I. Plan Summary

The *2002 Duxbury Open Space & Recreation Plan* is a five-year planning document. The Plan recommends preservation of Duxbury's unique historic, residential, coastal, and semi-rural character. It addresses protection of the drinking water supply and protection and management of Duxbury's open spaces and natural resources. The Plan consistently reinforces our zoning bylaws (which are currently being upgraded) to control residential development and maintain small village-like commercial areas.

The *1997 Open Space & Recreation Plan* examined Duxbury's open space and recreational needs based on the *1995 Long Range Planning Survey*. Since the adoption of the 1997 Plan, an overwhelming majority of Duxbury residents and voters have demonstrated their continuing support of these goals and objectives:

1. Protection of the Town's drinking water supply
2. Preservation of Duxbury's unique character
3. Protection and enhancement of natural resources and ecosystems
4. Improvement of the Town's recreational opportunities with minimum impact to the environment

II. Introduction

The purpose of the Open Space and Recreation Plan is to systematically re-examine Duxbury's open space and recreational needs. The goals of the 1997 Plan were based upon the *1995 Long Range Planning Survey*. Based on the actions of the community and the studies completed by committees that have been completed over the past five years, the 2002 Plan retains the same goals as the *1997 Open Space Plan*. A unanimous vote at Town Meeting in 1998 to acquire Camp Wing, adoption of the *1999 Comprehensive Plan* and the Community Preservation Act in 2001, and recent acquisition of land and development rights for the Millenium Town Green testify to this commitment. The 2002 Plan is consistent with the Town's mission statement, "to deliver excellent services to the community in the most fiscally responsible and innovative manner while endeavoring to broaden our sense of community and *preserve the unique character of our town."*

In 1986, a newly formed Open Space and Recreation Planning Committee (OSRPC) produced an updated plan, based on the 1978 Plan. A third plan, adopted in 1997, set the foundation for the *2002 Open Space and Recreation Plan*. While developing the 1997 Plan, Open Space and Recreation Committee members met with Town boards and departments to get their input on Plan goals and incorporate each group's objectives and action plan for the next five years. Three years into the 1997 Plan, the Open Space and Recreation Committee again met with the Town boards and departments to review each groups progress. Most groups were found to be successfully carrying out their action plans on schedule. As we came to the end of this planning period, the Open Space and Recreation Committee discovered that not only had most groups completed their action plans, but that some had undertaken additional activities to accomplish their 1997 Plan objectives. This cooperative spirit set the groundwork for the 2002 Plan and Town departments have been working cooperatively with the Open Space and Recreation Committee to accomplish an ambitious plan.

III. Community Setting

A. Regional Context

Duxbury is a coastal community of approximately 24 square miles, located 35 miles southeast of Boston in Plymouth County. Incorporated in 1637, Duxbury is bordered by the Towns of Marshfield on the north, Pembroke on the west, Kingston on the south, and the Atlantic Ocean on the east. The eastern most part of the Town is a seven mile long barrier beach on Massachusetts Bay. Duxbury has 37 miles of tidal shoreline, and the Duxbury Marsh with several tidal rivers. Massachusetts Audubon recently designated Duxbury Bay as an "Important Bird Area," with essential habitat for breeding, wintering, and migratory birds.

Duxbury's climate is predictably influenced by its coastal location. While the average January temperature is a chilling 26.5 degrees and the July norm a balmy 71.0 degrees, the temperatures can suddenly change as much as 30 degrees with a shift of wind off the ocean. Prevailing summer winds are from the southwest while winter winds tend to be from the northwest. The normal annual rainfall is 48.8 inches. Duxbury's average growing season is 176 days, (usually from the end of April to the first frost in mid-October). Storm patterns are more similar to those on Cape Cod than those of metropolitan Boston.

Known for its coast, Duxbury is also an important inland community. Two-thirds of its acreage is inland west of Route 3. The inland sections are dotted with scenic cranberry bogs, fresh water ponds, and small farms. West Duxbury is particularly characterized by its agricultural activities and older farm houses. Duxbury was one of the first towns in Southeastern Massachusetts to purchase cranberry bogs for open space and to preserve this unique landscape and agricultural heritage. Unfortunately, rapidly increasing land prices and production costs and decreasing cranberry prices have forced growers to sell both their upland and bogs or scale back operations. Despite the recent downturn in the industry, town-owned bogs, managed by the Conservation Commission, have contributed significant revenues to the Town over the years.

Socioeconomically, Duxbury is an upscale residential community with a growing population. The construction of Route 3 in the 1960s provided better access to Boston, attracting commuting families and inducing summer residents to retire to Duxbury. Currently, 12% of the Town's population is 65 years of age and older (as compared to 10.3% in 1990). The median age is 40.3 (up from 37.2 in 1990). Residents of all ages find Duxbury attractive because of its physical beauty, absence of industry, outstanding schools, library, and recreational opportunities.

Rail service from Boston to Plymouth began in late 1997. The extension of Route 44, proposed upgrade of Route 3, and recent approval of the Greenbush Commuter Rail Line bring with them new challenges to preserving open space, community character, and natural resources in their pristine state.

Working residents, tired of the week-long commute to Boston and surrounding towns, and their families look to the town to provide recreational opportunities. Availability of water

based activities, on the beach, the bay and adjoining inlets, are important reasons people chose to live in Duxbury. The Town needs to improve its active and passive recreational opportunities while preserving its natural resources and historic character. Overly intense recreational use presents a challenge for protecting threatened and endangered species.

Duxbury Beach, owned by the Duxbury Beach Reservation, Inc. and leased to the town, is the most heavily used recreation area in town. It is also one of the largest shared resources on the South Shore. The Beach not only provides recreational opportunities for residents of Duxbury and surrounding Towns, but plays a major role in increasing shorebird populations, especially the Piping Plover, a "threatened" species, and the Least Tern, a "species of special concern." A public parking lot at the north end of the beach is accessed through the Town of Marshfield and there is a residents' parking lot at the east end of the Powder Point Bridge. Like many barrier beaches in Massachusetts, the beach is an attractive destination for four-wheel drive vehicle owners, attracting people from a wide area of the South Shore and beyond. The growing number of permits sold to both residents and non-residents each year places increasing strain on protection of endangered species, beach maintenance, police and fire rescue, and enforcement. During the peak summer season, four-wheel drive vehicle access to the beach is limited to 500 vehicles. Enforcement is provided by the Duxbury Harbormaster's Department.

Duxbury Bay is another shared resource surrounded by the Towns of Duxbury, Kingston, and Plymouth. Known for pleasant sailing and boating conditions, fishing and shellfishing resources, and its beauty, Duxbury Bay provides a variety of summer recreational opportunities for Massachusetts residents. Shellfish farming has recently gained popularity due to the favorable water quality and tidal fluctuations. Limited moorings and increasing boat traffic continue to place pressure on Town services and natural resources. The increasing number of private piers has also raised safety, environmental, and view degradation concerns.

Open space and recreation areas in the Town of Duxbury have been key to the Town's planning process for many years. (Refer to Map1.Protected and Recreational Open Space) Since its founding in 1883, the Duxbury Rural and Historical Society has acquired parcels of land to maintain the Town's historic and natural resources. The Duxbury Conservation Commission, established in 1963, began an aggressive land acquisition campaign the following year. As a result, the Town currently owns over 2,000 acres of conservation land and intends to acquire more as needed to maintain a balance between development and open space; protect drinking water; inland wetlands and their buffers; tidal marshes; beaches; endangered species; and provide adequate recreational facilities.

B. Community History

One of Massachusetts' earliest communities, Duxbury was incorporated in 1637. Its first European inhabitants were Pilgrims who moved here from Plymouth Colony to establish family homesteads. John Alden, Elder Brewster, and Myles Standish were among Duxbury's early settlers, establishing family farms near the shore. The John Alden House, owned by the Alden Kindred of America, Inc., is now a museum open during the summer months. Myles Standish's waterfront home, the Elder Brewster lilacs (which are protected by the Duxbury

Rural & Historical Society), and the gravesites of the Aldens, Standishes and other notable early residents attract many visitors.

At the beginning of the eighteenth century, shipbuilding and fishing became Duxbury's major enterprise as they did with other New England shipbuilding towns. Duxbury, however, was able to build ships at a lower cost than in England, because of its abundant timber supply and sheltered harbor. One prominent local shipbuilder and sea merchant, Ezra Weston, known locally as "King Caesar," established a large shipbuilding operation on Powder Point. Today his elegant home is owned by the Duxbury Rural and Historical Society which maintains it as a house museum.

As ships grew larger, they could no longer be accommodated in the shallow waters of Duxbury Bay. Concurrently, timber supplies were dwindling. Workers and master shipbuilders began moving away so that by the mid 1800's all of Duxbury's shipbuilding enterprises had either closed or relocated elsewhere, severely depressing the Town's economy. The shipbuilders legacy, however, remained in the "four square" homes along Washington Street, built by ships' carpenters in their spare time. Fortunately most of these and other Federal Period residences still dominate the historic waterfront area of Town.

In 1871 the railroad came to Duxbury. By bringing "summer people" to Boston's South Shore and employing many townspeople, it had a major social and economic impact on the Town. The development of cranberry bogs shifted the character of the Town to light agriculture and concurrently Duxbury became a summer haven for non-residents.

In 1963 the completion of Route 3, as did the first railroad, changed the complexion of Duxbury as dramatically as the railroad had a century before. While maintaining the flavor of a summer resort, the Town became a year-round home for many working in and around Boston. Town services and schools were expanded and upgraded to meet demand. To accommodate burgeoning growth in the 1960's and 1970's, existing schools were remodeled and two new schools, Chandler Elementary School and the Junior/Senior High School, were built. The Central Fire and Police Stations were constructed in the late 60's and in the 70's a new Town Hall, Transfer Station, and the Percy Walker Pool were constructed. Further growth and the demand for more cultural activities led to additional renovation/construction at the Chandler and Alden Schools, including the recent construction of a performing arts center.

The Old Colony Railroad, which resumed operation in late 1997, has further impacted Duxbury. With Plymouth and Kingston as rail heads of the Boston line, Duxbury and other surrounding towns are experiencing increasing pressure from developers to build on marginal land. Rising land prices and falling cranberry prices have forced some cranberry growers to downsize their operations or offer their land for house lots and developments. The few remaining dairy farms are under similar pressures. Now, more than ever, we need to achieve a balance between residential development and open space so as to protect natural resources, historic landscapes and structures, and the quality of town services.

Duxbury's proximity to Boston and access to commuter rail has increased its attractiveness to affluent residents, as evidenced by a growing tax base and escalating housing prices. Assessed valuations of real property rose 15% and 18% in fiscal years 2000 and 2001, respectively.

The median sales price for a single family home, which was $218,900 as recently as 1995, is now $434,000. The Town's principal revenue source is the tax on real and personal property. Tax collections have been strong, nearly 99% each year.

Proposals to establish light industrial zones in Town made over the last fifteen years have generally been defeated because of well organized grass roots efforts to protect the aquifer and maintain community character. However, growing economic pressures for development will ultimately reshape our community and tax our natural resources. So, it is paramount that Duxbury achieves a long term plan that addresses its residents' needs and desires in a fiscally responsible and environmentally sound manner.

C. Population and Social Characteristics

These demographic factors provide the foundation for long range planning for Duxbury's open space and recreational needs.

1. Duxbury Residents--A Profile

Duxbury's attractive location and its proximity to Boston has drawn an affluent population here, many of whom commute to Boston and neighboring cities. The 1990 U.S. Census confirms this, according to the census, approximately 80% of Duxbury's labor force was employed in managerial, professional, technical, or sales occupations, while only 2% is employed in farming, forestry, or fishing.

In 1994, the median household income in Duxbury was $77,163 (Metropolitan Area Planning Council). The 1990 U.S. Census reports per capita income as $24,770, exceeding state and county levels. Unemployment (April, 2001) was 1.6%. Within the Town, Town government is the largest employer accounting for 536 full and part-time employees. Other major employers are Bay Path Nursing Home, various utilities, and The Village at Duxbury (a senior living complex).

Duxbury's population is well-educated compared to the state average. In 1990 approximately 95% of the population graduated from high school and 46% of the population attended four or more years of college or university.

Duxbury citizens have high expectations of town services and amenities and they have demonstrated strong support for the protection of open spaces and the development of recreational facilities. In 2001 the voters approved the Community Preservation Act to address the need for open space, the preservation of historic resources, recreational needs, and the need for affordable housing.

