



## Making a Difference: Educating Communities on Watershed Conservation



### BACKGROUND

The rapid population growth and development in rural New Hampshire is consuming 13,000 acres of critical open space each year, most of it forest lands. It is the fastest growing State in the Northeast region. As a result, there are over 50 environmental risks facing New Hampshire residents today.



Ossipee Watershed

Although the White Mountain National Forest and numerous state forests and parks may be prominent features in the region, 80 percent of New Hampshire's forests are in private ownership. This means that the decisions of private landowners, local planning officials, and conservation groups have a major impact on the remaining open space and health of New Hampshire watersheds. To make a difference, the University of New Hampshire (UNH) provides these decision-makers with information on:

- Local watershed resources
- Critical and unfragmented lands
- Current development pressures
- Impervious surface cover
- Riparian corridors, buffers, and wetlands

### LOCATION

The New Hampshire Department of Environmental Services (DES) identified several watersheds in need of conservation action to sustain water quality and natural resources. These watersheds include:

- Piscataqua/Salmon Falls (also called Great Bay)
- Merrimack River
- Bearcamp River/Chochorua Lake
- Saco River
- Ossipee Watershed

### ISSUES BEING ADDRESSED

Forestlands, shorelines, and riparian areas in these watersheds are critically important for people, water quality, and aquatic habitats. In particular, loss and degradation of these open spaces will impact the area's natural resources through:

- Less protection for drinking water
- Reduced habitat for people and wildlife
- Loss of productive forest and farm land
- Higher tax rates for towns

Some communities are interested in water quantity because of the growing population and the possibility of water shortages in the future. Other concerns include water quality and the areas where water is being extracted. As a result, the long-term protection of natural resources is a concern.

### GOALS

UNH Cooperative Extension and its partners have trained community leaders and assisted communities in efforts focused on conservation planning, land inventories, and watershed protection using natural resource inventories (NRI) and geographic information systems (GIS). The three main focus areas are natural resources, natural resource inventories, and planning.

The goals of this project are to inform communities about the importance of conserving open space by creating a focused program and giving support to people who want to help. There are many benefits of conserving open space:

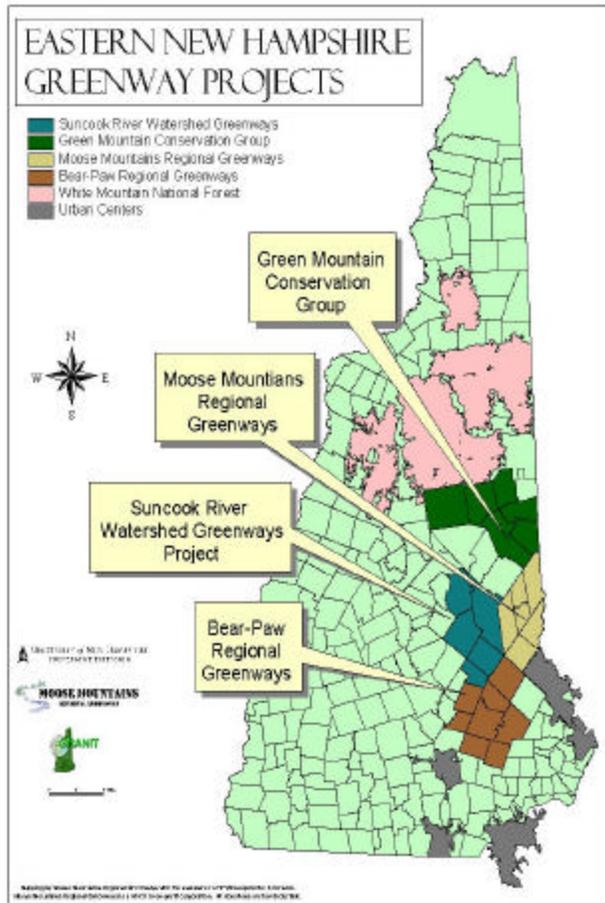
- Fields and forests are the natural purifiers and protectors of our air and water.
- Provides diverse habitats for wildlife with fewer interrupted travel routes.
- Endangered species will gain valuable habitat.
- Protected areas bring in millions of tourist dollars each year.

Since 1999, the Northeastern Area and the Northeastern Area Association of State Foresters have sponsored a cooperative challenge grants program to promote watershed health and restoration through the conservation, restoration, and sound stewardship of trees and forests.

- Protecting scenic and cultural areas preserves a town's rural character.
- Taxes generated from current-use lands provide a positive cash flow because conservation lands require few to no services from the town.

## METHODOLOGY

Most local communities do not actively plan for the protection of their open space. Most do not have inventories and accurate maps of open space lands or an understanding of their relative value to watersheds, habitats, or the economy. Educating the community about the importance and location of natural resources and helping them plan for their conservation are essential in order to protect these watersheds. For example, purchasing land for the protection and creation of zoning regulations has helped tremendously.



