

# ***Chapter V: Conservation and Preservation of Natural Resources***

## **I. Introduction**

The Town of Bristol, situated in the Lakes Region of New Hampshire, has a wide range of natural resources, which mandate the need to establish goals, objectives, and strategies for maintaining their integrity for present and future generations.

RSA 674:2 recommends that conservation and preservation sections be included as a component of Master Plans. The purpose of this chapter is to nurture these resources by providing (1) guidance for their management and protection and (2) rationale to form the basis for enactment of appropriate town ordinances.

As demonstrated in the 1999 Bristol Community Opinion Survey, natural resources are viewed as important by a vast majority of the town's residents. Of the 595 residents responding to the survey the following percentages support town involvement in preservation of: areas of scenic and natural beauty (94%), the Pemigewasset River (88%), important wildlife habitats (87%), and wetlands (80%). Many noted that the quality of Newfound Lake, natural scenery, open space and wildlife habitats are significant areas to protect.



*Newfound Lake*

## **Implementing the Strategies to Meet Resource Goals and Objectives**

Bristol is rich in natural resources. This chapter provides background and strategies for the long-term conservation and preservation of these resources and defines goals and objectives for natural resources in the town. The town should seek to accomplish the strategies outlined below through research, education and, where pertinent, implementation of ordinances. As public use of resources expands and pressures increase, this portion of the Master Plan should be reviewed and revised at regular intervals.

Planning ahead to avoid problems that negatively impact natural resources is more prudent than having to restore lost resources. The eight categories outlined below are interconnected and strategies carried out within one benefit others. Natural resources cross town boundaries, thus programs initiated by adjacent towns aid Bristol as well.

The Conservation and Preservation Chapter of the Bristol Master Plan is divided into the following eight categories:

- Wildlife Resources
- Water Resources
- Wetlands
- Recreation and Scenic Resources
- Conservation Easements
- Forest Resources
- Air Quality
- Waste Management

The goals, objectives, and strategies associated with these eight categories are presented to organize natural resource issues and provide continuing guidance to the town.

## II. Wildlife Resources

Bristol has unique wildlife preservation areas that provide opportunities for the community to observe wildlife resources, e.g. the wildlife refuge of 34.3 acres of marsh (adjacent to the Fowler River) within the 204 acres of Wellington State Park. The Department of Resources and Economic Development recognizes an undisclosed town bat cave that serves as a winter hibernation location. Other local areas fostering wildlife resource development are the commercial Atlantic Salmon fish hatchery on Lake St. (Route 3A North) and the Butterfly Garden (designed by the Pasquaney Garden Club in 2001) located behind the Minot-Sleeper Town Library.



*The Butterfly Garden*

### Goal 1. Protect and enhance wildlife resources.

**Objective 1.1.** Preserve native species, both endangered and common, for the purpose of maintaining ecological balance and stabilization of the environment.

**Strategy 1:** Increase the educational aspects of the wildlife resource.

**Strategy 2:** Enlighten local students about conservation issues and protection of wildlife resources.

**Strategy 3:** Encourage teachers to take part in workshops sponsored by conservation organizations.

**Strategy 4:** Provide educational opportunities (workshops, field trips) for proper conservation practices and utilization of lands protected by the town.

**Objective 1.2.** Increase the level of data collection via adult and student participation in wildlife resource inventories.

**Strategy:** With the aid of volunteers complete a wildlife inventory for the town; e. g. conduct a biodiversity study in Wellington State Park.

**Objective 1.3.** Protect wildlife habitats.

**Strategy 1:** Support the efforts of Wellington State Park to protect wildlife habitats and explore additional opportunities to increase habitat protection.

**Strategy 2:** Limit the use of recreational vehicles in protected areas by providing designated trails to reduce potential impacts to wildlife habitats.

**Strategy 3:** Encourage passive use recreational opportunities such as fly-fishing on the rivers and other forms of lake fishing.

**Strategy 4:** Encourage continuance of state fish stocking programs for our rivers and lakes.

**Strategy 5:** Consider the establishment of a loon preservation program.

### III. Water Resources

Bristol has extensive water resources located within or flowing through its boundaries, including Newfound Lake (4105 surface acres) and the Smith, Newfound, Fowler and Pemigewasset rivers.



