

# CHAPTER V

## WATER, NATURAL & ENVIRONMENTAL RESOURCES

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### A. INTRODUCTION

The Town of Moultonborough has a total area of approximately 48,048 acres, of which 10,524 acres is water (21.9%), and 37,524 acres is land. The majority of the land is in forest (67.57%). The largest open water body is Lake Winnepesaukee; others are Squam Lake, Berry Pond, Lake Kanasatka, Lee's Pond, Wakondah Pond, Garland Pond, and Shannon Pond. Approximately 18,048 acres (37.6%) of land was protected from development and managed as conservation land, focused primarily in the northern portions of the town within the Red Hill and Ossipee Mountain ranges.<sup>1</sup>

In a recent survey, some of the greatest town assets were the scenic beauty of the town and the quality of life. Inherent within the scenic beauty and the quality of life was the quality of the water, including the protection of lakes, drinking water, and aquifers. Rating highest in the challenging issues for the town were 1- the protection of lakes and streams and 2- protecting drinking water quality and supply. When asked what critical natural resources needed protection, the answers were: 1- drinking water supply, 2- aquifers, 3- surface waters, and 4- rivers and streams through riparian buffers. When asked about additional ordinances that should be developed, the first mentioned is shoreland protection. Preserving the natural resources and open space were recurring comments throughout the survey.<sup>2</sup>

The economic benefit of clean water has been well documented by a recent study. If water clarity and purity were to decline, there would be a potential decrease of 69% of the visiting days

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<sup>1</sup> Natural Resource Inventory, Town of Moultonborough, NHSC, Inc., September, 2007.

<sup>2</sup> Moultonborough Master Plan Survey, Lakes Region Planning Commission, December, 2006.

by users of the lakes and ponds. The lost sales in the Lakes Region would be \$25 million dollars and lost income would be \$8 million dollars. While the majority of respondents were very satisfied by the clarity and purity of the lakes (79%), there was a concern that water quality was decreasing due to algae, mercury, milfoil and other invasive species.<sup>3</sup>

The survey respondents were particularly concerned by the spread of variable milfoil. This exotic species of milfoil is not native to New Hampshire and is very difficult to control once it is established. In New Hampshire, this milfoil has no natural predators to keep its population in check.

In the 1991 Master Plan, a general goal under conservation and preservation was to “plan for the protection of significant resources that offers present and future generations the opportunity to enjoy the natural heritage unique to Moultonborough.” Objectives set in the Master Plan were to establish a local land trust to accept donations of land; protect all shorefront areas from inappropriate development, and adopt scenic road standards; implement innovative land use controls to protect critical natural resources such as wetlands, floodplains, aquifers, and steep slopes; prepare a series of overlay maps to evaluate proposed development on significant resources; request that developers prepare environmental impact studies where environmentally sensitive features are present; and utilize future use maps to protect areas that support unique, rare and/or exemplary species and habitats.<sup>4</sup> Appendix B contains maps that illustrate selected natural resources and sensitive areas in Moultonborough.

## B. OBSERVATIONS AND OBJECTIVES<sup>5</sup>

It was clear from the meetings with the Water, Natural & Environmental Resources Work Group that the things that made Moultonborough a good place to live were the clean surface waters, the clean drinking waters, the forest lands, the wetlands and the wildlife. There was a special concern about activities that would degrade the drinking water. The concern was not just for the high-yield aquifer areas, but also for drinking water sources throughout the town, including bedrock areas. In addition to the concern for the quality of the drinking water, there was concern regarding the longevity of the drinking water supplies. Thus, the first prime objective was the protection of drinking water supplies.

Observations by many in the group were that nutrient discharges to the lakes were causing weed and water quality problems. Salt and sand use on the roads, with runoff into surface waters, was a source of water quality degradation. Runoff from roads and parking lots into streams and brooks resulted in degradation of lakes and wetlands. There appears to be a lack of controls on the runoff, and direct discharges to surface waters seem to be common.