Residents are deeply committed to preserving and improving the community. Over 250 volunteers serve on more than 40 Duxbury administrative, planning, and advisory boards and committees. Many more have indicated their willingness to serve by registering their names, interests, and qualifications with the Town's Talent Bank.

2. Population Size and Density

Most of Duxbury's resident population (14, 248) live in single family houses in its 15,454 acres (approximately 24 square miles).

Duxbury zoning laws require a minimum of 40,000 square feet of upland and 200 feet of road frontage for each single family residence. This zoning reflects engineering studies which have determined that at least 40,000 square feet is needed for the groundwater system to dilute nitrates from residential septic systems. This determination implies that ongoing expansion of preexisting housing, commercial, and municipal structures must also be carefully regulated.

3. Population Growth

Duxbury's population grew dramatically between 1960 and 1980, far exceeding State growth.

Year	Population	% Change	Massachusetts	% Change
1960	4,727		5,148,578	
1970	7,636	61.5%	5,689,170	10.5%
1980	11,813	54.7%	5,737,037	0.8%
1990	13,895	17.6%	6,016,425	4.9%
2000	14,248	2.5%	6,349,097	5.5%

Source: U.S. Department of Commerce

Growth was largely due to the completion of Route 3 in 1963, which made Duxbury more accessible for commuting. The Old Colony commuter rail service between Boston and neighboring Kingston and Plymouth; Route 44 expansion; approval of the Greenbush rail line; and upgrading of Route 3 are likely to propel another wave of development and population growth.

In 1999 there were 5,737 occupied housing units in Duxbury. Nearly 93% of the housing units are occupied year round. The remaining 7% are for seasonal, recreational, or occasional use. The *1999 Duxbury Comprehensive Plan* projects that under present zoning regulations, the number of dwelling units could grow to 10,082 units, a 76% increase. This could mean a population increase of nearly 80%. The Duxbury that we know today, with a population of less than 15,000, would become a very different community. Open space planning needs to maintain a balance between development and land acquisition to protect natural resources from overuse and degradation.

4. Age Distribution

Duxbury residents fall into the following age groups:

Age	Population	Percent
Under 5 years	1,001	7.0%
5 –19 years	3,486	24.4%
20 –44 years	3,807	26.7%
45 – 64 years	4,247	29.9%
65 – 84 years	1,396	9.8%
85 years and older	311	2.2%

Source: U.S. Department of Commerce

The median age is 40.8. Residents, aged 65 and over, who accounted for 8.6% of the population as recently as 1980 were 12% of the population by 2000. This signals the need for expanded senior recreational and pedestrian facilities as well as additional housing units. To begin to address this need, a portion of the Mayflower Cemetery was transferred to the Council on Aging for the construction of a new Senior Center. The facility was completed, furnished, staffed and opened in November, 2001.

5. Birth Rates and School Enrollments

In the past five years birth rates and school enrollments have remained stable. However, it has been projected that enrollments will increase nearly 11% between 2000 and 2004. In March 2001, Duxbury voters approved renovations and additions to the Chandler and Alden Schools, including a new performing arts center. The new auditorium and school alterations/additions are slated for completion by February and November, 2003, respectively. Displaced playing fields and playgrounds will be moved to alternative sites.

Transporting school children to and from athletic and other extracurricular activities present a challenge to two-working-parent families and single parent families. Creating a network of walks and bike paths along streets will enable more students to reach these locations safely and healthily on their own.

D. Growth and Development Patterns

1. Patterns and Trends

Duxbury is a unique and unusually beautiful community. The coastal area reflects the once vibrant maritime industry, with its sea captains' homes, granite piers, and trademen's homes. Inland forests provided wood for the hulls and spars of ships built in Duxbury, and remnants

of its water powered saw mills still remain. As you move inland the landscape transforms into farmland; open fields, cranberry bogs, and historic farmhouses. Barns add to the bucolic scenery.

Conscientious zoning has preserved the pattern of residential neighborhoods clustered around commercial village centers (Refer to Map 2. Zoning Classifications). In the 1970's a concerted effort was mounted to acquire cranberry bogs and forests to maintain the visual character and agricultural heritage unique to southeastern Massachusetts. The desirability of Duxbury, construction of Route 3, and reintroduction of commuter rail has led to further growth and development.

The western part of Duxbury experienced its greatest growth during the 70's and 80's. Two hundred and fifty acres, or nearly 16% of the Town's entire land area (consisting of soft and hardwood forest, agricultural land, and abandoned fields) gave way to residential development. Between 1981 and 1985 almost 170 "Approval Not Required" plans were endorsed by the Planning Board. This kind of siting, called "ribbon development," is of concern not only because of sheer numbers, but because of the way it degrades views from roads. Adverse reaction to this kind of development spurred additional land protection activity and review of the zoning bylaws to better control future growth. In the period 1995-2000 the number of Approval Not Required Plans dropped to 90.

One acre zoning, adopted to allow individual on-lot septic systems, has created a uniformity of lot sizes in newer areas which detracts from the older, village-centered settlement pattern. The *1973 Comprehensive Plan Statement* attempted to address this problem. With a negotiated development option, builders were permitted to plan higher density clusters of homes served by fewer roads if they allocated a designated amount of open space and demonstrated that these changes would not negatively impact the environment or tax rate. Unfortunately, in implementation results fell short of the Plan's objectives.

Under the current Zoning Bylaw the final buildout density could result in a population increase of nearly 80% and a 76% increase in dwellings units. The buildout analysis may actually understate potential growth as it does not account for the recent trend to expand or replace existing homes with larger ones and the growing number of "in-law" apartments. In addition, it does not take into consideration marginal land which may become buildable with improvements in waste treatment technology. The Comprehensive Plan and Zoning Bylaw Implementation Committee (CPZBIC) is reviewing and will recommend amendments to the Zoning Bylaw to reduce potential buildout density. CPZBIC will also make recommendations to add controls for neighborhood business district and residential development.

Open space is preserved most successfully through purchase. Studies made for earlier conservation programs have demonstrated that the Town is financially better off borrowing money to acquire open land than to allow such land to be developed with houses and have to provide services for them. The Land Acquisition Task Force determined, for example, that for each dollar in taxes raised in Fiscal Year 2001 from new residential construction, it cost the town over $1.60 to provide services. Supply and demand forces also come into play. Removal of land from development, limiting the supply of homes, increases home values.

Removing land from development also helps maintain the semi-rural character of the community and protects increasingly scarce natural resources, thus increasing the desirability of the town.

During the 1960's and mid 1970's, the demand for additional services to meet a growing population resulted in the construction of an impressive number of facilities. They included the High School, the Chandler Elementary School, the Percy Walker Pool, the new Town Hall, the Central Fire Station, and the Police Station. During this period the Alden School also underwent renovation. In 1999, the Ashdod Fire Station was expanded. In 2000 the new Town Library was completed and in 2001 the Town embarked on expansion of the Chandler and Alden Schools and the new performing arts center. The new Senior Center was completed in 2001.

Duxbury is a residential community in the strictest sense. The town is family-oriented and its residents demanding quality resources for their children, and a broad spectrum of recreational opportunities for themselves. Town-owned recreational facilities include: baseball fields, soccer fields, tennis courts, an indoor swimming pool, a nine-hole golf course with a new clubhouse, and basketball courts. With residents in their late forties and older becoming a larger and growing segment of the population there has been a shift in the type of passive and active recreation facilities needed for adults.

Commercial development has markedly changed the appearance of Duxbury's principal business area, and adjoining Hall's Corner. The development of wood framed, shingled shops and professional offices coincided with the Planning Board's success in revitalizing the district. Businesses continued to flourish as the nation, until recently, enjoyed nearly eight years of a growing economy.

Housing has become increasingly expensive in Duxbury. The *1999 Comprehensive Plan* cites several groups which are most affected by increasing housing costs. They are: young adults, the elderly, single heads of households, would-be first time homebuyers, and those with low or moderate incomes. Market rate housing for seniors is offered at The Village of Duxbury, which is currently undertaking a expansion. There are eight units at Merry avenue for individuals with special needs and six scattered site units which serve the needs of low-income families. Low/moderate income housing units for elderly persons are situated at Island Creek Village (106 units) and Duxborough Village (52 units). Preference is given to the Duxbury residents on the wait list. Of immediate concern is the rapidly approaching sunset provision on the subsidized housing at Island Creek Village, which will allow reversion to market rates.

Section 20 of Chapter 40B sets a standard that 10% of the housing units in a community are to be available for people with low and moderate incomes. Currently only 3.6% of Duxbury's housing units meet this standard, though there is additional affordable housing in Town which does not meet the narrow 40B definition. While Chapter 40B is presently being challenged in the legislature, it is clear that there is a real need for more affordable housing. In 2001, the first Habitat For Humanity House was constructed with the assistance of volunteer labor and the voters approved the Community Preservation Act which dedicates at least 10% of the surcharge collections and matching funds from the Commonwealth to affordable housing.

2. Infrastructure

a) Transportation System

Duxbury is situated in the Greater Boston Metropolitan Area, which has excellent rail, air, and highway facilities. Principal highways in Town are State Routes 3, 3A, 14, 53, and 139. Route 3 is the largest.

Duxbury's internal roadway system is a mixture of state and county roads and town streets. (Refer to Map 3. Parcels and Roads) Primary traffic distribution roads include Route 3A, Route 53, Route 14, and Chandler Street, and Tobey Garden Street. With the patterns of growth that have occurred in Duxbury since the 1970's, Franklin and Lincoln Streets have also assumed the qualities of secondary distributor streets. Principal feeder streets are Saint George, Harrison, Depot, Chestnut, Elm, and Congress Streets, Soule Avenue, and King Phillips Path. Lincoln Street serves as a connector to the southern section of Marshfield (mostly for Marshfield commuters since heavy trucks have been banned from this route). Church Street, previously classified as a feeder road, has joined Franklin Street in functioning as a distributor, mostly on a seasonal basis to channel summer traffic toward Marshfield's Canal Street, where non-resident beach goers gain access to Duxbury Beach.

All other roads are considered "local", and, in keeping with long-held planning objectives, they are usually tree lined, winding, and, in some cases, narrow by the standards of other communities. All public ways in Duxbury are scenic roadways subject to MGL Ch 40 section 15C.

Roughly 25 percent (1990 census) of the Town's commuting public depends on bus service offered by the Plymouth & Brockton line, private automobile to Braintree's MBTA station's Red Line to Boston, or the Old Colony Railroad to South Station. The 1997 completion of the Old Colony Railroad, with stations in Plymouth, Kingston, and Hanson, has increased the number of commuters to Duxbury. The widening of Route 44 and the planned widening of Route 3 in 2006 will bring additional traffic to the area.

Increased traffic is a sign of Duxbury's growth. There is less seasonal variation to the traffic patterns and more cars moving at higher speeds. Traffic congestion is especially noticeable during weekends in the commercial districts and on St. George Street during the school year. There has also been a noticeable increase in traffic on Lincoln, Franklin, and Congress Streets as commuters make their way to the Old Colony Railroad stations. Despite occasional bottle necks, traffic congestion is relatively low because there are no major employment or activity centers in Town. Commercially zoned areas are small and are tailored to the needs of the local residents.

Unsafe conditions exist at a number of intersections and at sites of commercial activity. These include the Snug Harbor Commercial District, Bennett's Corner, Bailey's Corner, Millbrook Area, and Cox Corner. A traffic circle (or roundabout) was completed in 2001 at the Lincoln Street and West Street Intersection. No improvements are currently planned at the other sites.

There are walking areas scattered throughout the Town on land overseen by the Conservation Commission and on land held by non-profit organizations, but connections between them are

inadequate. The Conservation Administrator has made this problem a priority and has communicated with landowners to establish easements. The Town Path Council, a volunteer organization formed in 1997, presented a proposal for a pedestrian-bicycle pathway at the 1999 Annual town Meeting. The proposal, as presented, was defeated for a variety of reasons, despite the considerable support for the overall concept. Since then walk/bike paths, which are also handicap accessible, are being constructed in the new Camp Wing conservation property and the Town Path Council, working in concert with the Department of Public Works, has created a bike route with signs from the High School to Camp Wing. It has been recommended that the Council be made a formal Town committee to accelerate examination of options, development, and implementation of a comprehensive walk/bike path plan.

