landowner often results in restrictions to others, such as hikers, snowmobilers, and hunters who once had ready access to greater amounts of forestland.

Large blocks of forest not broken up by roads, other land uses or water are also critical. The SPNHF has determined that "a 500-acre forest block is big enough to support significant wildlife habitat, protect water quality and allow some economic forest management. In evaluating forest blocks in New Hampshire, SPNHC has found that

⁹⁰ Stone, Amanda Lindley, Natural Resources Inventories: A Guide for New Hampshire Communities and Conservation Groups University of New Hampshire Cooperative Extension 2001. Revised and Updated

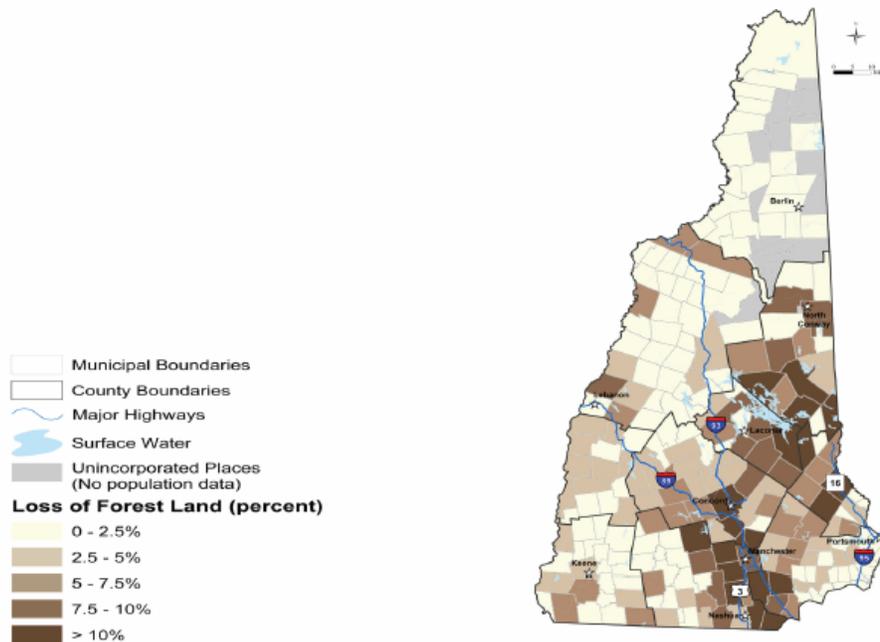
⁹¹ The following is a verbatim copy of a paragraph from the report entitled Planning for the Future of Local Forests: A Guide for New Hampshire Towns Using the Forestland Evaluation and Site Assessment Process (FLESA) prepared by the North Country and Southern New Hampshire Resource Conservation and Development Area Councils 2001.

500-acre blocks are still widespread, but are sparse in the Seacoast and lower Merrimack Valley, and becoming so in the Lakes Region. This is particularly true for Southern New Hampshire as well. Large blocks of forested lands holds together New Hampshire's natural environment and provides for New Hampshire's forest, recreation, and tourism industries (the extent of forest cover within the Town of Raymond is shown on Map 28).

The SPNHF has been documenting and reporting the extent of forest cover in New Hampshire for many years. In *New Hampshire's Changing Landscape 2005*, SPNHF has predicted the percent loss of forestland by municipality through 2025 as shown on Figure 15. As depicted in this figure, many of the municipalities located within the Southern New Hampshire region are projected to lose over ten percent of their forestland by 2025.

According to SPNHF, the largest extent of known forest cover in the state occurred in 1983, however, by 1997, the U.S. Forest Service estimated forest cover in New Hampshire had dropped to 84 percent, a loss of 163,400 acres in 14 years.⁹² Current estimates according to SPNHF based on 2001 satellite data, indicate New Hampshire's forest cover has since dropped to 81.1 percent.⁹³ The Town of Raymond is projected to lose between 5 and 7.5 percent of its forested land by 2025.

Figure 15
Percent Loss of Forest Land
By Municipality



⁹² New Hampshire's Changing Landscape 2005, Society for Protection of New Hampshire Forests

⁹³ Ibid.