Source: Moose Mountains Regional Greenways

UNH Cooperative Extension and its partners have developed and implemented strategies to promote sound forestry and land stewardship in the watersheds. They have accomplished this by using focused mailings to

landowners, foresters, and loggers with one-on-one follow-up by trained volunteers.

**Community Conservation Education** - Using the New Hampshire Coverts Project model, UNH Cooperative Extension trained 28 participants from 27 communities. The Coverts Project is a volunteer education and outreach program promoting habitat conservation and forest stewardship. Coverts Cooperators receive follow-up technical assistance within their communities in natural resource inventory, mapping, assessment, planning, outreach, and conservation action. This support also raises awareness about ensuring healthy watersheds, clean water, sustainable forests, and healthy biodiversity.

UNH Cooperative Extension educators and partners guide Coverts Cooperators, community leaders, and others through a process to identify areas that protect important aquifers, wetlands, forestlands and other natural resources that are the most critical for water quality and watershed protection. The community volunteers will apply a variety of conservation methods to achieve their goals.

**Natural Resource Inventory (NRI)** - Where needed, this will be used to review and update existing information and maps using GIS. Maps have been created for the Ossipee Watershed and for the towns of Effingham, Madison, Sandwich, Freedom, Ossipee, and Tamworth.

**Watershed Conservation Plan** - A plan will be developed and implemented with strategies based on critical issues identified in the NRI. Each town will utilize portions of the plan for community decision-making.

**Summarize Monitoring** - Data and results will be summarized from existing lake and stream water quality monitoring within the watersheds.

The Better Assessment Science Integrating Point and Non-point Sources (BASINS) model or similar model will be assessed or adapted for local use in the watersheds in order to identify critical water resources and identify gaps in current monitoring programs.

**Workshops** - Four workshops were organized as part of a natural resource seminar series within the watersheds. Topics include estate planning, land protection, forest stewardship, wildlife habitat management, and water conservation. Target audiences include landowners, land managers, and community decision-makers.

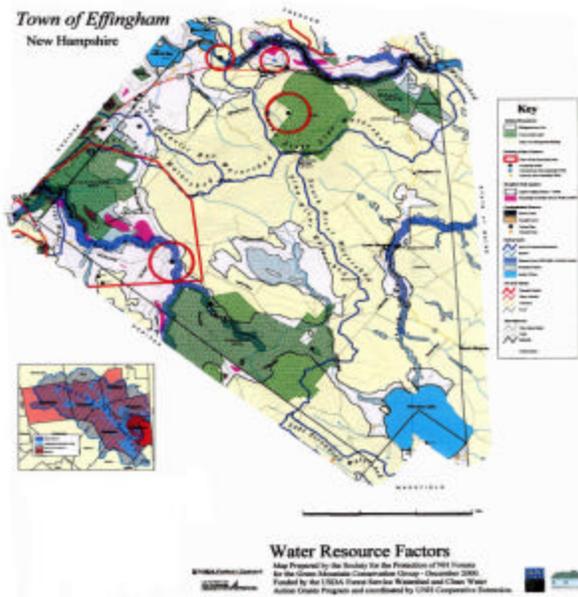
**Resource Notebook** - Notebooks of natural resource publications were provided to each of the six libraries within the watershed.

## OUTCOMES/ACCOMPLISHMENTS

UNH Cooperative Extension is motivating communities to look toward the future and to forests for water protection. Assistance has been provided to 35 communities and conservation/watershed groups who are working towards developing conservation plans using natural resources inventories and GIS.

**Targeting the Ossipee Watershed** - As a result of the USDA Forest Service grant, UNH Cooperative Extension has developed partnerships with the Green Mountain Conservation Group (GMCG) and Moose Mountains Regional Greenways (MMRG).

GMCG is a non-profit charitable organization that is dedicated to promoting the preservation of the natural resources in the Ossipee Watershed. The towns of Effingham, Freedom, Madison, Ossipee, Sandwich, and



**Water Resource Factor Map for the Town of Effingham, NH (Smaller map shows the aquifer in blue) Source: GMCG**

Tamworth make up the boundaries of the Ossipee Watershed Protection Project. This watershed includes one of the largest and deepest stratified drift aquifers in New Hampshire. It covers 47 square miles and receives drainage from a 330 square mile area. Due to sand and gravel deposits, the aquifer is very vulnerable to contamination.

GMCG's purpose is to provide an organizational structure for citizens and local officials interested in protecting and identifying sensitive areas within the watershed. GMCG also offers public educational events about conservation

concerns and possible solutions regarding the preservation of this aquifer.