The 2001 Ad Hoc Sidewalk Committee Report states that while the Planning Board requires that new subdivisions must have sidewalks, there are no planning guidelines for constructing sidewalks on existing streets. Citing safety as a primary concern, the Committee also recommends preservation of the historical and rural nature of the town. At the March 2000 Town Meeting voters authorized construction of a sidewalk along Chestnut Street. Additional sidewalks will be considered upon completion of this project, as recommended by the Ad Hoc Town Sidewalk Committee Report (2000).

b) Water Supply and Sewage Disposal Systems

Duxbury's ten municipal gravel packed wells serve approximately 90% of the Town's residents. In recent years, the Water Department has implemented a public education program and other water conservation measures aimed at reducing water use among residents and businesses.

Distribution of water and disposal of sewage have both influenced the Town's development pattern. Although a small section of Duxbury is sewered and several areas are served by small shared disposal systems, most properties are served by individual onsite sewage disposal systems. More community disposal systems are planned in an effort to alleviate identified areas of pollution.

The Duxbury Junior/Senior High School and other municipal buildings in the nearby complex are served by a Package Treatment Plant located behind the High School. Two shared sewage disposal systems were completed in 1966 on Washington Street, one at the Snug Harbor commercial area and a second at the Bluefish River. In the Snug Harbor business district, eleven buildings, including the Duxbury Yacht Club, are connected to a shared system with a leaching facility located under the Duxbury Yacht Club golf course on Harrison Street, inland from the harbor area. Three buildings on the edge of the Bluefish River are similarly connected to a shared sewage disposal system with the leaching facility located at the Ellison Center for the Arts on St. George Street. In both of these cases, the leaching sites were provided by private non-profit organizations. The systems are being paid for by betterments to the owners while the engineering, water quality studies, and project oversights were provided by the Town using a combination of State grant moneys and Town meeting appropriations. The Town acted as a facilitator for both projects. These systems which were approved under

the revised Massachusetts Title V regulations were cited by the Massachusetts Secretary of Environmental Affairs and the U. S. Environmental Protection Agency Regional Director as "state-of-the art."

Gurnet Road in Duxbury, located at the north end of Duxbury Beach adjoining the Town of Marshfield is connected by municipal sewer to the Town of Marshfield Sewerage Treatment Plant. Sewage from the Duxbury Town Pier boat pump-out station is to be transported to Marshfield for treatment for which Duxbury will pay Marshfield a user fee.

The Bay Road Shared Septic System project will eliminate the failing septic systems of 30 homes in the Bay Road area which are contaminating portions of Duxbury and Kingston Bays. Completion of this project on which construction began in the Fall of 2001, will enable waste to be pumped up to a leaching field under Wadsworth Field on Tremont Street.

3. Long Term Development Patterns

Duxbury's zoning controls have always emphasized residential development, limited commercial projects, while rejecting industrial construction. In 1998 there were 5,079 single family dwelling units and 658 dwelling units of 3 or more units. Retail facilities are generally concentrated in neighborhood commercial areas, such as Halls Corner, Cox Corner, Millbrook, Tarkiln, Island Creek, Bennett's Corner, Bailey's Corner, Snug Harbor, and Osborne's.

The *1999 Comprehensive Plan* summarizes the acreage in each category of land use:

Land Use	**Number of Acres**	**Percent of Total Land**
Residential	4,430.1	28.7%
Commercial	74.5	0.5%
Transportation	1,384.3	9.0%
Public/Semi-Public: Protected Open Space (Includes Conservation and town-owned land, private non-profit organizations, State-owned land, and water department) Municipal Use (Includes recreation, pubic property and institutional uses that are privately owned but open to public)	3,660.4 446.1	23.7% 2.8%
Water	432.9	2.8%
Undeveloped	5,025.7	32.5%
Total Developed (Includes residential, commercial, transportation, public/semi-public)	9,995.4	64.7%
Total Town Area	15,454	

Despite best intentions, the current zoning regulations for planned unit developments allow higher densities than are desirable and inflate potential buildout. *The 1999 Comprehensive Plan* recommends modifications to the zoning bylaw to better accomplish its original goals: to increase open space, improve watershed protection, provide more diversity in housing, and have a more favorable economic impact.

The buildout analysis of the *1999 Comprehensive Plan* concludes, that under the current zoning regulations, the number of dwelling units could increase 76%, or from 5,737 units to 10,082 units. Under those circumstances the population could increase from 14,880 (1998 Town Census) to a total of 26,877. This would certainly adversely affect the quality of life that Duxbury citizens have enjoyed. The very reason that many settled here in the first place. More schools, fire and police would be needed. Demand for more recreational facilities and personnel, already hard to accomodate, would spiral upward. Management of Duxbury Beach, an important nesting and resting area for migratory birds and popular spot for off road vehicles, would become even more challenging. The quality of our natural resources, such as our water supply and Duxbury Bay will likely deteriorate unless measures are taken to control the density of development.

IV. Environmental Inventory & Analysis

A. Geology, Soils, and Topography

An understanding of the interrelationships between geology, topography, and soils provides a necessary basis for comprehensive land planning. Knowledge of the inherent potential and limitations of each of these physical components can help channel future land use into patterns that will avoid environmental damage and degradation. In identifying potential open space sites the effect of alternative uses on natural resources should be carefully considered. Continued protection of these resources is crucial to the overall well-being of the Town and continues to strongly influence Town open space planning.

1. Bedrock Geology

Duxbury's land features are a function of the underlying surficial geologic deposits. Bedrock was formed during the Proterozoic age. The topography in Duxbury can generally be depicted as sloping down from the uplands to Duxbury and Kingston Bays. In the western part of Town, rock outcroppings can be observed near the intersection of Franklin and Temple Streets and near the Pembroke border, The geologic deposits that formed over this bedrock base resulted from the late Wisconsonian stage of glacial activity.

The two principal classes of geologic deposits found in Duxbury are till and stratified drift. The till deposits, composed of poorly sorted and relatively packed sand, silt, and clay, are of interest to the Town because of their poorer groundwater favorability. Delineation of till districts is useful in defining the boundaries of Duxbury's aquifer formations, as was done for the Town in 1994. Examples of till-deposit areas include the coastline areas of Powder Point and Standish Shore, and large areas surrounding the Phillips Brook lowlands.

The stratified drift is an especially important deposit classification as it contains and transmits Duxbury's only source of drinking water. These deposits are found throughout the central, eastern, and southwestern sections of the community and are the most important to protect.

Further characterizing Duxbury's landscape are salt marsh, swamp, and beach and dune deposits. Unique among these is an isolated lake-bottom deposit on the coastline near the Kingston border. Known locally as Bay Farm and serving as the southern terminus of the Bay Circuit Trail, the area owned by the Town for many years, is composed of clay and compacted materials unsuitable for residential use.

2. Soils

Soil types define land-use potentials of different areas of the community. (Refer to Map 4. Soils - Septic Suitability) Duxbury's soils are dominated by well to excessively drained and range in slope from level to very steep. The primary soils are Scituate-Essex-Merrimac and Hinckley-Merrimac-Muck. A small, critical three percent of the Town land consists of Hinckley-Carver Association soils on extremely steep slopes. These provide the most favorable groundwater recharge conditions.

3. Topography

The intense glacial activity that occurred during the last ice age produced varied terrain in Duxbury, with slope gradients ranging from 0 to 35%. The land surface is level to gently rolling, and its highest elevation only about 196 feet above mean sea level. Captains' Hill, on which the Myles Standish monument stands, is the highest point in Town. Low-lying areas occur in the east and southeast sections of the Town, in Powder Point, the Bluefish and Back River areas, and various inlets of Kingston Bay.

Distinct variations in Duxbury's topography, account for many areas of scenic, ecological, and historic importance. Collectively they point to places which could provide a range of opportunities for public enjoyment and appreciation.

The special significance of this geologic information for conservation and recreation planning lies in its relationship to the Town's water resources. Uncontaminated adequate water supply is considered a primary consideration of Duxbury's land preservation strategies. The aquifer that supplies the Town's public wells lies within the confines of the stratified drift formations. Much of this land, some 4,000 acres, directly influences existing and future well sites in Duxbury because of its groundwater recharge characteristics. A continuing open-space-planning objective is to continue to identify and implement protection strategies to maximize groundwater protection.

Duxbury's 1,149 acres of fresh water wetlands are also critical to protecting the Town's aquifers because they serve as valuable groundwater recharge areas. These wetlands have relatively permeable floors through which captured storm water can easily infiltrate, and they serve as agents of groundwater discharge when the water table is high. As a result, these wetlands simultaneously function to enable aquifer replenishment and to provide important habitats for wildlife.

B. Landscape Characteristics

Duxbury's overall landscape has been described as a picturesque, rural, residential New England seacoast community.

The Town has several distinct, yet mutually dependent land forms. Duxbury Beach, a narrow barrier beach no more than a few hundred yards deep at its widest point and 7 miles long. The integrity of the beach is threatened from time to time by severe Northeast storms. It stretches Southeasterly from the Marshfield shore toward Manomet. With Plymouth Beach it encloses ad protects Duxbury, Kingston and Plymouth Bays. Development on Duxbury Beach is limited to the small year-round communities of Gurnet and Saquish, both part of the Town of Plymouth. Duxbury Beach is predominately a seasonal attraction for both local residents and families from near-by communities. The Beach is accessible over a half mile long wooden bridge from the Duxbury peninsula, Powder Point, and directly from the Town of Marshfield.

Duxbury Bay (with tides that can exceed 10 feet) is another dominant landscape feature. The Bay provides seasonal recreation activities including shellfishing, fishing, swimming, boating, sailing, and windsurfing. At low tide, it is predominantly mud flats with three deep channels and deep water anchorages at Howlands Landing, Two Rock Channel, and the Town

Pier/Duxbury Yacht Club/Bayside Marine basin. To maintain its depth, the channels and the boat basin require periodic dredging. Dredging was last done in 1996.

Extensive saltmarsh is another landscape feature. Duxbury Marsh, contains over 1,000 acres. Island Creek and Eagles Nest Creek, which feed Duxbury Bay also incorporate wide adjacent saltmarshes which provide significant fish, shellfish, and waterfowl habitat.

Still another defining landscape feature is the Duxbury cranberry bog. Both the Duxbury Conservation Commission and the Duxbury Water Department own cranberry bogs. Many more are privately owned. These colorful bogs, which dot the landscape, and provide characteristic views are the Town's most prominent open space. Cranberry bogs in Duxbury vary from a few to several hundred acres. The proximity of some bogs to housing developments has at times occasioned conflicts between growers and residential neighborhoods.

Still another open space type is the working and non-working farm. While their numbers are small, farms are the Duxbury open spaces most susceptible to development. Protection of these areas is vital.

A final landscape characteristic is the forest, which constitutes much of Duxbury's existing inland open space. The Town of Duxbury, Duxbury Rural and Historical Society and Massachusetts Audubon Society maintain one such forest of approximately 1,000 acres. This and other wooded areas provide hiking and equestrian trails as well as access to fishing and canoeing at nearby ponds. Most importantly, these tracts protect watersheds and recharge areas of the Town's aquifer. They also serve as valuable habitat for wildlife and corridors for their movement. In addition, these forests act as buffers between residential areas and commercial districts, heavily traveled intersections, and Route 3.

The Town has a long history of careful planning for commercial areas and municipal buildings. This forethought in town development has greatly added to the character of the Town. For example, the St. George Street area incorporates the Junior/Senior High School, Elementary School, athletic fields, Library, and Percy Walker Town Pool in a single campus setting. Demand for more recreational facilities has led to the development of the Chandler School Fields and the Keene Fields and playground. Five small separate commercial areas contribute to maintaining a village atmosphere and reducing cross-town traffic.

Because much of Duxbury's landscape is reasonably level, it possesses few natural landforms which would limit future development because of slope. Most of the Town's unprotected open spaces are therefore at risk of future development. Some of these open spaces have already been subdivided.

One example is the loss of long standing scenic vistas to housing development, a situation which negatively impacts the rural and open feeling embedded in the Town's character. In neighborhoods where small houses predominate, older small houses are being demolished to make way for extremely large homes. As developable land shrinks and land values increase more of this activity can be expected. A Demolition Delay Bylaw was approved at the 1998

Town Meeting which allows for the relocation and preservation of historically significant structures before they are demolished.