Forest Cover

TOWN OF RAYMOND

-  Town Boundaries
-  Parcel Boundaries
- Road Systems**
 -  Highways
 -  State Routes
 -  Town, Local, and Private Roads
-  Brooks and Rivers
-  Lakes and Reservoirs
- Forest Cover**
 -  Beech/Oak
 -  Other Hardwoods
 -  White/Red Pine
 -  Hemlock
 -  Mixed Forest

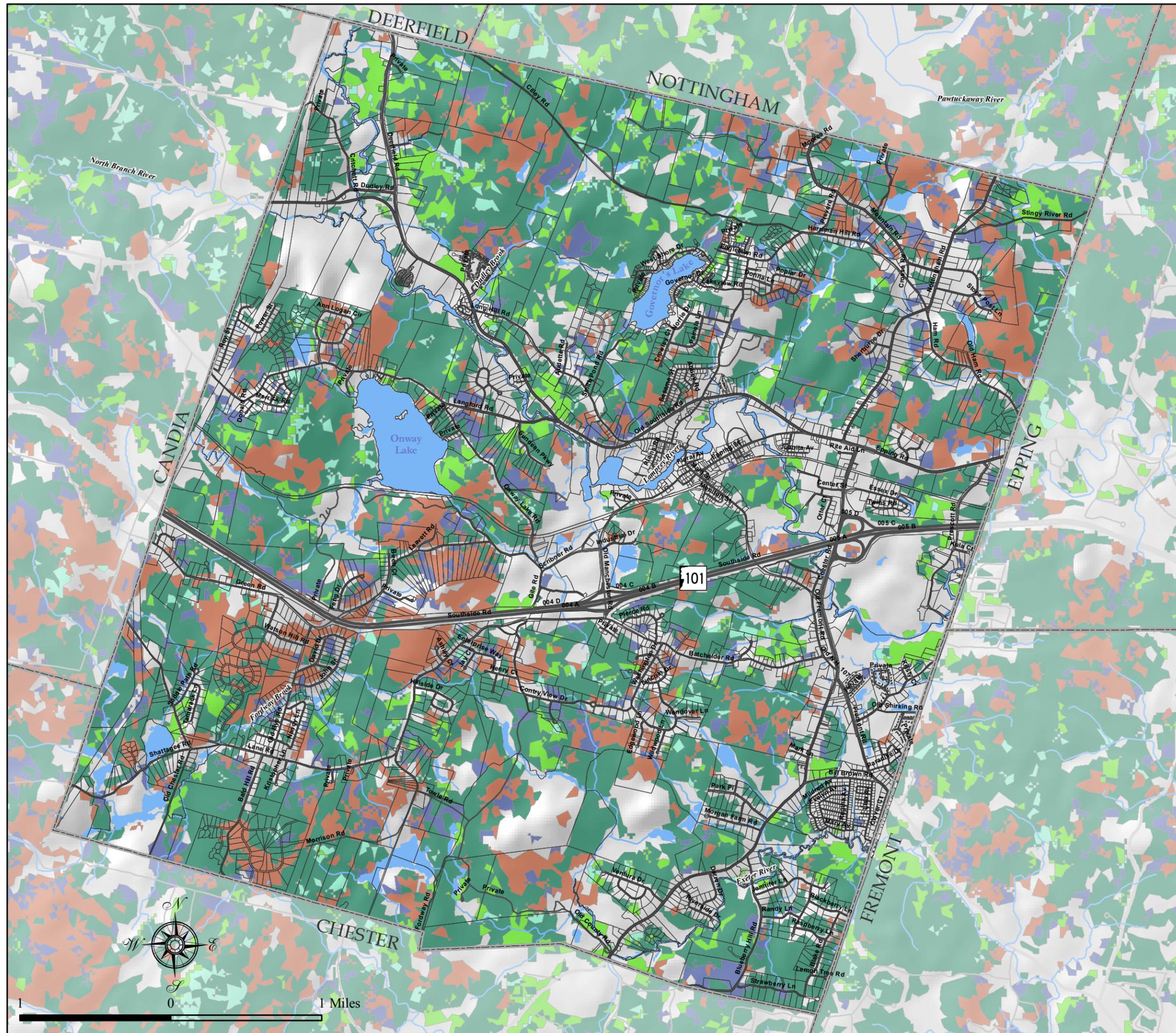
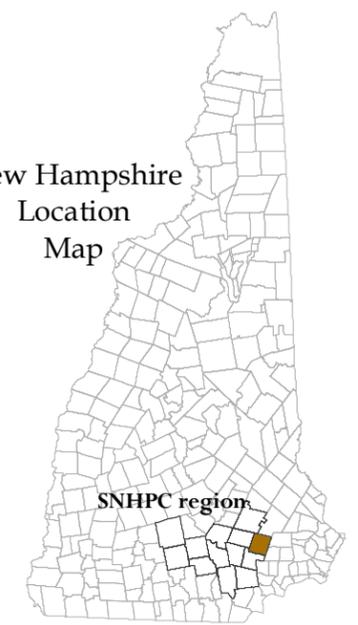
Data Sources:
 NH GRANIT Digital Data (1:24,000)
 NH Department of Transportation
 NH Department of Fish and Game
 Town of Raymond
 SNHPC

