

## IX. Past Five Year Review (1997 – 2001)

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The following is a discussion of accomplishments over the past five years in the order prescribed in the *1997 Open Space Plan*.

### **Goal 1. Protect the Town's Drinking Water Supply**

The Board of Selectmen, serving as water commissioners, oversee outdoor watering restrictions imposed during drought conditions. The Selectmen have supported land acquisition for the protection of wells and the aquifer and appointed a Land Acquisition Task Force to make recommendations on the financing of these acquisitions.

The Conservation Commission is taking the lead role in purchasing land within the aquifer protection zoning district to protect our groundwater supply. Most of the acquisitions have been made through Town Meeting appropriations. However, water rate payers did contribute to the purchase of the Merry and Houghton properties.

Most recently, the Conservation Commission purchased the Merry property (14.22 acres) in the aquifer protection district. Chemical use on Town-owned cranberry bogs, a complex subject, has raised some concern. Offsite impacts of chemicals may or may not be an issue depending on the source of the scientific literature. To properly address this issue would likely require greater expenditure and more expertise than available locally. The Conservation Commission has attempted, without success (with the exception of the small Matthews bog) to find a qualified organic manager. If the Town wishes to continue to farm these bogs, it is unlikely that it could be accomplished without the continued use of chemicals. Present economic conditions in the cranberry industry may preempt this debate.

During the past five years there has been a notable improvement in cooperation between The Wildlands Trust of Southeastern Massachusetts and the Conservation Commission. All land protection projects in Duxbury are now coordinated between the two organizations. In fact, several recent projects have required the joint effort of both groups because of their complexity and cost. The Merry land acquisition, completed in 2001, was purchased with a combination of funds from the Town, The Wildlands Trust, the Water Department, and the Massachusetts Self-Help Grant Program. This purchase protects a municipal wellsite and adds valuable conservation land to the town.

The Board of Health hired Stone Environmental, Inc. to develop a Community Septic Management Plan. Maps were generated in GIS format showing environmentally sensitive areas including Zone I and Zone II of wellhead protection areas. The Board of Health uses Title 5 standard for nitrogen loading limitations on buildable lots within Zones I and II. The Board of Health also supports the purchase of land for the protection of the Town's drinking water supply.

CPZBIC is comprised of representatives of the Planning Board, Zoning Board of Appeals, Board of Selectmen, Conservation Commission, Board of Health, Design and Review Board, and citizens at large. CPZBIC has been charged with modifying the Zoning Bylaw to reduce the final buildout density that could occur under the current Zoning Bylaw and to establish new regulations that maintain the character of Duxbury through zoning.

The Water Department has worked diligently to ensure Town compliance with the Water Management Act permit by employing water restrictions, fines, and a revised fee structure. Ten miles of vinyl lined asbestos cement water mains have been replaced. The Water Department is currently developing the Damon wells, though a lengthy approval process may delay these from coming on line until 2003. The Department continues to monitor all wells for elevated levels of Methyl Tertiary Butyl Ether (MTBE) and other possible contaminants.

The Recreation Committee accomplished significant improvements at the North Hill Golf Course in 2000, including construction of a new clubhouse, a chemical vault, and maintenance facility. Water withdrawal from the North Hill Marsh has been monitored more closely and groundwater samples at test wells have been collected and tested since 1996.

The Open Space & Recreation Committee has supported the Conservation Commission and the Water Department in the purchase of land for aquifer protection by public education. Members of the Committee also played an important role in gathering support for the passage of the Community Preservation Act.

Massachusetts Audubon Society (Audubon) owns land around the North Hill Marsh that is contiguous with Town Conservation Land and Town-owned land. This land is an important nesting area for birds and other wildlife, and serves as an aquifer recharge area. Audubon has been concerned about fluctuations in water levels due to water usage from the pond and from wellsites and has supported water conservation measures undertaken by the Town. In 1997, Audubon participated in a land swap to protect a 400 foot buffer around the Mayflower #2 well site in this region.