C. Water Resources

1. Surface Water

Fresh water bodies (lakes, ponds, bays, streams, rivers) fall into six watersheds (Refer to Map 5- Water Features & Cranberry Bogs).

a) South River Watershed (Central and Western Greenbelt)

Phillips Brook, Keene Brook, and an unnamed branch originating in the Loring cranberry bogs off East Street, along with their marshes, cranberry bogs, and reservoirs converge near Temple Street in Camp Wing to become the South River which flows into Marshfield. Camp Wing, comprises 353 acres of Town owned land and nearly 250 acres of land owned by the Boys' and Girls' Camps, Inc. It is predominately woodland and wetland along Keene and Phillips Brooks. The Camp also owns and uses Keene Pond west of Keene Street and has access to Peterson's Saw Mill Pond at the Congress Street-Union Street-Franklin Street triangle for fishing and passive recreation. The watershed is part of the Aquifer Protection Zoning District for a Town of Marshfield well. Massachusetts Division of Fisheries and Wildlife designates much of this watershed as a High Priority Site of Rare Species Habitats and Exemplary Natural Communities and Estimated Habitats of Rare Wetlands Wildlife. Waters in the South River are classified as SA by the Massachusetts Surface Water Quality Standards. Class SA waters are considered excellent habitat for fish, other aquatic life and wildlife, and for primary and secondary contact recreation. These waters have excellent aesthetic values. The U.S. Fish and Wildlife Service, acting under the authority of the Emergency Wetlands Resource Act, has included the South River on its inventory of important, scarce, and vulnerable wetlands in the Northeast United States. The Act promotes the conservation of migratory waterfowl and offsets the serious loss of wetlands by enabling the acquisition of wetlands and other essential habitat. Pressure for development is increasing in this locality as it contains the largest remaining tracts of undeveloped land in the Town. So, protection of Camp Wing was critical to the protection of the South River Watershed.

b) Green Harbor River Watershed (Eastern Greenbelt)

The headwaters of the Green Harbor River originate within the Wright Reservoir, cranberry bogs, and marshes in North Duxbury. The River flows into Marshfield and winds through its Green Harbor Marsh. Much of this watershed is part of the Aquifer Protection District for municipal wells for the Towns of Duxbury and Marshfield. Massachusetts Surface Water Quality Standards also classify the Green Harbor River as a SA. These waters also have scenic value. The Massachusetts Division of Fisheries and Wildlife includes the wetlands in the Marshfield section of the watershed as Estimated Habitats of Rare Wetlands Wildlife and as a High Priority Site of Rare Species Habitat and Exemplary Natural Communities.

c) Back River Watershed (Eastern Greenbelt)

West Brook originates in the kettled lowlands of the North Hill Marshes, flows into a pond off Tremont Street, and becomes Duck Hill River as it enters Duxbury Marsh. Further downstream it becomes the Back River and flows into Duxbury Bay. The watershed is part of the Aquifer Protection Zoning District for Drinking Water Supplies in the Towns of Marshfield and Duxbury. Massachusetts Surface Water Quality Standards give the Back River an SA classification. These waters are scenically significant. The saltwater areas are suitable for shellfish harvesting and the North Hill Marsh area is used recreationally for fishing, birding, biking, horseback riding, cross-country skiing, and walking. Of historical significance, a portion of the Green Harbor Path, a trail laid out in the 1620's from Plymouth to Scituate, runs along its eastern upland. North Hill Marsh is surrounded by the Duxbury Town Forest, the Massachusetts Audubon Society North Hill Wildlife Sanctuary, the Town's North Hill Country Club, and Duxbury Conservation Land. Mayflower I and II well sites and land owned by the Duxbury Rural and Historical Society are near the Marsh. Taken together, these areas form contiguous open space of nearly 1,000 acres. The Massachusetts Division of Fisheries and Wildlife designates a significant area surrounding and including the North Hill Marsh as Estimated Habitat of Rare State-Listed Wetlands Wildlife and of Certified Vernal Pools. Access is restricted on a small portion of this land which contains the Mayflower Wells. The pond off Tremont Street also has restricted access, being within the Millbrook Water Supply area.

d) Island Creek Watershed (Eastern Greenbelt)

This stream begins at Island Creek Pond, flows south to Mill Pond and exits through the saltmarsh near Hicks Point into Kingston Bay. Island Creek Pond, accessed from Tobey Garden Street, is the only Great Pond in Duxbury (a natural occurring body of water of more than 10 acres on which all Commonwealth citizens have the right to fish, fowl, and navigate). It is actively used for fishing, boating, and skating. Island Creek is one of two anadromous fish runs in Duxbury and contains a fish ladder at Route 3A constructed by the Massachusetts Division of Fisheries and Wildlife. The upper end of the watershed is part of the Aquifer Protection Zoning District for Duxbury's Drinking Water Supply.

e) Jones River Watershed (Western Greenbelt)

Pine Brook, which flows from Upper and Lower Chandler Mill Ponds, along with Halls Brook, Bassett Brook, and Mile Brook are on the southerly portions of the Town of Duxbury. They feed the Jones River. Mile Brook is part of the Aquifer Protection Zoning District for Drinking Water Supplies for the Town of Kingston. Much of this Kingston watershed is listed as a High Priority Site of Rare Species Habitat and Exemplary Natural Communities. The Massachusetts Surface Water Quality Standards gives a B classification for the water in this river. The B classification designates these waters as habitat for fish, aquatic life and wildlife, and for primary and secondary contact recreation. B classified waters are suitable for irrigation and other agricultural uses. These waters have consistently good aesthetic value.

f) Bluefish River Watershed (Eastern Greenbelt)

Originating in three branches located in the Millbrook, Houndsditch, and Depot Street areas, the Bluefish River converges into one stream behind the Lower Alden School Complex, where it flows through Wrights Dike (a former ice pond for the Wright Estate, that was located on the present day Duxbury High School property). From here, the Bluefish becomes a saltwater river discharging into Duxbury Bay between Long Point and Bumpus Wharf. The River contains Duxbury's second anadromous fish run, with a privately-owned fish ladder south of Harrison Street, operating in the Depot Street branch. Significant water quality research has been performed by the Massachusetts Division of Marine Fisheries in an effort to determine the source of pollution responsible for closing shellfish beds in the mouth of the River. The septic systems serving three buildings identified as the primary sources of pollution, have been repaired. The three headwaters of this River are located within the Aquifer Protection Zoning District for Duxbury's Drinking Water Supply.

g) Duxbury Marshes (Eastern Greenbelt)

The Duxbury Salt Marsh comprises over 1,000 acres in Duxbury and Marshfield. This highly productive marsh, serves as both food source and habitat to invertebrates, such as shellfish, finfish, birds, and mammals. Twice daily tides bring food and oxygen to the marsh while removing carbon dioxide and wastes. Despite annoyance to humans, the marsh serves as a habitat for insects which are vital to the food chain. Duxbury Bay, accessed by fourteen Town landings, supports a shellfishing industry of both hard and soft shell clams, blue mussels, and oysters, and is enjoyed for boating, fishing, swimming, recreational shellfishing, and hunting. The marsh-bay habitat is especially important to many species of waterfowl as an extensive winter feeding ground.

Some of the marshland is owned by the Town and the Duxbury Beach Reservation, Inc.; however, much of the land is without title or privately held and it was recommended in the *1969 Duxbury Comprehensive Plan* that the Town acquire as much of the marsh as possible, either by gift, easement, or outright purchase. The United States Fish and Wildlife Service has included the Duxbury Marshes on their list of Important, Scarce, and Vulnerable Wetlands in the Northeast United States Under the Authority of the Emergency Wetlands Resource Act. The site is so listed because it has been identified by both the United States Fish and Wildlife Service Category Plan for Preservation of Black Duck Wintering Habitat and the North American Waterfowl Management Plan Atlantic Coast Joint Venture Report. The United States Environmental Protection Agency has identified the Marshes as a Priority Wetland and the site is on the Nation-wide River Inventory of Designated or Potential Wild and Scenic Rivers.

2. Flood Hazard Areas

Duxbury residents participate in the National Flood Insurance Program administered by the Federal Emergency Management Agency. Flood hazard areas are depicted as zones A, AO, and V on FEMA maps. These maps are currently undergoing review, a lengthy process. In the meantime the Town has implemented necessary zoning bylaws to address construction within those areas.

3. Wetlands

Duxbury has nearly 3,000 acres of wetlands, including freshwater ponds and cranberry bogs, fresh and saltwater marshes, and swamps. The magnificent Duxbury Marsh, located in the northeastern sector of the Town, is the largest of the wetland areas. Cranberry bogs continue to be one of the most distinctive features in the Duxbury landscape, providing aesthetic, agricultural, and wetland values to the community. (See Section IV B. Landscape Characteristics, Section IV C. Water Resources and Map 5. - Water Features and Cranberry Bogs)

4. Aquifer Recharge Areas

Duxbury is entirely dependent on groundwater for its drinking water supply; so preserving recharge areas is extremely important in open space planning. The protection of the recharge districts is critical because Duxbury's primary aquifer is wholly confined within the Town's boundaries. The quality and reliability of our water supply must not be underestimated. Good water not only enhances our quality of life, but, as it becomes more scarce nationwide, augments the desirability of our Town.

Groundwater is derived from a relatively thin stratified drift aquifer underlying the central part of Duxbury and secondary aquifers scattered throughout the Town. The groundwater aquifer is integrally connected with, and flows into and out of lakes, streams, and coastal estuaries. That is why stresses such as drought, sewage, and contamination affect the entire system.

Duxbury retained the engineering consulting firm, Whitman & Howard to delineate zones of contribution to the Town's wells and later retained IEP, Inc. to develop a comprehensive aquifer protection program. The studies found that the uplands in the northern and western regions of the Town are comprised of compact drumlin till, which yields little or no water to wells and that stratified drift supports the principal aquifer in Town. It underlies most of the low terraces along North Hill Marsh and West Brook and the swampy lowland areas bordering Island Creek Pond. The zone of contribution underlying the North Hill Marsh is the most productive, supplying eight of the Town's ten gravel packed wells. Unfortunately, the highly porous soils and the favorable hydraulic characteristics of the stratified drift also make it highly vulnerable to contamination. The Town in 1986 established Aquifer Protection Overlay Districts (APOD) to address the problem of groundwater protection.

Ten gravel packed wells are in operation. It is projected that demand will continue to be in compliance with permitted levels until 2010. The Dufresne-Henry Engineering Study recommends that new water supply be pursued and that a storage tank be constructed in the northern section of Town. The Town is moving forward on the permitting process of the Damon Wells.

The Town is implementing conservation measures and has revised its rate structure to address high water use. Fines have been imposed on those who disregard water restrictions imposed during drought periods. These efforts are consistent with the mandates of the Department of Environmental Protection. Unfortunately, the restrictions have encouraged the drilling into the primary aquifer for irrigation purposes, which are not regulated by the Town. The IEP Inc.

report specifically warns against drilling wells in the eastern sections of Town which could result in salt water intrusion into the wells and subsequently infiltrate the aquifer. To date, there is no evidence that this has occurred.

As a growing residential community, Duxbury's most obvious measurable contaminant threats are from septage waste and fertilizers. Accordingly, aquifer studies have focused on minimum lot size requirements to ensure that the groundwater system is capable of diluting nitrates to keep nitrogen concentrations under 10 parts per million. Expansion of pre-existing housing, commercial, and municipal structures must also be adequately regulated. High density development on Gurnet Road and portions of Washington Street have necessitated the installation of costly public sewer projects. Construction of the Bay Road Shared System project commenced in the fall of 2001. It is likely that additional shared systems will be constructed in the near future.

For the past twenty-five years, protection of the aquifer has been the primary rationale behind open space planning because of the Town's dependence on groundwater for its water supply. Misuse or contamination of this supply will have a direct impact on the residents of Duxbury; depressing land values, municipal income sources, and leading to costly remedial measures. Therefore, development within aquifer recharge zones must be well controlled so as to insure against degradation of our most precious resource.

D. Vegetation

1. Forest Land

In the late 1800's and early 1900's much of the Town of Duxbury consisted of open fields. The forests that the earlier settlers found had been cut for shipbuilding, home construction, heating and cooking. The resulting open land was used for pasture and farming. Today's forest that covers most of Duxbury is second generation the result of allowing former agricultural land to go fallow. This secondary forest is now being converted to residential development. Little of the open land prevalent at the turn of the century remains in Duxbury.

2. General Inventory

Vegetative communities fall into distinct but varied habitat types. With an extraordinary variety of habitats from coastal dunes at its eastern border, to inland forests, to freshwater ponds and cranberry bogs at its western border, Duxbury's plant inventory is understandably long and diverse.