The individual municipalities represented on this map and the SNHPC make no representations or guarantees to the accuracy of the features and designations of this map.

Map Produced by
 GIS Service SNHPC 2007.
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This map is one of a series of maps that were produced as part of a Town's Master Plan 2007 and for planning purposes only. It is not to be used for legal boundary determinations or for regulatory purposes.

New Hampshire
 Location
 Map



1 0 1 Miles

O. Agricultural Sustainability

Agricultural sustainability allows agricultural producers to meet the needs of their operations, their environments, and their communities. While specific techniques and approaches vary by farmer, common goals include:

- Promoting environmental stewardship by protecting and improving soil quality, reducing dependence on non-renewable resources and petrochemicals, minimizing adverse impacts on safety, wildlife, water quality and other environmental resources.
- Becoming self sufficient and increasing the health of the family and the community.
- Promoting stable, prosperous farm families and communities.⁹⁴

Other important elements of sustainability as promoted by Sustainable Agriculture and Education (SARE) include:

1 **Integrated Pest Management (IPM)**

IPM is an approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health, and environmental risks.

2 **Rotational Grazing**

Management-intensive grazing systems take animals out of the barn and into the pasture to provide high-quality forage and reduced feed costs while avoiding manure buildup.

3 **Soil Conservation**

Many soil conservation methods, including strip cropping, reduced tillage and no-till, help prevent loss of soil due to wind and water erosion.

4 **Water Quality/Wetlands**

Water conservation and protection have become important parts of agricultural stewardship. Practices such as planting riparian buffer strips can improve the quality of drinking and surface water, as well as protect wetlands.

5 **Cover Crops**

Growing plants such as rye, clover, or vetch after harvesting a grain or vegetable crop or intercropping them can provide several benefits, including weed suppression, erosion control and improved soil nutrients and soil quality.

6 **Crop/Landscape Diversity**

Growing a greater variety of crops and livestock on a farm can help reduce risks from extremes in weather, market conditions or pests. Increased diversity of crops and other plants, such as trees and shrubs, also can contribute to soil conservation, wildlife habitat and increased populations of beneficial insects.

⁹⁴ See Sustainable Agriculture through Research and Education;
www.sare.org/publications/explore/index.htm

7 Nutrient Management

Proper management of manure, nitrogen, and other plant nutrients can improve the soil and protect the environment. Increased use of on-farm nutrient sources, such as manure and leguminous cover crops, also reduces purchased fertilizer costs.

8 Agro-forestry

Agro forestry covers a range of tree uses on farms, including inter-planting trees (such as walnuts) with crops or pasture, growing shade-loving specialty crops in forests, better managing woodlots and windbreaks, and using trees and shrubs along streams as buffer strips.

9 Alternative Marketing

Farmers and ranchers across the country are finding that innovative marketing strategies can improve profits. Direct marketing of agricultural goods may include selling at farmers markets, roadside stands, or through the World Wide Web; delivering to restaurants and small grocers; and running community-supported agriculture enterprises.

Some simple actions that the Town of Raymond can take to promote agricultural sustainability within the community include adopting a Right to Farm Ordinance; conducting an agricultural audit; and establishing an Agricultural Committee to study agricultural issues and promote agricultural sustainability.

In addition, the Town of Raymond should do what it can to promote the development of a farmer's market in the Village center and elsewhere within the community. Map 29 identifies the important farm and forest soils in Raymond.