## **Goal 2. Protect and Enhance Duxbury's Natural Resources and Ecosystems**

The Board of Selectmen appointed the Land Acquisition Task Force (the Task Force) in May, 2000, to identify options and make recommendations regarding the financing of land acquisition for conservation. The recommendations of the Task Force contributed to the approval of the Community Preservation Act in 2001.

The Conservation Commission continues to use the criteria in the *1997 Open Space Plan* to evaluate land for potential purchase and gifts. Town Meeting continues to dedicate money to the Conservation Fund after many years of non-funding. However, the present level of funding, \$75,000, is insufficient to purchase land in the current market and properly manage existing holdings. In a few instances, funds from non-profit organizations and individual donations have been available, as was the case for the Merry land. The Town has evaluated and turned over 21 parcels of tax title land to the Conservation Commission. The Conservation Commission has updated its bylaws and rules and regulations several times, and

more recently has retained the services of Horsley & Witten to perform a more thorough review and suggest ways to strengthen them.

The Conservation Commission hired a biologist to develop a comprehensive inventory of all conservation land (see Appendix D). The biologist located boundary markers with the use of site plans or deeds and flagged the bounds. He noted significant features, present usage, wetland vs. upland percentage, existing trails, parking areas, soil types, and problems. The biologist then made recommendations on the potential use and management of the land, such as walking trails, hunting, timber, or wildlife habitat. In addition, the Conservation Commission contracted The Wildlands Trust to prepare the comprehensive *2000 Camp Wing Property Management Plan*, which is now being implemented. These studies were funded entirely by the Conservation Fund.

The South Coastal Watershed Team is presently monitoring fresh water quality in most of our smaller watersheds. Kingston and Duxbury Bay continue to be monitored by the Massachusetts Division of Marine Fisheries.

Per the Orders of Conditions of the Endangered Species Management Program issued by the Conservation Commission, the Duxbury Beach Committee, the Duxbury Beach Reservation, Inc., and the Harbormaster have collaborated to protect important nesting habitat for endangered bird species. Beach grass planting continues on the beach with review and conditions issued annually by the Massachusetts Natural Heritage and Endangered Species Program. The five-year beach management plan has been finalized. The Duxbury Beach Reservation, Inc. is financing a beach morphology study and an expanded migratory bird study and is monitoring endangered bird species in cooperation with Audubon. Audubon sponsors a Summer Beach Program which includes a talk given by Duxbury's Conservation Administrator.

The Board of Health has played an important role in the development of the Bay Road Shared Septic System, by reviewing test results for water quality in Kingston and Duxbury Bays, performed by the Massachusetts Division of Marine Fisheries. The System, once completed, will eliminate failing septic systems that have contaminated portions of these Bays. The Department of Public Works is overseeing the design and construction of the Shared System.

The Open Space & Recreation Committee actively supported the Conservation Commission for the purchase of roughly 373 acres of open space for aquifer protection, wildlife habitat, historic farm preservation, and recreation. Six property brochures are being developed by the Conservation Commission, in cooperation with the Open Space Committee, for distribution to the public. Each will provide a history, discussion of flora and fauna, and a detailed map for the individual open space parcels. The Open Space Committee also launched a stewardship program for the oversight of extensive trails throughout the Town. It has also sponsored in conjunction with the Duxbury Rural & Historical Society an annual fall walk known as the Fall Foliage Fiesta. This event has gained popularity for the past 14 years and the Bay Circuit Trail is consistently one of the most popular trails.

The Open Space Committee also played a significant role in the passage of the Community Preservation Act in 2001. The Committee also makes recommendations to the Selectmen for the annual presentation of a Conservationist of the Year award.

In 1997 the Duxbury Lands Group was organized to improve coordination of projects and to provide information and resources between departments and organizations. The Group is comprised of members of the Planning Board and Conservation Commission, The Wildlands Trust of Southeastern Massachusetts, the Duxbury Rural & Historical Society, and the Duxbury Open Space Committee.