On Duxbury Beach's primary dune, American beach grass predominates, much of it planted by volunteers to protect against erosion. Rosa rugosa and dusty miller also grow in the primary dune. Two small forested areas on the barrier beach contain red cedar and cherry trees as well as beach plum, bayberry, and rosa rugosa.

Growing in the large expanses of salt marsh bordering Duxbury Bay are several varieties of spartina (cordgrass). Interspersed with the spartina is sea lavender, seaside goldenrod, seaside gerardia, sedges, and rushes. The tall invasive phragmites is found along the shore where

there is freshwater intrusion and disturbance. Areas in which harbor dredge material was deposited in the past are now completely covered with phragmites.

Duxbury's inland forest areas are comprised mainly of two tree species: white pine and red oak. By 1900, the Town of Duxbury had been clear cut to provide lumber for the shipbuilding industry and houses being built along the waterfront. So our forests today consist almost entirely of second growth trees.

Several freshwater ponds, most of them man-made reservoirs for the lumber and cranberry industries, are bordered by pond wildflowers and shrub swamps. Red maple swamps and one white cedar swamp can be seen in inland areas when traveling south on Route 3 between exits 12 and 11.

Of economic, agricultural, and aesthetic importance are the cranberry bogs located throughout Duxbury. The autumnal red berries of the cranberry plants are a major Massachusetts crop. Despite a recent downturn, the industry has contributed significantly to the State's economy.

3. Rare, Threatened, and Endangered Species

Rare and ecologically significant communities of plants and animals have been recorded in Duxbury. As determined by The Massachusetts Division of Fisheries & Wildlife's Natural Heritage and Endangered Species Program, the rare species "hot spots" are concentrated in several areas, including, Duxbury Beach and the surrounding salt marsh; North Hill Marsh; and along the South River in the northern section of Duxbury.

Duxbury Beach and its beach strand and dune communities, the intertidal areas in Duxbury Bay, and the salt marsh community to the north are particularly important areas for many species, both rare and common alike. Duxbury has a very active shorebird protection program, particularly for the Piping Plover and the Least Tern, which are listed as "threatened" and " special concern," respectively. However, it is recommended that additional protection of this area, which continues through the salt marsh to Marshfield and south to Plymouth, would contribute many species to state and national biodiversity.

North Hill Marsh is highlighted because it too contributes many species to state and national biodiversity. Both the uplands and wetlands of this region serve as important habitat for the Spotted Turtle, Great Blue Heron, and Eastern Box Turtle. The turtles are listed as species of "special concern" and the Great Blue Heron is "watchlisted."

Other important sites, which extend into Pembroke, are the open areas along the South River and its tributaries, and surrounding uplands. The Town's purchase of 353 acres at Camp Wing protected a significant corridor along the South River. This will serve to protect the watershed and habitat for several rare and common species of plants and animals. These include the American Bittern, Eastern Box Turtle, Strigose Knotweed, Variable Sedge, and Mystic Valley Amphipod. The American Bittern and the Variable Sedge are listed as "endangered," and the Strigose Knotweed is listed as "special concern." Further protection of this area will require a coordinated effort between the two communities.

E. Fisheries and Wildlife

The marine and terrestrial habitats in and around Duxbury and Plymouth Bays support some of the State's most important wildlife and fisheries resources. The ecological value of the region is well understood in Duxbury and residents have supported efforts to protect its wildlife and fishery resources.

1. Marine Fisheries

Duxbury's 37 mile tidal shoreline is characterized by expansive coastal mudflats that sustain some of the most important commercial and recreational shellfisheries in southeastern Massachusetts. Salt marsh and tidal flats provide habitat for clams and other shellfish as well as many invertebrates that are a food source for a wide variety of wildlife. For some time, these have been the focus of town and state sponsored protection efforts. Most of the shellfish beds are healthy due in part to an aggressive shellfish propagation and cultivation program administered by the Duxbury Harbormaster/Coastal Resources Department and the Massachusetts Division of Marine Fisheries. The program involves ongoing water quality sampling in and around shellfish beds, reseeding, and monitoring of contaminated beds. Areas formerly closed, such as the Bluefish River and Eagle's Nest Bay have been opened conditionally (November 1st to May 1st). Kingston Bay is now partially open. These improvements are also partially due to completion of the shared community sewage disposal systems along the Bluefish River and the Snug Harbor area. The Bay Road Shared System, which is now under construction, should further improve conditions in Kingston and Duxbury Bays.

A new industry is being tested in Duxbury, yet it is uncertain as to whether it will become viable. There are 30 acres of tidal flats and deep water being leased to individuals for shellfish aquaculture, another reason for maintaining good water quality in the Bay.

Shellfishing has both commercial and recreational value in Duxbury. During the fiscal year 2001 shellfish permits brought in $47,390 in revenue to the Town. Harvestable shellfish species include soft-shell clams, quahogs, mussels, razor clams, sea clams, oyster, and scallops.

In addition to shellfishing, Duxbury Bay also supports a small commercial lobster fishery and finfishing. Most of Duxbury's lobster boats work throughout Cape Cod Bay. The past five years has seen a steady improvement in the health of Duxbury's finfishery. Important commercial and recreational species include Bluefish, Striped Bass, Taugtog, and Fluke. A number of finfish charter boats operate out of Duxbury Bay, allowing residents and visitors to experience both bay and off-shore fishing.

2. Wildlife

Duxbury's contiguous forest habitat provides important feeding and nesting areas for a variety of wildlife. Mammals such as opossum, skunk, raccoon, fox, rabbit, and deer can be found in the fields and woodlands. Wetland areas support otter, mink, and muskrat. The predominant bird species found in Duxbury's few fields and edge zones include: the ruffed grouse, quail, turkey, bobolink, red-tailed hawk, pheasant, and great horned owl.

Birdwatching is a popular pastime for many Duxbury residents. A weekly column in the *Duxbury Clipper* reports on winter bird populations at local feeders, the arrival of spring song birds, the activity of birds of prey, and the annual migration of coastal shorebirds. The list of bird sightings in Duxbury during any given year is extensive. During the summer, the Duxbury Beach Reservation, Inc. funds a program, administered by the Massachusetts Audubon Society, which conducts weekly natural history programs at the Beach for children and adults.

According to the Massachusetts Natural Heritage Program, Duxbury Beach and its adjacent salt marsh and tidal flats are a "high priority site for protection." The Piping Plover, a "threatened" species at both federal and state levels, and two "species of special concern," the Least and Arctic Terns, are known to breed on Duxbury's barrier beach. Adjacent tidal flats and expansive salt marshes are of international significance for migratory shorebirds. These areas provide resting and feeding grounds. Part of the annual migration feeds on the enormous quantities of horseshoe crab eggs left on tidal flats during May and June. However, the recent decline in the horseshoe crab population may significantly reduce this important food supply. Regulations have been imposed to reduce the number of horseshoe crabs taken for bait and medical purposes. Thousands of Eider ducks winter in Duxbury Bay, as do Brant and Buffleheads who feed on mussel beds exposed during low tides.

Areas adjacent to Duxbury's streams and ponds provide significant freshwater and upland habitat for a variety of birds, fish, and mammals. Black Ducks, Wood Ducks, Mallards and swans, as well as muskrats and mink, are often sighted in these freshwater areas. Some of Duxbury's streams and ponds also provide fishing for Brown and Brook Trout, White Perch, Pickerel and Black Bass. The Box Turtle, a "species of special concern," has been recorded at two locations, near significant streams and wetland areas.

3. Wildlife Migration Corridors

Housing and commercial developments and roadways, particularly highways, fragment wildlife habitat and interrupt corridors that wildlife use in search of food and mates. Duxbury's contiguous forested areas and six river watersheds with their associated upland areas serve as such corridors. The Division of Fisheries & Wildlife's Natural Heritage and Endangered Species Program cites, in particular, the South River, its tributaries, and upland buffers as forming an important corridor for species movement.

One of the most significant wildlife migratory areas is Duxbury Beach with its adjacent marshes and tidal flats. These areas provide nesting, feeding and resting areas for many species of migrating shore birds and water fowl on the eastern flyway. Massachusetts Audubon has named Duxbury and Plymouth Bays an "Important Bird Area." This area is considered one of the state's largest natural embayments and once supported one of the largest tern colonies in New England. It also supports nearly 10% of the state's coastal wintering Black Ducks and large numbers of Brant.

F. Scenic Resources

1. Scenic Landscape

New England coastal towns are known worldwide for their scenic qualities. Duxbury is among the many South Shore towns which value their historic buildings, coastal character, and scenic roadside views (Refer to Map 6. Scenic Views). Water views of Kingston Bay and Duxbury Bay are visible from many local streets, particularly Standish, Marshall, Crescent, Washington, Harrison, St. George Street, Bay and King Caesar Roads, and Powder Point Avenue. Many other smaller residential roads which connect to these feeder streets also offer exceptional harbor views. Mattakeesett Court, which leads to the Town Pier and the Duxbury Yacht Club, offers views of the boat basin and lively harbor activity. Rewarding views of cranberry bogs are available from several Route 14 locations and from Temple and High Streets. Freshwater ponds and adjacent shrub swamps can be seen from Tobey Garden Street and Route 3. Bay Farm Field, an open meadow, is in full view from the Duxbury-Kingston line. From the top of the Myles Standish Monument on Captain's Hill, one can often see the Pilgrim Monument in Provincetown, 19 miles to the east. Mariners traveling along Massachusetts' south coast use the Myles Standish Monument, visible for miles, as a navigational guide. The Swanson Farm on Route 53 was purchased by the Town in 1999 because of its scenic and historic value and because it contains a tributary of the South River. Recurring roadside views of farmhouses and cranberry bogs; harbors, salt marshes, boats at their moorings, historic houses and antique shops are among the attractions which draw tourists to Duxbury throughout the summer.

2. Archeological and Geological Features

Several archeological sites exist within Duxbury. The Massachusetts Historical Commission cites 33 recorded ancient Native American sites in Duxbury and 3 historical archaeological sites. Many are situated on protected or semi-protected land and are less vulnerable to development pressures. The foundation of the original John Alden House, located adjacent to the Alden School property, was the site of an archeological dig in the 1950's. Resulting research yielded valuable information about the present Alden House. At Bay Farm, a Town-owned property, a Native American site exists near the banks of the Jones River. Other Native American sites have been reported in the North Hill and Millbrook areas and it is not unusual to find an arrowhead about Town. The Myles Standish cellar hole property on Standish Shore has attracted much interest from historians researching Mayflower descendants. Throughout Town there are historic mill sites along stream banks and tidal rivers where water power was used to grind grain and in the lumber and cranberry industries. The former Tide Grist Mill was located off Washington St. at the Bluefish River. At the Trout Farm Conservation Area, the site of Howland's mill is well protected and enjoyed by walkers in the area.

The Duxbury Historical Commission is charged with identifying the town's historic resources, including archaeological sites; planning for their protection; and implementing protective procedures. They have already identified over 130 historical properties and are moving forward to identify nearly an equal number of other historic properties throughout Town.

Geologic sites, though not unique to the South Shore, include cranberry bogs which were originally peat bogs. After the peat was removed and burned as fuel, the bogs were leveled, sand was added, and they were planted with cranberries. Kettle holes, because of their protective slopes, were used to grow timber for masts and are of geologic and historical interest. Duxbury Beach, is one of several Massachusetts glacial outwash barrier beaches, which are unique geologic features of New England.

3. Cultural and Historic Areas

People are drawn to Duxbury for its cultural and historic resources (Refer to Map 7. Historical & Cultural Sites). Though a Town of only 15,000 residents, Duxbury provides numerous and unique cultural opportunities. The Art Complex Museum, built and endowed by the Weyerhaeuser family, features rotating art exhibits, houses an extensive research library, and a Japanese Tea House and garden. It is open, free of charge, to the public. The Duxbury Free Library, completed in 2000, is housed in a remodeled high school. The library contains the Helen Bumpus Gallery, which showcases local artists on a rotating basis, and an extensive collection on the history of Duxbury, and state of the art computer facilties.

In 1997, the South Shore Conservatory of Music completed an extensive renovation of the former Holy Family Church on St. George Street to create the Ellison Center for the Arts. Enrollments in the Ellison Center music, art, and drama programs has been so favorable that the South Shore Conservatory is seeking additional space. Lectures and concerts are held there throughout the year and it is anticipated that the new performing arts center, slated for completion in 2003, will meet the growing need for adequate seating. Outdoor summer concerts are given throughout the Town for enjoyment and as community project fund raisers.