P. Brownfields

The SNHPC received a \$200,000 grant from the US EPA New England in 2007 and recently a \$400,000 grant in 2009 to be used to inventory and assess potential brownfields sites within the region's 13 municipalities. A key issue to be addressed by this grant program is the identification of sites that are located near water supply and source water protection areas.

New England is known for its historic connection to the textile mill and tannery industries. Facilities such as these conduct operations such as tanning, dyeing, and finishing of leather and woven cloth products. One of the main reasons these operations were sourced in New England was in no small part due to the consistent and copious supply of running water that was required to operate and power the facilities. It is because of this, that many of the old factories were located along the banks of the rivers. Unfortunately, many of these uses also used the river and grounds to dispose of waste products and manufacturing effluents.

Important Farm and Forest Soils

TOWN OF RAYMOND

- Town Boundaries
- Parcel Boundaries
- Road Systems**
 - Highways
 - State Routes
 - Town, Local, and Private Roads
- Brooks and Rivers
- Lakes and Reservoirs
- Farmland and Important Soils**
 - Prime Farmland
 - Farmland of Local Importance
 - Farmland of Local Importance and Hydric
 - Farmland of Statewide Importance
 - Important Forest Soils
 - Hydric Soils

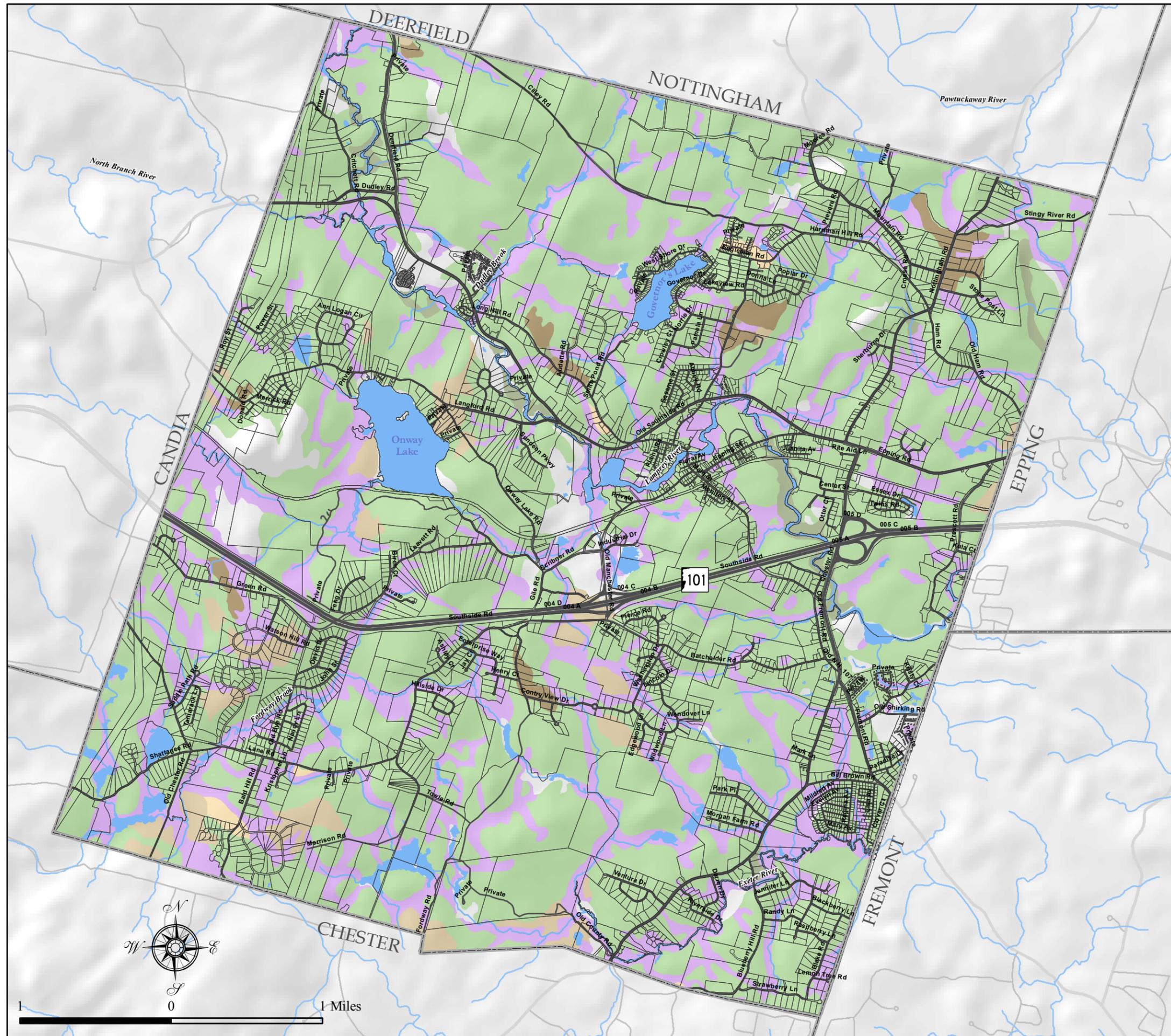
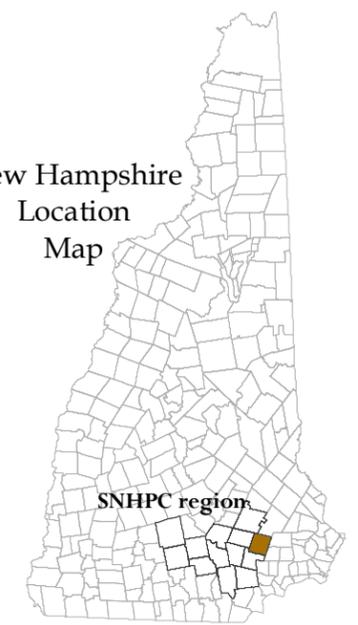
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New Hampshire
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1 Miles



