

# Natural Resource Inventory (NRI)

## USER'S GUIDE

### WHAT IS A NATURAL RESOURCE INVENTORY (NRI)?

It is a collection of maps used to depict important naturally occurring resources within a town, watershed, or other geographic area. The maps can be customized in various ways. The six (6) basic maps included in this package are:

**Ossipee Watershed Towns:** Effingham, Freedom, Madison, Ossipee, Sandwich, Tamworth

**Base Resources:** Town boundaries; Conservation lands; Streams; Surface waters; wetlands; Roads, trails, railroads, utility lines; contour lines

**Water Resources:** Source water protection areas; Source water wells; Stratified drift aquifers; Potentially favorable gravel well areas; Contamination areas/points; Riparian zones

**Soils:** Prime agricultural soils; Hydric soils; Important forest soils

**Unfragmented Lands:** Depicts large blocks of undeveloped land areas

**Natural Resource Co-occurrence:** Depicts area of overlapping critical natural resources

### WHERE DO THE NRI MAPS COME FROM?

The information contained in the maps comes from a database of over 50 types of natural and cultural data from towns as well as statewide sources. This NH specific database is called, **GRANIT** (Geographically Referenced Analysis and Information Transfer), and is updated continually.

The computer tool used to pull information out of the database is called **GIS** (Geographic Information System). It has the ability to display multiple layers of information (such as roads, parcels, and water areas) overlaid upon one another.

### Example of GIS multi-layering →



### WHO USES THE NRI MAPS?

Town and local government officials, conservationists and others who want to achieve informed decision-making in their efforts to:

- Determine the current or future, use, needs or protection of natural or man-made resources;
- Provide scientific basis for decision making about both regulatory and non-regulatory approaches to preserve natural resources
- Use inventory maps to show the location and extent of existing resources, such as farmlands, surface and ground waters, and related features.

## HOW DO I USE THE NRI MAPS?

1. Determine your need: Using the **Example Uses of NRI Maps** list (below), or the description of maps (above), or your own needs/ideas, determine what resources you want to track/review
2. Find the right map: Using the description of maps above find the map or maps that contain the resource (natural or manmade) that you want to track/review.

**EXAMPLE USES OF NRI MAPS:** For general PLANNING, EDUCATION, or DOCUMENTATION, the maps can display:

- ☛ Which areas in the community have the most important resource values, and where specific resource combinations occur
- ☛ What are the threats to the continued availability of important natural resources?
- ☛ Are there natural resources identified that are important to other communities or the region?
- ☛ Document current conditions so changes over time can be assessed
- ☛ Educate local officials and the public about natural resources
- ☛ Initiate and support land protection efforts
- ☛ Provide a basis for land use planning efforts
- ☛ Update Towns' master plans

## ADDITIONAL USES OF NRI MAPS:

**Education:** Natural Resource Inventories can be used by conservation commissions to guide conservation planning, planning boards to review land use proposals requiring regulatory oversight, selectmen, citizens, conservation groups and land trusts to guide land conservation plans for the region, and regional planning commissions. Along with the maps, a set of books on natural resource issues has been presented to the town library.

**Master Plan Updates:** A Master Plan is authorized in RSA 674 as the policy document that represents, in text and maps, the current conditions in a community and the community's vision for future land use. The Natural Resource Inventory can be included in sections on current natural conditions, and guide the preservation, conservation, and use of natural resources. The statute calls for the Master Plan to be reviewed and revised as necessary at intervals not to exceed 5 years. The Natural Resource Inventory can be included by reference during the next Plan revision.

**Regulatory Techniques for Protecting Important Natural Resources:** Regulatory controls are a traditional component of community government, and are relied on to control land use, and provide protection for open space, the environment, and community character. NRI maps can be used to guide **zoning regulations** towns use to encourage appropriate and wise land use in growing and evolving communities. Towns can add **Overlay districts** such as groundwater protection district, mountain conservation district, historic district, forestry district, district for Species of Concern, district for steep slopes, agricultural district, telecommunications district, etc. NRI maps can be used to identify potential **greenbelts, buffers, and corridors**, such as shore land buffers, recreational trail buffers, buffers for agricultural operations, buffers for commercial and industrial areas, forestry buffers, and wildlife corridors. A town's conservation commission, or planning board may undertake to designate, map and document **prime wetlands** lying within its boundaries, which are to be preserved because their size, unspoiled character, fragile condition or other relevant factors, make them of substantial significance.

**Non-Regulatory Techniques for Protecting Important Natural Resources:** Non-regulatory approaches to land use control are non-confrontational, and can be proactive rather than reactive. A Conservation Plan, based on information obtained through the Natural Resource Inventory, reflects the values of the community, and is a guide to which areas of town are most in need of conservation and which are appropriate for desired development. Protection can be in the form of **Acquisition** of full ownership, **Conservation Easements**, or **Management Agreements**: Right of way for trails, wildlife corridors, buffers between uses. **Current Use** is a preferential tax program that encourages landowners to keep open space undeveloped.

**Build out analysis:** A build out analysis shows what the pattern and density of development in a town will be at some time in the future, if certain land use patterns are followed. Frequently this is used to illustrate what the town will be like in 5, 10, 20 or 50 years, if the existing zoning pattern is followed. Some areas of town cannot be developed due to constraints of conservation lands, permanently protected open space, other voluntary constraints, wetlands and their buffers, 100-year flood plains, water supply protection areas, steep slopes, roads, and already developed lands. After these areas are excluded, future growth will go wherever it isn't constrained. A build out analysis is useful for showing the resulting population, number of school age children, water consumption, wildlife impact, and cost of services required to accommodate development. By seeing the results of existing controls and resource limits, citizens and local officials will be able to objectively consider alternative land use strategies to preserve community character.

**Additional Layers:** A Natural Resource Inventory is not static. It is meant to be updated and corrected, as more current data becomes available, or additional data becomes digitized. Additional local data layers could include a zoning overlay, recreation sites, cultural and historical sites, water quality monitoring locations, and wildlife observation data including mast areas, vernal pools, or deeryards. The Regional Planning Commission can supply current land use patterns. The NH Natural Heritage Inventory documents rare plants and exemplary natural communities.

#### **DATA SOURCES:**

All data displayed here represents stock data sets obtained from the NH GRANIT database as maintained by the Complex Systems Research Center at the University of New Hampshire.

The New Hampshire Geographically Referenced Analysis and Information Transfer System (NH GRANIT) is a cooperative project to create, maintain, and make available a statewide geographic database serving the information needs of state, regional, and local decision-makers. A collaborative effort between the University of New Hampshire and the NH Office of State Planning, the core GRANIT System is housed in the UNH Institute for the Study of Earth, Oceans, and Space in Durham.

#### **ERRORS:**

Maps represent the most current data available. Please report any errors found in data or presentation to Green Mountain Conservation Group, P.O. Box 95, South Effingham, NH 03882.