In 1997, the Duxbury Rural & Historical Society acquired the Nathaniel Winsor, Jr. House and in the Spring of 2001, the Society received a prestigious Preservation Award from the Massachusetts Historical Commission for the preservation of this historic house. Hundreds of people donated their time and money and craftsmen and artisans contributed their skills in the restoration of the building. The acquisition sparked renewed interest in activities that include a historical lecture series, new exhibits, social gatherings at its historic homes, the annual Clarks Island Picnic, and guided walks on its landholdings. The archival holdings are growing and higher standards for collections management and museum interpretation have been set. The Society is now investigating the development of a storage facility for irreplaceable documents.

Duxbury's rich historic heritage stretches back almost four centuries to the time of the Plymouth Colony. Sites include: the John Alden House, a museum house containing many artifacts from the Alden family; the Myles Standish cellar hole overlooking Plymouth Harbor on Standish Shore; the gravesites of John Alden, Priscilla Mullin, Elder Brewster, Myles Standish and others; and the Elder Brewster lilacs located at the site of former Elder Brewster Homestead, said to have arrived on the Mayflower, and still thriving on Standish Shore. The Alden Kindred of America is in the process of applying for National Historic Landmark status for the John Alden House Museum as well as the first site and foundation of the original 1627

John Alden House. The Kindred is expanding its educational programs in Duxbury and will eventually extend its programs to other South Shore towns.

From Duxbury's shipbuilding era of the mid 1800's, four historic house museums are operated and maintained by the Duxbury Rural and Historical Society: the Gershom Bradford House, the Drew House, the King Caesar House, and most recently, the Nathaniel Winsor, Jr. House. The Cable House, privately owned, was the site of the first transcontinental cable connecting Duxbury to Paris. Several former one room school houses have been restored by private owners can be seen driving around Duxbury. The Wildlands Trust of Southeastern Massachusetts is headquartered in Duxbury and owns the Captain Cushman House. The Wildlands Trust has loaned its collection of Captain Cushman's memorabilia to the Duxbury Rural & Historical Society. Tourists traveling to Plymouth often spend a day in Duxbury visiting these historic treasures.

The Historical Commission (charged with identifying historic and archaeological sites and planning for their protection) hired Edward Connors and Associates to complete a Preliminary Survey Plan (PSP). The PSP identified 20 recommended survey areas. A preservation consultant was then hired by the Town to complete an inventory of 134 properties. The second stage of the survey will encompass an additional 130 properties.

The Town Green Project, which included the purchase of open space for the new Town Green, was the combined effort of The Wildlands Trust of Southeastern Massachusetts and the Conservation Commission. The land was purchased with funds from The Wildlands Trust, The Duxbury Rural & Historical Society, private donors, and Town funds. To celebrate the acquisition of the Town Green property, an ice cream social was organized and over 450 people attended. The site recently served as meeting place for an interfaith service and community discussion of the September 11, 2001 Tragedy.

4. Areas of Critical Environmental Concern

Though Duxbury has no officially designated Areas of Critical Environmental Concern (ACEC's), several areas previously noted are critical habitat areas (the Duxbury Marsh with its several salt marsh islands, Duxbury Beach, areas along the South River in the northern portion of Duxbury; and North Hill Marsh).

G. Environmental Problems and Statistics

Duxbury is fortunate to have been spared significant environmental problems. There are no hazardous waste disposal sites in the community. The former landfill, a twelve acre site on Mayflower St., was closed and capped in 1976 and replaced with a transfer station. Two former private landfill sites, the McNeil Dump for demolition debris and a regional stump dump on Keene St., are no longer in operation. The McNeil Dump is within Zone II of an Aquifer Protection Overlay District and needs to be capped. The Keene St. site needs to have the stumps removed or the site capped.

The Duxbury transfer station includes drop offs for household trash, separated construction debris, and brush, plus an innovative recycling program. There is an area for paint collection, a "take it or leave it" furniture area, a book swap shack, and a bicycle purchase area. Leaves are composted and the mulch is available without charge. White plastic milk and beverage containers are processed and sold as base stock for the manufacture of polartec. Hazardous waste collection occurs bimonthly and white goods are received as well as used tires, oil, and Number 2 plastic. Batteries and styrofoam are recycled

Flooding in the coastal areas of Town is a reoccurring problem and is usually the result of a coastal storm. Areas in the Federal Emergency Management Area (FEMA) Coastal Flood Zones are typically flooded during extreme high tides and major storm events. These zones in Duxbury include lowlands adjacent to the Bluefish River and Gurnet Road. Most of these floods do not seriously impact the Town; but, they are chronic. Duxbury Beach serves as a protective barrier for Duxbury, Kingston, and Plymouth Bays. The northerly section of the barrier is heavily populated with 300 homes that receive property damage during significant coastal storms. To the south, the undeveloped barrier suffers extensive damage to its dune structure. Flooding in the inner embayment consists mainly of still water floods because Duxbury Beach serves as a barrier that protects the inner coastline from wave damage. However, in the early 1990's the Beach was heavily damaged by two major storms, seriously threatening Duxbury Bay, and sacrificial dunes had to be constructed.

The presence of Methyl Tertiary Butyl Ether (MTBE) at the Damon #2 and the Mill Brook #2 wells has raised serious concerns and the shutting down of wells by the Water Department. The Damon wells are currently being tested for yield and the Department continues to monitor all wells for elevated levels of MTBE and other possible contaminants. Recent testing appears to indicate that MTBE levels may be decreasing over time.

Because Duxbury lacks a sewer system, there is great concern that the spread of residential subdivisions will impact drinking water supplies. Septic systems encroaching on the zones of contribution to municipal wells are a threat because they can discharge nitrogen and other undesirable chemicals into the groundwater.

Other than temporary sedimentation from construction, there are no chronic areas of erosion. That is due to the relatively level topography of the Town. One constant sedimentation problem is that of air-born sand from the barrier beach blowing into Duxbury Bay. This is one source of material accumulation that necessitates recurring dredging of the harbor and channels.

In addition to approximately 400 underground storage tanks for home heating oil, these commercial underground storage tanks are being monitored by the Duxbury Fire Department.

Name	**Location**	**Size and Product**
Millbrook Motors	1472 Tremont St.	4000 gal. gasoline
Osborn's Store	632 Summer St.	6000 gal. gasoline
		6000 gal. gasoline

Bayside Marine	433 Washington St.	5000 gal. gasoline
		4000 gal. gasoline
Duxbury Exxon	10 Washington St.	8000 gal. gasoline
		12,000 gal. gasoline
		10,000 gal. gasoline
		10,000 gal. waste oil
Barney's Service	260 St. George St.	12,000 gal. gasoline
		10,000 gal. diesel
Bennet Tire Co.	127 Tremont St.	8,000 gal. gasoline
		8,000 gal. gasoline
		4,000 gal. diesel
		1000 gal. waste oil
Town of Duxbury	668 Tremont St.	10,000 gal. gasoline
		10,000 gal. diesel
Mass. Dept. Public Works	127 Summer St.	removed
Avery Lovell	Mayflower St.	removed
Alvin Hollis	Railroad Ave.	1000 gal. diesel
		4-10,000 fuel oil (above ground)
George Fogg	25 Russel Rd.	1000 gal. gasoline
Richard Schaffer	122 Tremont St.	2-10,000 gal. fuel oil
Duxbury Yacht Club	Harrison St.	1,000 gal. Gasoline
		500 gal. diesel (above ground)

V. Inventory of Lands of Conservation & Recreational Interest

Open space in the Town of Duxbury is owned by many government and non-government agencies (Refer to Map 1. Protected & Recreational Open Space). This inventory section divides this land into two broad categories: protected and semi-protected lands. Protected lands are preserved in perpetuity and are under the care and control of the Duxbury Conservation Commission, the Duxbury Water Department, and the Massachusetts Department of Environmental Management or non-profit organizations, such as the Massachusetts Audubon Society, The Wildlands Trust of Southeastern Massachusetts, and the Duxbury Beach Reservation, Inc.. Land owned by the Duxbury Rural & Historical Society is protected by deed restrictions and there is a movement afoot to place conservation restrictions on many other properties to ensure their protection for generations to come. All other open space is considered semi-protected because the group or agency that owns it, while presently using it for open space purposes, has the ability to change that use. These properties include land under the care and control of government agencies, such as the Duxbury Board of Selectmen the School Department; non-profit organizations such as The Boys' and Girls' Camps Inc. of Boston; and churches. Land held under Massachusetts General Law, Chapter 61 tax program, is included in this category as it presently is being held as open space with the Town retaining the right of first refusal if a change of use or sale is proposed by the owner.

The groups owning land listed in the inventory have provided the Town of Duxbury with open space for many years. The Massachusetts Department of Environmental Management owns and manages the Myles Standish Reservation which includes a granite tower topped with a larger than life-size statue of Captain Myles Standish facing seaward. The monument and its 28.68 acres of associated open space are situated at the top of Captain's Hill. On a clear day it can be seen from Provincetown, 19 miles to the east. The first organization to work for land preservation was the Duxbury Rural and Historical Society. As early as the 1880's, the Society began to acquire land for preservation. In 1919, the Duxbury Beach Association acquired Duxbury Beach. In 1975, the title to the Beach was transferred to the Duxbury Beach Reservation, Inc., in order to preserve the beach as a geological barrier, wildlife habitat, and recreational resource consistent with the Corporation's primary ecological objective. In the 1960's and 1970's the Duxbury Conservation Commission, under the leadership of Dr. Lansing Bennett, acquired the majority of the over 2,000 acres the Commission controls today. In 1974, Massachusetts Audubon Society acquired the North Hill Wildlife Sanctuary; and finally, The Wildlands Trust of Southeastern Massachusetts (formerly The Plymouth County Wildlands Trust) began to acquire open space in the 1980's. All these public and semi-public organizations are included in this inventory as owners of open space in Duxbury.

Duxbury Assessors' maps utilize a unique, art numbering system which identifies the map, parcel, and owner with a nine digit number. For example, a lot numbered 010-502-006, would be located on map 010, be owned by the Conservation Commission "502" and be parcel 006. Each Town department has an assigned "500" number. For example, town lands are designated "505", Water Department properties "509". Each private non-profit

organization has an assigned "400" number. This method enables the Assessor's map users to quickly determine private or public ownership and which department or organization is the owner. The acreage, as stated, is for the Assessor's use and may not be accurate. A survey may incur a significant expense and in most cases has not been undertaken.

It is interesting to note that almost one-third of Duxbury's open space is temporarily protected under Chapters 61, 61A or 61B of the Massachusetts General Laws. Chapter 61 land is under forest management. Owners with more than 10 acres of forest are eligible for enrollment and must submit a Department of Environmental Management (DEM) approved forest management plan and management certificate to the town assessor for a new tax classification. Under this designation the assessment is reduced by 95%. The loss of taxes to the Town is partially offset by a yield tax of 8% that the owner pays on the value of the wood harvested annually. Chapter 61A applies to agricultural or horticultural land, but can be used for the forested portions of a farm if the DEM approves the forest management plan. The farm owner must have five or more contiguous acres being used for agricultural or horticultural purposes and the land must produce annual gross sales of not less than $500.00. For each additional acre over five, the minimum produce value is $5.00 and there is no product value for woodlands and wetlands, for which the added value is $0.50 per acre. Chapter 61A property is assessed at rates that are based on the agricultural uses. Generally, there is a reduction of 80% in assessed value. Chapter 61B applies to land designated for recreational use, and at least five contiguous acres. The land must be retained in a natural state to preserve wildlife and natural resources and must be devoted primarily to recreational use, and must provide a public benefit. This includes hiking, camping, nature study, shooting/target practice, hunting, and skiing. The assessed value of this classification is reduced by approximately 75%.

The following is a list of all Protected and Semi-Protected land in Duxbury. The list includes the Assessor's number, street address, acreage, registry page, transfer date, and grant received. The Conservation Commission Land list includes the map number as it appears on Map 1. Protected and Recreational Open Space.