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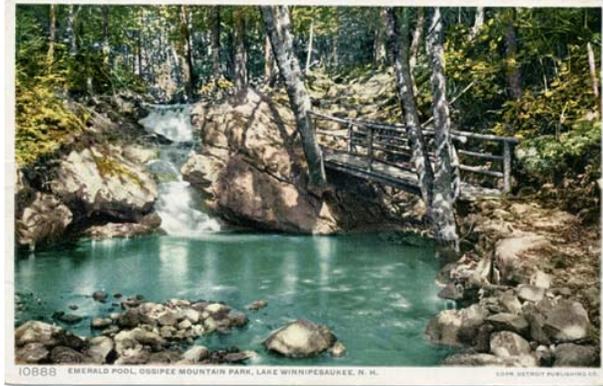
<sup>3</sup> The Economic Impact of Potential Decline in New Hampshire Water Quality: The Link Between Visitor Perceptions, Usage and Spending, Lakes, Rivers, Streams & Ponds Partnership, Phase IV Report, May 2007.

<sup>4</sup> Master Plan, Moultonborough, New Hampshire, Planning Board and Master Plan Update Committee, 1991.

<sup>5</sup> The following observations and objectives are the result of deliberations of the Water, Natural & Environmental Resources Work Group meetings held from February to March of 2008 and can be found in the minutes of those meetings.

Failing septic systems along the lakes and ponds were cited as another source of nutrients to the surface waters. Runoff from construction sites also causes surface water degradation. Maintaining natural filtering systems, such as the cattail marshes and other wetlands, is necessary to helping clean the water before it enters the surface or ground waters. Thus, the second prime objective is the protection of surface waters, lakes, ponds, brooks, streams, and wetlands.

The quality of life in Moultonborough is enhanced by the presence of its wildlife. The sight of turkeys in the backyard, deer grazing in the fields, loons nesting, herons wading in the shallows, and the occasional glimpses of bear and moose, all add to Moultonborough's special character. While it was recognized that vernal pools and rare or threatened species are of importance, it was noted that common species also add to the quality of the town. It was further recognized that as Moultonborough grows, there will be increasing pressure on wildlife habitat areas, and wildlife corridors may become fragmented and restrict the movement of wildlife within the town. Thus, the third prime objective is the protection of wildlife habitat and wildlife corridors.



The rural character and the scenic views that make Moultonborough a place where people want to live or visit is directly related to the preservation of open space. Moultonborough Village was noted as being representative of the type of development and growth that will maintain the character of the Town. The Town should encourage and support higher density in some areas, such as the Village where there is better existing infrastructure, and lower density development in other areas to preserve open space. Rather than mandate large lots, the concept of cluster villages to reduce sprawl would help to maintain the character of the Town. Along with the support of cluster development, the Town should also continue the protection of existing conservation areas and expansion of those areas. While it was not felt that the emphasis should be on the Town to purchase parcels for open space, the concepts of purchasing conservation easements and incentive programs to protect open space was supported. Thus, the fourth prime objective is the protection and expansion of open space.

## C. LEGAL BASIS FOR ENVIRONMENTAL CHARACTERISTICS ZONING

The Water, Natural & Environmental Resources Work Group requested that the legal basis for the development of environmental characteristics zoning be part of the Master Plan. It was their concern that Town officials, members of the Planning Board and/or Zoning Board know that implementation of zoning to protect various environmental aspects of the Town has a legal basis

in state law.<sup>6</sup> For detail on this please refer to Appendix B: Innovation Land Use Controls Authorized by RSA 674:21. For model ordinances and regulations see “Innovative Land Use Planning Techniques Handbook” located on the NH Department of Environmental Services web site. To go directly to “Innovative Land Use Planning Techniques Handbook”, use: [http://des.nh.gov/organization/divisions/water/wmb/repp/innovative\\_land\\_use.htm](http://des.nh.gov/organization/divisions/water/wmb/repp/innovative_land_use.htm).