Many of the chemicals discharged by these facilities are toxic to humans and the environment. These include substances such as arsenic, chromium, lead, zinc, total organic halides, and phenols. The outsourcing of these industries due to the cost of cheap foreign labor was a main catalyst in closing down these factories; many of the contaminants released while these factories were in operation are still present in the environment.⁹⁵

The SNHPC's brownfields inventory has identified a total of roughly 65 potential petroleum/hazardous sites in the Town of Raymond. Within the past several years, the Town of Raymond has also received two \$200,000 brownfield grants in 2006 for the purpose of cleaning up a contaminated former Regis tannery site located at the corner of Old Manchester Road and Wight Road. This site is currently being cleaned up now and is proposed for the development of the Town's wastewater treatment facility.

EPA Superfund Sites

According to the Town of Raymond's 2003 Open Space Plan, there are two superfund sites in Raymond – one site that is officially identified as a superfund site and the other site which is currently under investigation.

The Mottolo Pig Farm is currently on the EPA's National Priorities List. This 50-acre site is an abandoned pig farm located in an undeveloped wooded area on Blueberry Hill Road. From 1975 to 1979 over 1,600 drums and pails of waste were disposed at this site. A study conducted by the State of NH showed that the groundwater beneath the site was contaminated. These contaminants were seeping into a brook that empties into the Exeter River. An estimated 1,600 people depend on groundwater within three miles of the site as a source of drinking water. Residential areas border the site on three sides. The remedies for cleaning up the site included installing a groundwater interceptor trench; sealing the ground surface in both the former drum disposal area and the southern boundary area with temporary caps; and installing and operating a vacuum extraction system to remove volatile organic compounds from the soils. As a result of these actions and ongoing monitoring at the site, the area of groundwater contamination today is shrinking.

The other site is the Regis Tannery property located on Old Manchester Road. While not an official superfund site, this site is currently under investigation and is currently being cleaned up to be used by the Town of Raymond for its future wastewater treatment plant. The property is bordered to the southwest by a gravel pit; to the southeast by undeveloped land; to the east by Wight Street, Raymond Center, and a residential area; and to the north and northwest by residences, commercial properties, and Old Manchester Road. The Regis Tannery property is identified as an active site listed with the New Hampshire Department of Environmental Services, and an investigation of contaminated groundwater, surface water, soils, and sludge is ongoing under their direct supervision.

⁹⁵ Copies of the SNHPC's Brownfields Community-Wide Assessment Program are available for download from the SNHPC website at: <http://www.snhpc.org/index.php?page=brownfields>