A. Protected Land

1. CONSERVATION COMMISSION LAND

MAP #	ASSESSOR MAP #	STREET ADDRESS	ACREAGE	REGISTRY BOOK & PAGE	TRANSFER DATE	GRANT RECEIVED
010-502-000	Temple St. (Feinberg Bogs)		0.60	Bk. 3699 p. 180	08/16/1971	S-H #16
010-502-001	North St. (Feinberg Bogs)		2.20	Bk. 3699 p. 180	08/16/1971	S-H #16
010-502-002	North St. (Feinberg Bogs)		0.10	Bk. 3699 p. 180	08/16/1971	S-H #16
94	020-500--034	Franklin St.	1.03	Bk. 4165 p. 334		
98	020-500-017	Union St.	2.40			
94	020-500-044	Union Bridge Rd.	4.91	Bk. 1711 p. 524		
98	020-500-073	Keene St.	4.49	Bk. 11693 p. 152		
98	020-502-003	West of Keene's Brook		Bk. 3712 p. 168	09/28/1971	S-H #17
98	020-502-003	West of Keene's Brook	58.65	Bk. 3587 p. 536	04/27/1970	S-H #6
98	020-502-003	West of Keene's Brook		Bk. 3712 p. 169	09/28/1971	S-H #18
98	020-502-004	Franklin St.	24.50	Bk. 3608 p. 751, LCC 114020	08/04/1970	S-H #7
020-502-008	Summer St.	10.03	Bk. 4382 p. 162; Bk. 4375 p. 193		12/07/1977	
98	020-502-010	Summer St.	2.77	Bk. 3971 p. 40	03/13/1974	
020-502-011	Summer St.	4.76	Bk. 16820 p. 341	10/15/1998		
020-502-018	Summer St.	7.82	Bk. 3687 p. 91	07/08/1971	S-H #10	
020-502-019	Summer St.	0.92	Bk. 3687 p. 91	07/08/1971	S-H #10	
94	020-502-020	Keene St.	86.28	Bk. 3687 p. 91	07/08/1971	S-H #10
98	020-502-021	Congress St.	53.49	Bk. 3687 p. 91; Bk. 3712 p. 168	09/28/1971	S-H #11

MAP #	ASSESSOR MAP #	STREET ADDRESS	ACREAGE	REGISTRY BOOK & PAGE	TRANSFER DATE	GRANT RECEIVED
94	020-502-022	Union St.	5.19	Bk. 3687 p. 91; Bk. 3712 p. 169		S-H #22
98	020-502-029	Congress St.	9.86	Bk. 3673 p. 510, 511	05/25/1971	S-H #20
98	020-502-030	Keene St.	33.94	Bk. 3887 p. 164	05/04/1973	S-H #24
94	020-502-036	off Franklin St.	4.06	Bk. 5170 p. 177, 178	07/01/1982	
	020-502-042	Congress St.	9.10	Bk. 18715 p. 307	07/21/2000	
98	020-502-089	off Congress St.	5.97	Bk. 4593 p. 324	12/28/1978	
98	020-502-096	Union St.	11.28	Bk. 16870, p. 220	11/30/1998	
98	020-502-098	Union St.	4.19	Bk. 8030, p. 40	07/16/1999	
98	020-502-101	Union St.	10.18	Bk. 4134 p. 769, 770	02/03/1976	
98	020-502-102	Union St.	0.99	Bk. 7202 p. 335	08/27/1986	
	020-502-117	Summer St.	1.70	Bk. 17795, p. 298	08/23/1999	
	020-502-118	Summer St.	1.80		12/31/1998	
98	020-502-171	Congress St.	0.71	Bk. 4059 p. 782	04/16/1975	
93	030-502-000	Valley St.	8.75	Bk. 3846 p. 583	12/15/1972	
94	030-502-005	Union St. & Franklin St.	122.60	Bk. 3606 p. 345, 346; Bk. 3604	07/23/1970	S-H #12
	030-502-023	off High St.	22.46	Bk. 3687 p. 91	07/08/1971	S-H #13
94	030-502-038	Summer St.	14.08	Bk. 3864 p. 489	02/21/1973	
94	030-502-049	Cross St.	3.40	Bk. 4272 p. 388	06/03/1977	
93	030-502-050	Valley St.	1.50	Bk. 4814 p. 217	04/11/1980	
93	030-502-051	Birch & Valley St.	104.65	Bk. 4297 p. 234	04/26/1977	S-H 25

MAP #	ASSESSOR MAP #	STREET ADDRESS	ACREAGE	REGISTRY BOOK & PAGE	TRANSFER DATE	GRANT RECEIVED
	040-502-016	Hitty Tom Rd.	0.93	Bk. 4737 p. 134		
93	030-502-056	Summer St.	1.32	Bk. 12796 p. 270	04/11/1994	
	040-502-030	Autumn Ave.	3.50	Bk. 3907 p. 601	07/02/1973	
	040-502-032	Lakeshore Dr.	1.10	Bk. 3694 p. 499; Bk. 3417 p. 555	08/02/1971	
	040-502-034	off Autumn Lane	4.22	Bk. 3907 p. 601	07/02/1973	
	040-502-051	Lakeshore Dr.	9.00	Bk. 4905 p. 197	08/06/1980	
106		050-502-006	North St.(Feinberg Bogs)	99.58	Bk. 3699 p. 180,181	08/16/1971 S-H #16
105		050-502-007	Temple St.	32.50	Bk. 3607 p. 239	07/28/1970 S-H #5
	050-502-024	off Laurel St.	11.9	Bk. 3687 p. 91	07/08/1971	S-H #15
	050-502-025	off Laurel St.	4.00	Bk. 3687 p. 91	07/08/1971	part of S-H #15
	050-502-032	off Temple St.	0.07	LLC 39019	04/14/1999	
101		060-502-004	Franklin St.		354.00	06/26/1998
	060-502-014	Windward Way	5.57		04/11/1994	
	060-502-018	Franklin St. adjacent to Rte. 3	11.70	Bk. 4944 p. 95	01/21/1981	
102		070-502-000	Franklin St.	61.00	Bk. 4606 p. 189	01/24/1979
	070-502-008	Congress St.	8.78	Bk. 3589 p. 274, Bk. 3828 p. 458	05/05/1970	
	080-502-003	King Phillips Path	1.09	Bk. 20193 p. 250	06/20/2000	
	080-502-009	Chandler St.	0.44	LCC# 47650	08/16/1971	S-H #21
87	080-502-010	Chandler St.	23.65	LCC #47650	08/16/1971	part of S-H #21
94	080-502-026	Union St.	65.90	Bk. 3687 p. 91	07/08/1971	part of S-H #12

MAP #	ASSESSOR MAP #	STREET ADDRESS	ACREAGE	REGISTRY BOOK & PAGE	TRANSFER DATE	GRANT RECEIVED
	080-502-027	Union St.	0.80	Bk. 3687 p. 91	07/08/1971	S-H #10
	080-502-028	King Phillips Path	9.62	Bk. 3687 p. 91	07/08/1971	S-H #14
	080-502-032	King Phillips Path & Vine St.	22.42	Bk. 3794 p. 359, Bk. 3784 p. 116		
87	090-502-033	Mayflower & East St.	173.85	Bk. 3899 p. 173, also Bk. 3971 p.		S-H #21
87	090-502-061	East St.	0.25	Bk. 4156 p. 521	05/03/1976	
87	090-502-330	East St.	0.26	Bk. 14858 p. 180	12/19/1996	
	090-502-917	Fordville Rd.	8.57	Bk. 3939 p. 383	10/11/1973	
82	100-502-011	Mayflower St.		Bk. 3525 p. 407	06/12/1969	
82	100-502-011	Mayflower St.		Bk. 3531 p. 747	07/07/1969	
82	100-502-011	Mayflower St.		Bk. 3541 p. 349	08/15/1969	
82	100-502-011	Mayflower St.	30.24	Bk.. 3541 p. 348, 349, 350; Bk.		
82	100-502-011	Mayflower St.		Bk. 3541 p. 348	08/15/1969	
82	100-502-011	Mayflower St.		Bk. 3531 p. 748	07/07/1969	
82	100-502-011	Mayflower St.		Bk. 3541 p. 350	08/15/1969	
86	100-502-041	off Elm St., adjacent to Rte 3	0.05	Bk. 4972 p. 469	04/03/1981	
86	100-502-043	Summer St.	40.43	Bk. 3901 p. 754	06/18/1973	
82	100-502-062	on Island Creek Pond	6.75	Bk. 4256 p. 312	04/14/1977	
82	100-502-063	off Mayflower St.	10.66			
82	100-502-064	on Island Creek Pond	2.18	Bk. 15925 p.284, 285, 287, 289		
82	100-502-066	Elm & Mayflower St.	54.90	Bk. 4776 p. 199	12/31/1979	

MAP #	ASSESSOR MAP #	STREET ADDRESS	ACREAGE	REGISTRY BOOK & PAGE	TRANSFER DATE	GRANT RECEIVED
82	100-502-074	Mayflower St.	3.10		09/03/1998	
	110-502-042	South St.	24.03	Bk. 4053 p. 732	03/19/1975	
	110-502-053	off Forge Way	17.10	Bk. 5772 p. 253, Bk. 6185 p. 206		
	110-502-056	South St.	0.03	Bk. 4053 p. 732	03/19/1975	
	110-502-057	adjacent to Route 3	0.51	Bk. 14904 p. 338	01/02/1997	
	120-502-007	Lincoln St.	19.18	Bk. 4172 p. 799	06/23/1976	
	120-502-104	Old Cordwood Path	2.79	Bk. 12308 p. 259	10/20/1993	
77	130-502-009	Modoc St.	7.64	Bk. 6995 p. 344, Bk. 3682 p. 711	08/01/1986	S-H #26, ALA #7
77	130-502-016	Moduc St.	4.79		12/02/1998	
77	130-502-017	Modoc St.(off Barnswallow	5.17	Bk. 15493 p. 265		
77	130-502-018	Modoc St.	8.52	Bk. 1822 p. 112, LCC 68744, Bk.	08/01/1986	S-H #26, ALA #7
77	130-502-022	Modoc St.	7.34	Bk. 3862, p. 184	02/09/1973	
77	130-502-023	Modoc St.	12.92	Bk. 3779 p. 199, Bk. 5542 p.	08/01/1986	S-H #26, ALA #7
77	130-502-024	Moduc St.	4.78	Bk. 15778, p. 20	12/30/1997	
77	130-502-025	off Modoc St.	2.35			
77	130-502-026	Modoc St.	11.51	Bk. 3682 p. 711, Bk. 6995 p. 344	08/01/1986	S-H #26, ALA #7
77	130-502-027	Modoc St.	2.36	LCC 73706, Bk. 5542 p. 100,	08/01/1986	S-H #26, ALA #7
77	130-502-028	Modoc St.	3.00	Bk. 3682 p. 711, Bk. 6995 p. 344	08/01/1986	S-H #26, ALA #7
77	130-502-029	Modoc St.	3.42	Bk. 3862 p. 184	02/09/1973	
	130-502-039	West St.	14.22	Bk. 20151 p. 104	07/06/2001	S.H.