Non-profit organizations, such as The Wildlands Trust of Southeastern Massachusetts, Massachusetts Audubon Society, and the Duxbury Rural & Historical society have played an important role in the protection of Duxbury's natural resources through land acquisition, the development of land management plans, and education. The Conservation Commission and the Wildlands Trust are co-owners of a conservation restriction on land owned by the Jones River Watershed Association; a watershed that extends through Duxbury and Kingston.

Audubon works closely with the Town to manage the 1,000 acre North Hill site. This includes coordination with the Department of Public Works, the Duxbury Rural & Historical Society, and the Open Space and Recreation Committee. Massachusetts Audubon also provides census data on plants and animals to monitor their status and educational programs to the public throughout the year. During the summer of 2001, 35 educational programs were offered attracting over 1,000 participants.

The Duxbury School Science Department has developed a curriculum on a number of topics of community interest and makes use of our diverse ecosystems as a living laboratory. For example, the 7<sup>th</sup> Grade Life Science program explores ecological issues and investigates several ecosystems in Duxbury, including woodlands, ponds, saltmarsh, and the barrier beach. The goal of the program is to compare them and to develop an appreciation of the diversity in each area and determine the environmental factors that contribute to that diversity. This program includes a 2-day spring outdoor survey with lab work. Grades 8 and 9 Chemistry investigates such topics as acid rain, radon, and irradiation of food. Grade 10 Chemistry explores water; its importance on earth and how climate, pollution, geography, industry and farming determine its use in different regions of the U.S. The curriculum also studies recycling and its effect on the global economy; the impact of production and use of hydrocarbons as fuels; nuclear chemistry and radiation; and air pollution as it effects acid rain and ozone depletion. 10<sup>th</sup> Grade Biology studies environmental topics such as pollution and waste disposal. AP Biology is entirely devoted to environmental and ecological issues for which Rachel Carson's *Silent Spring* is required reading (Carson summered in Duxbury).

### **Goal 3. Improve Town Recreational Opportunities with Minimum Impact on the Environment**

The Duxbury Beach Committee, Duxbury Beach Reservation, Inc., the Recreation Department, and the Duxbury Police Athletic League organized Fourth of July activities,

annual beach picnics, and the first annual Duxbury Triathlon. A ramp was constructed for handicap access onto the beach as well as public access without compromising environmental protection.

The Recreation Department has gained the support of the Town for the maintenance and improvement of its facilities. The North Hill Golf Course has a new clubhouse, sand traps and cart paths have been restored, and a new septic system was installed. The Percy Walker Pool has been made handicapped accessible.

The Department of Natural Resources has worked closely with the Recreation Department, the Open Space Committee and the Conservation Administrator to maintain town lands; including sanitation, trail maintenance, brush and tree clearing, and enhanced parking facilities. All playing fields have been rehabilitated and many have been improved with wells, irrigation systems, new clay, diamonds, goals, benches, lights, sheds, and more efficient maintenance equipment. A new playground for multi-purpose use is being reconstructed and expanded at this time.

The Town has made significant strides toward making municipal and recreational facilities ADA compliant. Many improvements were made at Town Hall and are being incorporated in the renovation of the Alden School. The Percy Walker Pool has improved access to the locker and restrooms. A Pool Lift has been installed, and ADA compliant pool decking/flooring has been put into place. At Duxbury Beach an access ramp was installed. Compliant restrooms were installed at the Town Pier and a Compliant Lift was installed at the Duxbury Bay Maritime School. The new North Hill Golf House and the new Senior Center are ADA compliant. The Town has an active Municipal Commission on Disability which oversees all compliance matters on public and private projects. In 2000, the Massachusetts Office on Disability issued a Municipal Access Survey, which showed a marked progression towards accessibility over the last ten years.

The Department of Public Works is currently constructing the Chestnut Street sidewalk and will proceed with additional sidewalk projects as needed.

For the past two years the Conservation Commission has hired interns to work on Conservation Commission land to improve and lay out a trail system. Six new property brochures are also nearing completion. The interns, brochures, and equipment for trail maintenance are funded entirely by the Conservation Fund. The Conservation Administrator has also developed a plan to control invasive exotic weeds in Duxbury's public ponds. Two pond associations have been organized and a weed harvester was purchased with the assistance of the Department of Public Works.