*Fowler River*



*Pemigewasset River*



*Newfound River*

An example of community involvement in resource conservation is the Newfound Lake Region Association (NLRA), where volunteers carry out water quality monitoring, serve as stewards of the lake, and provide educational opportunities and materials. The NLRA has published an extensive study of the Newfound Lake watershed. At the state level, the New Hampshire Department of Environmental Services (NHDES) conducts yearly water tests in Bristol by monitoring selected private wells; water is tested, as needed, at swimming beaches during the summer.

There are two well sites on West Shore Road adjacent to the Fowler River, one of which is located on conservation land. In addition there is a Town well site on Danforth Brook. Map 5-1 shows the aquifers located within the town of Bristol.

**Goal 1. Maintain a high level of water quality for all of Bristol's water resources to ensure a clean drinking water supply, continued economic benefits from tourism, valuable recreational opportunities, maintenance of fish and wildlife habitats, and effective irrigation of the lands.**

**Objective 1.1.** Protect water quality and water resources.

**Strategy:** Develop a non-point source pollution inventory for drinking water protection and policies for clean-up procedures; NHDES guidelines are available for assistance. Issues to be addressed in such an inventory include: oil and grease in parking lots, fertilizer and pesticides on lawns, construction practices, junkyards, sludge, and storm water control. Manure storage facilities and salt sheds should be properly contained.

**Objective 1.2.** Ensure an adequate clean water supply.

**Strategy 1:** Town officials and local conservation organizations should make attempts to place easements on important water supply areas to ensure the control of pollution. Funding sources should be sought to support such efforts.

**Strategy 2:** The Planning Board should implement zoning regulations which minimize the contamination of drinking water supplies by commercial and industrial uses in water supply areas.

**Strategy 3:** The town should demonstrate leadership in protecting groundwater resources.

**Goal 2. Protect Bristol's Newfound Lake.**

The Comprehensive Shoreland Protection Act's [RSA 483-B: 9] objective is to protect ribbons of land that hug lakeshores. Such ribbons are called

"protected shorelands" and include all the land within 250' of public water bodies within which certain restrictions and prohibitions serve to prevent and control water pollution.

**Objective 2.1.** Bring together resources to ensure sound quality control of the lake.

**Strategy 1:** Develop educational guidelines to prevent erosion and sediment influx into water bodies during construction. The site plan review process should ensure that detriment does not contaminate water bodies during construction and development as per minimum shoreland protection standards. See RSA 483-B: 9 referred to above (Goal 2).

**Strategy 2:** Educate watercraft users to wash their craft prior to launching to minimize invasive species problems. As Newfound Lake is a non-contaminated lake, watercraft using the lake should be cleaned and free of contamination.

**Strategy 3:** Provide additional shoreline protection with buffers of vegetation between the shoreline and developed land by minimizing the amount of exposed soil subject to erosion along the waters' edge.

**Strategy 4:** Educate the public on household hazardous waste, lawn care, and minimizing phosphorous use in daily activities via regular newspaper articles, postings in town establishments, pamphlets in town offices, and other educational measures.

**Strategy 5:** Land development around Newfound Lake should be minimized to protect the lake from non-point source pollution from run-off from impermeable surfaces.

**Strategy 6:** Minimum lot sizes in the Lake District should not be decreased if town sewer is extended to Newfound Lake.

**Goal 3: Protect Bristol's rivers.**

**Objective 3.1.** Coordinate policies to ensure clean water for each of the town's rivers.

**Strategy 1:** Protect the Pemigewasset, Smith, Fowler, and Newfound rivers from pollution by commercial enterprises.

**Strategy 2:** Encourage the use of Best Management Practices to minimize the impact of the logging industry on soils and water resources.

**Strategy 3:** Ensure that structures on the rivers' edges are not brownfields

with the potential to pollute.

**Strategy 4:** Support the recommendations of the *Pemigewasset River Corridor Management Plan*, published in late 2001 by the Pemigewasset River Local Advisory Committee (PRLAC). The PRLAC is made up of residents from eleven towns in the Pemigewasset corridor, including Bristol.