## D. CONCLUSIONS

Today, the emphasis has changed from the objectives of the 1991 Master Plan. The protection of surface and ground waters in all forms, from bedrock aquifers, sand/gravel aquifers, lakes, ponds, rivers, brooks, streams and wetlands, is the most important environmental issue for the Town of Moultonborough in the future. The protection of wetland systems of significance not only addresses the fact that these systems provide numerous water quality functions, but is also of importance to ground water quality recharge in certain portions of Town. The protection of special areas for wildlife will maintain the rural character of the Town and provide the recreational, scenic, and natural resources that are valued by the community.<sup>7</sup> In priority, there are four areas of natural resources that the Town of Moultonborough needs to protect and maintain for the scenic beauty and the quality of life:

- A) Drinking water in all forms, be it high-yield sand/gravel aquifers, bedrock aquifers, drilled wells, or dug wells.
- B) Surface waters in all forms, including lakes, ponds, streams, and wetlands.
- C) Wildlife in all forms -- not just rare, threatened or endangered species -- but even the common wildlife, their habitats and corridors.
- D) Open spaces that will support the wildlife, the rural character, and the scenic vistas.<sup>8</sup>

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<sup>6</sup> Water, Natural & Environmental Resources Work Group, Moultonborough Master Plan Team, Meetings of 2/29/08 and 3/17/08.

<sup>7</sup> Water, Natural & Environmental Resources Work Group, Moultonborough Master Plan Team, Meeting Minutes 2/12/08.

<sup>8</sup> Water, Natural & Environmental Resources Work Group, Moultonborough Master Plan Team, Meeting Minutes 3/31/08.

## E. VISION, GOALS, AND ACTION ITEMS

**VISION:** *The Town of Moultonborough will continue to preserve its critical and fragile natural resources for the health, enjoyment and education of future generations.*

**Goal #1:** Protect and maintain Drinking Water Sources.

**Action Items:**

1. Adopt Aquifer Protection Zoning.
2. Adopt Low Impact Development Zoning.
3. Spot check wells to determine aquifer water quality.
4. Adopt Best Management Practices for Ground Water Protection.
5. Adopt Drinking Water Protection Zoning.
6. Adopt a Wellhead Protection Ordinance.



**Goal #2:** Protect Lakes and Streams and Surface Waters in all forms.

**Action Items:**

1. Adopt Stormwater Management Regulations.
2. Adopt Erosion and Sediment Control Regulations.
  - a. Demand erosion control on all construction sites.
  - b. Building Inspector to be charged with review of erosion and sediment controls on construction sites.
3. Adopt Low Salt Use Zones in the Town.
  - a. Find alternatives for de-icing agents on Town Roads.



4. Identify failed septic systems and require replacement of such systems prior to transfer of property.
5. Maintain current wastewater treatment plant and explore expansion of Bay District sewer.
6. Control discharge of road sediments into streams and lakes by using detention structures adjacent to intersection of roads and streams/lakes.
7. Adopt a Prime Wetlands Protection Ordinance.
8. Monitor the use of, and regulate where appropriate, chemicals and fertilizers along the shoreland.
9. Continue to monitor the Town's Shoreland Protection ordinance, and if needed, revise it to conform to the State Comprehensive Shoreland Protection Act.
  - a. Provide education to existing shoreland property owners of ways to comply with Best Management Practices for Shorelands.
  - b. Provide incentives for existing shoreland property owner to comply with Best Management Practices for Shorelands.
    - i. Tax incentives to bring shoreland into compliance.
    - ii. Conservation compliance awards for bringing shoreland into compliance.
    - iii. One-time grants to bring shoreland into compliance.
    - iv. Provide low cost or no cost guidance for bringing shoreland into compliance.



### **Goal #3: Protect Wildlife Habitat**

#### **Action Items:**

1. Consider protection of wildlife habitat in zoning.
2. Determine wildlife habitat impacts.
3. Identify wildlife corridors and take actions to maintain connectivity.
  - a. Conservation Easements purchased/given to Town.
  - b. Incentive Programs with conservation awards.

**Goal #4:** Protect and Maintain Open Space.

**Action Items:**

1. Adopt Village Plan Alternative Zoning.
2. Support/encourage conservation easements to be purchased/given to the Town.
3. Designate Scenic Roads and specific Viewsheds.
4. Establish a municipal conservation fund for the preservation of open space.
5. Provide incentives to land owners, such as:
  - a. Conservation awards for protection of open space.
  - b. Tax incentives for protection of open space.



**Goal #5:** Maintain current infrastructure.

**Action Items:**

1. Ensure proper installation and maintenance of culverts, ditches, retention/detention ponds.
2. Ensure there are adequate Town personnel to enforce violations of any applicable regulations.