Each of the six towns in the Ossipee Watershed conducts various activities and workshops to promote watershed health and preservation. Some events include Earth Day activities, purchasing land for preservation, an environmental education day camp, symposiums, and a watershed weekend.

GMCG has produced a series of watershed-wide maps for each of the six towns. These include Unfragmented Lands, Soils of Special Importance, Water Resource Factors, Natural Resource Co-Occurrence, and the Effingham Base Map. It is now possible to see which areas are the most important to protect and share these with the public so they understand where and why there are problem areas. Blair Folts, Executive Director of GMCG, reported the maps made all the difference in changing the citizen's minds in conserving the area. Zoning regulations have also changed because of these maps.

**Targeting Southern NH Watersheds** – Moose Mountains Regional Greenways (MMRG) is a non-profit organization encompassing the towns of Brookfield, Farmington, Middleton, Milton, New Durham, and Wakefield. Conservation-minded individuals have come together to protect some of the region's open spaces.

MMRG's goal is to inform others of the ecological, social, and economic reasons for maintaining a healthy network of conservation lands.

MMRG is located on the boundary of the heavily developed southern tier of New Hampshire. This region contains the headwaters of numerous waterways in the Merrimack, Saco, and Piscataqua Watersheds. The landscape encompasses numerous lakes, ponds, and 12 major stratified drift aquifers.

The Moose Mountains Range, Teneriffe Mountain, Blue Job Mountain, and other multiple scenic vistas are also located in the area. The area contains at-risk farms on prime agricultural land that contains thousands of acres of unfragmented woodlands and wetlands, diverse terrain such as mountains and floodplains, and former historic settlements. These areas are critical to federal and state endangered species.

Maps are being used for analysis of the area's natural resources and as a tool for motivating local action. The maps have also made for sound conservation decision-making.

In order to inform citizens, land trusts and landowners, MMRG distributed conservation plan models, provided

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educational programming, and conducted workshops and training sessions. One workshop introduced people to conservation easements and their tax benefits.

Other accomplishments of UNH Cooperative Extension include:

- Motivated towns to locate and quantify local resources in NRIs and create tax map overlays to improve NRI accuracy.
- GIS technology is being used by communities to create maps of aquifers, wetlands, riparian buffers, unfragmented lands, and wellhead protection areas for developing their resource protection plans and for enhancing their decision-making.
- The Community Conservation Assistance Program (CCAP) has helped communities inventory resources, develop conservation plans, get educated, and then act on it.
- New Coverts are becoming part of the larger statewide Coverts volunteer network.

Coverts participants attended an intensive three and a half day training session, which was coordinated by UNH Cooperative Extension and instructed by over 20 natural resource professionals. The workshop topics included: watershed and forest ecology; forest stewardship and management; wildlife and their habitats; endangered wildlife; carnivores and connectivity; land and community conservation planning; estate planning; maps and mapping; effective communication; and community leadership.

As a result, Coverts helped increase local capacity for informed natural resource decision-making. Communities will be able to identify which open spaces are the most critical for water quality and watershed protection and develop specific steps for conservation action. Coverts helped facilitate partnerships among communities, watershed, river and lake associations, and other conservation groups for watershed scale conservation. Coverts also helped the development of community and regional conservation plans that include water resource protection.

## PARTNERS

- Upper Merrimack River Local Advisory Council
- Green Mountain Conservation Group
- Lake Chochorua Basin Association
- BEAR-PAW Regional Greenways
- Moose Mountains Regional Greenways
- NH Communities and Governments
- NH Regional Planning Commissions
- NH Association of Conservation Commissions
- Land Trusts, Watershed Associations, and River Coalitions

- Society for the Protection of NH Forests
- Audubon Society of New Hampshire
- NH Fish and Game Department
- NH Division of Forests and Lands
- NH Department of Environmental Services
- University of New Hampshire
- USDA Forest Service, State and Private Forestry
- Soil and Water Conservation Districts
- Lakes Region Planning Commission
- Office of State Planning, Planning Commission
- US Geological Survey
- Consulting foresters and estate planning attorneys
- Community libraries
- The Nature Conservancy
- Friends of the Suncook River Watershed

## FUTURE PLANS

The CCAP team will continue to provide follow-up assistance, as needed, to participating communities and conservation/watershed groups.

Building on the success of watershed and regionally based projects involving several towns, efforts for the next year will focus on providing assistance to regional and watershed groups through the Regional Planning Commissions.

Annual accomplishment surveys will be used to compile community and statewide impacts to natural resources. All information will be used to plan future educational programs.

Covert Cooperators will ensure that the work continues through local volunteers trained to assist in their communities.

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**Project Grant:** 1999/\$55,000 — 2000/\$50,200