#### **IV. Wetlands**

The Conservation Commission monitors the Bennett Wetland, a 17-acre area at the head of Danforth Brook. It was donated to the town in the 1980's and is located at the end of Ravine Drive, which begins near the base of the lake at the junction of Route 3A North and North Main Street. Recently the boundary lines have been re-identified. The property has hydric B type soils and provides habitat for wildlife. Another public wetland site is the Fowler River Wetlands of Wellington State Park. (See II. Wildlife Resources above)

The town has a wetlands zoning ordinance and a wetland inventory and map (1988) that identifies Bristol wetlands by degree of wetland value. The Conservation Commission maintains these records; the map is available for viewing at the town office. Two important districts (The Pemigewasset Overlay District and The Wetlands Conservation Overlay District) are described within the Bristol Zoning Ordinance and provide additional protection to water resources. The Pemigewasset Overlay District provides protection for the environmentally sensitive corridor along the Pemigewasset River. The boundary of this district is 500 feet from the river's high-water line. Town officials, the Conservation Commission, and the Planning Board collectively support and monitor the Pemigewasset Overlay District.

The Wetlands Conservation Overlay District was created to protect:

1. wetlands from polluting land uses
2. rare flora and fauna
3. wildlife habitats
4. existing and potential water supplies, aquifers and recharge & discharge areas

#### **Goal 1. Protect Bristol's wetlands.**

**Objective 1.1.** Monitor wetlands to curtail wetland violations.

**Strategy 1:** Consider designating the town's prime wetlands and

registering them with the Department of Environmental Services Wetlands Bureau.

**Strategy 2:** New maps of the Pemigewasset Overlay District and Wetlands Conservation Overlay District should be created for utilization by the Conservation Commission, Planning Board and the Zoning Board of Adjustment.

**Strategy 3:** When lots are cleared for development and wetlands are in danger of being compromised permits must be obtained.



*Bennett Wetland*

## V. Recreation and Scenic Resources

Scenic resources of the town include: Inspiration Point, two bridges that extend over the Pemigewasset River, Bristol's scenic gateways along the primary entrance routes, the Old Railway Station site at the confluence of the Pemigewasset and Newfound Rivers immediately east (behind and southeast of the Mica Building) of Bristol Square, Newfound Lake, and Profile Falls on Route 3A South. Note: Profile Falls is included within the federal flood control area that is part of the Franklin Falls Reservoir system.



*Inspiration Point*

Care should be taken to preserve and maintain the town's scenic beauty and diversity of recreational opportunities.

### **Goal 1. Protect and enhance Bristol's recreational areas and scenic resources.**

**Objective 1.1.** Keep existing resources clean.

**Strategy 1:** At local natural and scenic venues the town should provide

signage near parking areas to encourage visitors to remove their waste and take it with them.

**Strategy 2:** Conservation organizations should be encouraged to organize seasonal cleanups to remove potentially harmful debris from wildlife habitats and scenic sites.

**Objective 1.2.** Increase the amount of recreational and scenic resources.

**Strategy 1:** Support the efforts of the Bike Path Committee to create a non-motorized multi-use path, which is designed to begin at the foot of Newfound Lake.

**Strategy 2:** The Planning Board should encourage zoning and subdivision/site plan regulations which preserve the scenic nature of Bristol's gateways.

**Strategy 3:** For selected roads the Planning Board should seek assistance from the Lakes Region Planning Commission in consideration of applying for the Scenic Byways Program.

## **VI. Conservation Easements**

Protected areas include Conservation Easement (BK 1233, PG 177) established by the Catterall family (10/3/74); it is located on Hemphill Road (approximately 80 acres) and is held by the town with secondary control by the Society for the Protection of New Hampshire Forests (SPNHF). Another 215 acre SPNHF forest property abuts the Catterall property to the east. Conservation Easement (BK2317, PG 0923, 6/1/98) is a one acre portion of the Boake C. Morrison property, (Tax map R-13, Lot 52) on the Newfound River; it was purchased by the state for wetland mitigation purposes resulting from the bridge replacement (2000) over Route 104 West. This acre is mostly flooded floodplain forest on the Newfound River with unique vegetation. The Sam Worthen 118 acre SPNHF (8/12/91) Conservation Easement (BK 1923, PG 0384) is located adjacent to the farm at Sunny Acres off Peaked Hill Road. Finally, there is the D'Arcy Smith River Conservation Easement (BK 1441, PG 382; BK 744, PG 354), 42.5 acres divided by the Smith River, 13 acres of which are open fields. It was granted on 9/29/92 in perpetuity to the SPNHF by Ann Giles of Bridgewater. Located on the Smith River Road, one-half mile west of Route 3A South, the D'Arcy Conservation easement overlooks the remnants of an abandoned century-old river sawmill, called the Old Eastman Mill. Map 5-2 shows the conservation lands within the town of Bristol.