In 1997, the Open Space & Recreation Committee received a Massachusetts DEM Greenways and Trails Demonstration Grant to upgrade Duxbury's seven mile portion of the 200 mile Bay Circuit Trail, including new signs, trail maps, bridges, and boardwalks. The project received over \$20,000 in donated labor and materials and had an outstanding turnout for the reopening of the Trail.

Annually, Audubon offers birdwatching and nature classes at North Hill and Duxbury Beach. New trails, signs, and observation platforms were installed at North Hill in 2001.

#### **Goal 4. Preserve the Character of Duxbury**

The Board of Selectmen appointed the Duxbury Historical Commission, the Land Acquisition Task Force, the Sidewalk Committee, and members of the Community Preservation Committee.

The Historical Commission has retained a consultant who is surveying the Town's historic homes. The Historical Commission was successful in getting the Demolition Delay By-Law passed at Town Meeting in 1998 and is moving forward on strengthening this By-Law.

The Planning Board updated the *Duxbury Comprehensive Plan* and has begun work on its implementation. The *1999 Duxbury Comprehensive Plan* addresses the Town's goals and policies for land use, housing, economic development, natural resources, open space, services, and traffic circulation. As stated in the Annual Report, "the Plan defines a framework for reasonable growth that preserves and protects the unique character and quality of the Town." CPZBIC operates under the auspices of the Planning Board and is working to develop proposed changes to the Zoning Bylaw that will be presented at Town Meeting in 2002.

The Land Acquisition Task Force charge was to "identify options and make recommendations for the Town of Duxbury to finance the acquisition of conservation land, open space, recreation land and municipal land to achieve the goals of the *Duxbury Open Space Plan, Comprehensive Plan, Town-Wide Survey* and for such other needs as the Task Force may identify." The Task Force identified and evaluated all the funding mechanisms available for the above purposes assuming that acquisition of one third of the remaining undeveloped acres would preserve the semi rural character of the Town and ensure balanced growth.

Based on recent giving trends by Duxbury residents to The Wildlands Trust of Southeastern Massachusetts for land acquisition in Town, the Land Acquisition Task Force recommended that a joint effort between the Town and the private sector would be required to raise the estimated \$15 million needed over the next 20 years for land acquisition. The Task Force also recommended that the Community Preservation Act, with a 3% property tax surcharge and state matching funds, would serve to meet these goals.

The Wildlands Trust has been working in corporation with the Conservation Commission on all land protection projects in Duxbury. Several recent projects have required the joint efforts of the two groups because of their complexity and cost. Two Conservation Restrictions are co-held by the Wildlands Trust and the Duxbury Conservation Commission. One Conservation Restriction is held by The Wildlands Trust on land now

owned by the Town of Duxbury for the Millennium Town Green. Funds for the purchase were provided by the Wildlands Trust, The Duxbury Rural & Historical Society, private donors, and Town Meeting vote. The Conservation Fund financed the appraisals and the Wildlands Trust provided the administration of the project. This project affirms the commitment the community has to protecting the unique character of Duxbury.

The Open Space & Recreation Committee completed a wildlife inventory and management plan for the Swanson Farm property in 1999, has implemented the plan, and has played an important role in the passage of the Community Preservation Act.

The protection and annual maintenance of North Hill Marsh by the Conservation Commission and Audubon help preserve the semi-rural character of the Town. Audubon's ongoing educational programs serve to increase public awareness of the value of open space and water supply protection, which add to the Town's character.

The Community Preservation Committee has met biweekly since the summer of 2001. The Committee has met with department heads, housing authorities, the Duxbury Rural & Historical Society, and the Historic Commission to evaluate the needs for open space protection, affordable housing, historic protection, and recreation. The Committee has held its first public informational hearing. Proposals have been brought to the Committee from a variety of organizations and are currently under review.