## **Goal 1. Monitor existing conservation easement areas.**

**Objective 1.1.** Be alert for desirable plots of land that have potential for conservation easement status.

**Strategy 1:** Publicize the Conservation Easement concept to inform residents concerning the communal advantages of such action.

**Strategy 2:** Engage in land acquisition and easement projects, such as easements to protect wetlands and forested areas, e. g. the Catterall property on Hemphill Road. (See above). To maintain connectivity between protected areas and minimize fragmentation, attempts should be made to purchase lands adjacent to existing protected lands. The Conservation Commission should consider overseeing such projects and research potential funding sources.



*Catterall Easement*

## **VII. Forest Resources**

Bristol's forest resources include the (1.) Sugar Hill State Forest, a 68-acre parcel of state-owned conservation land west of Baker Street and just off Route 104 East (Summer Street) approximately one half mile east from the Bristol Square, (2.) 118 acre Samuel E. Worthen conservation easement parcel (East Bristol in the vicinity of Old Stage Road), and (3.) SPNHF woodland contiguous to the east boundary of the Catterall property (See VI. above), and (4) the forested federal flood plain area leading to the Franklin Falls Reservoir. (See V. above). Refer to the Bristol Natural Resources Inventory Map (available from the Conservation Commission) for specific locations and configurations of these properties including other protected town parcels. It is important to note that the town's forest resources extend beyond permanently protected parcels. Land in Current Use is an important component of the forest resource base as is all forested land maintained by landowners.

**Goal 1. Protect and enhance Bristol's forest resources for multiple uses while encouraging responsible logging, minimizing soil erosion, and protecting wildlife habitats, recreational uses, and air quality.**

**Objective 1.1.** Preserve Bristol's forest resources.

**Strategy 1:** Encourage responsible management of the town's forest resources.

**Strategy 2:** Publicize advantages of placing land in current use status.

## **VIII. Air Quality**

**Goal 1. In the interest of community health it is important to maintain a high standard of air quality.**

**Objective 1.1.** Oversight of air quality.

**Strategy 1:** The Selectmen should appoint a committee to educate residents re. the negative potential of air contaminants.

**Strategy 2:** Develop incentives for clean-burning heating systems or utilization of solar systems, e. g. taking advantage of possible state/federal tax rebates for solar use.

**Strategy 3:** Information on existing natural pesticides should be made available to familiarize town residents with options other than chemical pesticides.

**Objective 1.2.** Monitor local industry for protection of Bristol's air resources.

**Strategy:** Uses related to smokestack industries and other toxic-producing uses should not be allowed.

## **IX. Waste Management**

**Goal 1. Monitor Bristol's waste.**

**Objective 1.1.** Provide effective management of Bristol's waste.

**Strategy 1:** Provide opportunities for the proper management of household waste by considering implementation of a town recycling program.

**Strategy 2:** Ensure proper waste disposal procedures from businesses

that utilize chemicals to dispose of toxic wastes.

**Strategy 3:** The town should encourage and offer incentives for regular septic tank pumping to prevent leachfield failure, especially along its rivers and Newfound Lake.

**Strategy 4:** Underground storage tanks should conform to the rules of the NHDES Underground Storage Tank (UST) Program which has established rules for registration and permitting.

**Strategy 5:** The town should support the recommendations of the All Hazard Mitigation Plan once it is published. This plan is currently being worked on by a committee of town residents with assistance from the Lakes Region Planning Commission and funding through the New Hampshire Office of Emergency Management.