MAP #	ASSESSOR MAP #	STREET ADDRESS	ACREAGE	REGISTRY BOOK & PAGE	TRANSFER DATE	GRANT RECEIVED
77	140-502-001	West St.	30.00	Bk. 5542 p. 100, LCC 68744	08/01/1986	S-H #26, ALA #7
81	140-502-012	Mayflower St.		Bk. 3607 p. 238	08/28/1970	S-H #9
81	140-502-012	Mayflower St.	20.75	Bk. 3607 p. 238; Bk. 3416 p.		S-H #9 (Walker
81	140-502-012	Mayflower St.		Bk. 3416 p. 674	12/27/1967	
81	140-502-012	Mayflower St.		Bk. 3389 p. 172	08/28/1967	
81	140-502-012	Mayflower St.		Bk. 3355 p. 149	03/28/1967	
81	140-502-013	Mayflower St.	34.59	Bk. 3461 p. 595, Bk. 3388 p. 44	08/18/1967	
	140-502-020	Modoc St.	16.69	Bk. 5542 p. 100, LCC 68744, Bk.	08/01/1986	S-H #26, ALA #7
	140-502-023	Modoc St.	8.75	Bk. 3682 p. 711, Bk. 6995 p. 344	08/01/1986	S-H #26, ALA #7
77	140-502-038	Mayflower St.	4.93	Bk. 5542 p. 100, LCC 68744, Bk.	08/01/1986	S-H #26, ALA #7
77	140-502-039	Modoc St.	13.80	Bk. 5542 p. 100, LCC 68744, Bk.	08/01/1986	S-H #26, ALA #7
77	140-502-073	Mayflower St.	4.99	Bk. 3864 p. 487	02/21/1973	
77	140-502-100	Mayflower St.	0.97	Bk. 5542 p. 100, LCC 68744, Bk.	08/01/1986	S-H #26, ALA #7
46	150-502-014	Tremont St.	0.41	Bk. 3453 p. 350	07/09/1968	
	160-502-015	Tremont St.	0.13	Bk. 3453 p. 350	07/09/1968	
	160-502-027	Bay Rd.	0.98	LCC 62906	11/30/1979	
	162-502-015	Mayflower Rd.	0.08	Bk. 3949 p. 250	11/23/1973	
	170-500-012	on West Brook	1.65	Bk. 11260 p. 226		
	170-500-025	on West Brook	3.68	Bk. 11260 p. 227		
	170-500-042	on no name brook	4.71	Bk. 11260 p. 228		

MAP #	ASSESSOR MAP #	STREET ADDRESS	ACREAGE	REGISTRY BOOK & PAGE	TRANSFER DATE	GRANT RECEIVED
	170-500-047	in Duxbury Marsh	0.85	Bk. 10702 p. 280		
	170-500-056	in Duxbury Marsh	2.00	Bk. 14194 p. 260		
	170-500-076	in Duxbury Marsh	6.44	Bk. 10702 p. 281		
	170-500-077	in Duxbury Marsh	2.59	Bk. 9057 p. 318		
	170-500-080	on Duck Hill River	1.36	Bk. 13184 p. 38		
	170-500-081	on Duck Hill River	0.92	Bk. 12648 p. 294		
	170-500-082	on Duck Hill River	1.80	Bk. 12648 p. 295		
	170-500-083	on Duck Hill River	2.62	Bk. 13011 p. 304		
	170-500-120	Little Harry Foot Island	3.00			
	170-500-121	Common Island	113.69			
	170-502-003	behind The Marshes lots	6.925	Bk. 11029 p.136	08/28/1991	
	170-502-016	Abrams Hill Rd.	1.16	Bk. 3590 p. 383	05/11/1970	
	170-502-031	Duck Hill Ave.	3.53	Bk. 3712 p. 169	09/28/1971	S-H #19
	170-502-043		0.19	Bk. 19741, p. 203	04/27/2001	
	170-502-050	near Duck Hill	2.40	Bk. 3917 p. 681	08/02/1973	
	170-502-073	Bradford St.	3.00	Bk. 5097 p. 428	12/31/1981	
	170-502-079	off Duck Hill	12.46	Bk. 5217 p. 9	12/30/1982	
	170-502-085	Abrams Hill, saltmarsh next to	8.47	Bk. 1907 p. 309, Bk. 5097 p. 351	12/30/1981	
	170-502-088	off Cove St.	1.81	Bk. 17671, p. 342	07/16/1999	
	170-502-120	Little Harry Foot Island	3.00	Bk. 1907 p. 960, Bk. 4290 p. 27	07/13/1977	

MAP #	ASSESSOR MAP #	STREET ADDRESS	ACREAGE	REGISTRY BOOK & PAGE	TRANSFER DATE	GRANT RECEIVED
	190-502-015	155 Depot St.	1.16	Bk. 4470, p. 436	06/16/1978	
	200-502-013	Standish Street	0.88	LLC 97198	04/07/2000	
	200-502-014	Tremont St.	6.90	Bk. 4145, p. 703	03/19/1976	
	200-502-114	74 Pinewood Ln.	1.73	Bk. 11714 p. 187	03/18/1993	
	210-500-000	Marginal Rd.	6.69	Bk. 6518 p. 322		
	210-500-903	on Canal River	0.45	Bk. 8975 p. 145		
	210-502-001	Gurnet Rd.	1.50	Bk. 12144 p. 212	08/24/1993	
	210-502-002	Gurnet Rd.	1.27	Bk. 12796 p. 274, LCC 28572	04/11/1994	
	210-502-011	off Gurnet Rd.	4.44	Bk. 4753, p. 91	05/21/1981	
	210-502-012	off Gurnet Rd.	3.06	Bk. 4996, p. 76	05/21/1981	
	210-502-017	Skirt Meadow in Duxbury Marsh	3.06	Bk. 3604, p. 583	07/16/1970	
	210-502-030	Skirt Meadow	4.00	Bk. 3712, p. 168	09/28/1971	S-H #19
	210-502-052	Skirt Meadow	9.05	Bk. 4708, p. 273	08/20/1979	
	210-502-061	Scat Island in Duxbury Marsh	4.00	Bk. 3841, p. 303	11/30/1972	
	210-502-062	Long Island in Duxbury Marsh	4.25	Bk. 3841, p. 303	11/30/1972	
	210-502-065	Flat Creek Salt Marsh	6.00	Bk. 4924, p. 458	12/10/1980	
	210-502-068	Canal River	2.80	Bk. 4591, p. 294	12/22/1978	
	210-502-069	Canal River (Gotham River)	15.00	Bk. 3971 p. 287	03/14/1974	
	210-502-070	salt meadow	11.44	Bk. 14279 p. 213	04/11/1996	
	210-502-073	Canal Creek	4.10	Bk. 4148 p. 726	04/01/1976	

MAP #	ASSESSOR MAP #	STREET ADDRESS	ACREAGE	REGISTRY BOOK & PAGE	TRANSFER DATE	GRANT RECEIVED
	210-502-074	adjoining Wood Island in	7.50	Bk. 5074 p. 36	10/30/1981	
	210-502-084	Duxbury Marsh	6.00	Bk. 15778 p. 25	12/31/1997	
	211-502-048	Pine Point Rd.	0.66	LCC 61322, Bk 306 p.122	12/22/1978	
	211-502-050	Pine Point Rd.	0.50	LCC 61323	12/22/1978	
	212-500-003	on Canal River	0.50	Bk. 2471 p. 136		
	212-500-085	on Canal River	4.60	Bk. 2140 p. 124		
	212-502-004	Gurnet Rd.	0.19	Bk. 3840 p. 560	11/28/1972	

2. State Owned Land

PARCEL ID	PROPERTY LOCATION	OWNER		LAND AREA	BOOK	PAGE	LAND COURT #
090.0-0599-0045.0	0 CHANDLER ST	COMMONWEALTH OF MASS	MASS DEPT PUBLIC WORKS	3.79	2085	434	
200.0-0599-0043.0	0 CRESCENT ST	COMMONWEALTH OF MASS	COMM OF NAT RESOURCES	28.67	2674	324	
090.0-0599-0044.0	113 SUMMER ST	COMMONWEALTH OF MASS	MASS DEPT PUBLIC WORKS	0.99	8223		LCC08223

3. Town Landings

PARCEL ID	PROPERTY LOCATION	OWNER		LAND AREA	BOOK	PAGE	LAND COURT #
160.0-0505-0973.0	0 LANDING RD	DUXBURY TOWN OF	TOWN LANDING	0.21	1040	583	
191.0-0505-0140.0	0 MATTAKEESET CT	DUXBURY TOWN OF	TOWN LANDING	1.05			
180.0-0505-0065.0	0 POWDER POINT AVE	DUXBURY TOWN OF	TOWN LANDING	0.3			
180.0-0505-0077.0	0 POWDER POINT AVE	DUXBURY TOWN OF	TOWN LANDING	0.24			
180.0-0505-0226.0	0 POWDER POINT AVE	DUXBURY TOWN OF	TOWN LANDING	0.99	1322	418	
192.0-0505-0212.0	0 SHIPYARD LN	DUXBURY TOWN OF	TOWN LANDING	1.22	1859	374	
180.0-0505-0019.0	0 ST GEORGE ST	DUXBURY TOWN OF	TOWN LANDING	0.21			

4. Water Department Lands

PARCEL ID	PROPERTY LOCATION	OWNER		LAND AREA	BOOK	PAGE	LAND COURT #
030.0-0509-0059.0	50 BIRCH ST	DUXBURY TOWN OF	WATER DEPT	1.49	2579	73	
120.0-0509-0025.0	0 CHURCH ST	DUXBURY TOWN OF	WATER DEPT	24.87	4069	684	
130.0-0509-0039.0	0 CHURCH ST	DUXBURY TOWN OF	WATER DEPT	0.03	4663	486	
130.0-0509-0040.0	0 CHURCH ST	DUXBURY TOWN OF	WATER DEPT	23.76	4663	492	
200.0-0509-0043.0	235 CRESCENT ST	DUXBURY TOWN OF	WATER DEPT	5.69	2467	230	
190.0-0509-0010.0	261 DEPOT ST	DUXBURY TOWN OF	WATER DEPT	0.99	2467	230	
150.0-0509-0033.0	175 EVERGREEN ST	DUXBURY TOWN OF	WATER DEPT	21.98	4085	372	
140.0-0509-0011.0	19 HOUNDS DITCH LN	DUXBURY TOWN OF	WATER DEPT	16.26	3694	628	
040.0-0509-0016.0	0 LAKE SHORE DR	DUXBURY TOWN OF	WATER DEPT	2.03	2511	476	
040.0-0509-0014.0	360 LAKE SHORE DR	DUXBURY TOWN OF	WATER DEPT	10.62	2497	159	PAGE MAYBE 59
120.0-0509-0007.0	0 LINCOLN ST	DUXBURY TOWN OF	WATER DEPT	1.64	2648	168	
100.0-0509-0074.0	0 MAYFLOWER ST	DUXBURY TOWN OF	WATER DEPT	16.36	3953	99	
140.0-0509-0012.0	590 MAYFLOWER ST	DUXBURY TOWN OF	WATER DEPT	27.9	13834	88	
190.0-0509-0116.0	106 PARTRIDGE ST	DUXBURY TOWN OF	WATER DEPT	2.38			
190.0-0509-0106.0	109 S STATION ST	DUXBURY TOWN OF	WATER DEPT	0.54	16344	272	
170.0-0509-0016.0	0 TREMONT ST	DUXBURY TOWN OF	WATER DEPT	1.4	2467	230	
130.0-0509-0056.0	130 TREMONT ST	DUXBURY TOWN OF	WATER DEPT	32.33	3313	61	

5. Non-Profit Land Organizations

PARCEL ID	PROPERTY LOCATION	OWNER	LAND AREA	BOOK	PAGE	LAND COURT #
Duxbury Rural & Historical Society Lands						
190.0-0404-0039.0	0 CHESTNUT ST	DUXBURY RURAL & HIST SOC INC	0.4	30	200	
060.0-0404-0013.0	0 CONGRESS ST	DUXBURY RURAL & HIST SOC INC	0.14	1223	502	
200.0-0404-0003.0	28 CRESCENT ST	DUXBURY RURAL & HIST SOC INC	12.63			
190.0-0404-0010.0	0 DEPOT ST	DUXBURY RURAL & HIST SOC INC	22.7	1613	191	
100.0-0404-0057.0	0 ELM ST	DUXBURY RURAL & HIST SOC INC	10.6	86929		
180.0-0404-0096.0	0 KING CAESAR RD	DUXBURY RURAL & HIST SOC INC	0.72	1926	478	
180.0-0404-0095.0	120 KING CAESAR RD	DUXBURY RURAL & HIST SOC INC	1.31	3253	237	
200.0-0404-0079.0	0 MARSHALL ST	DUXBURY RURAL & HIST SOC INC	0.85	2967	415	
200.0-0404-0085.0	0 MARSHALL ST	DUXBURY RURAL & HIST SOC INC	0.75	2019	227	
100.0-0404-0067.0	0 MAYFLOWER AVE	DUXBURY RURAL & HIST SOC INC	0.88	1223	502	
100.0-0404-0025.0	0 MAYFLOWER ST	DUXBURY RURAL & HIST SOC INC	50.67	3953	99	
211.0-0404-0941.0	0 PINE PT	DUXBURY RURAL & HIST SOC INC	2.17	2248	111	
180.0-0404-0068.0	0 POWDER POINT AVE	DUXBURY RURAL & HIST SOC INC	1.31	1223	502	
180.0-0404-0142.0	0 POWDER POINT AVE	DUXBURY RURAL & HIST SOC INC	2.14	1645	34	
170.0-0404-0028.0	0 ST GEORGE ST	DUXBURY RURAL & HIST SOC INC	0.34	7349	142	
180.0-0404-0020.0	0 ST GEORGE ST	DUXBURY RURAL & HIST SOC INC	0.1	1379	125	
180.0-0404-0021.0	0 ST GEORGE ST	DUXBURY RURAL & HIST SOC INC	1.16	1857	373	
110.0-0404-0050.0	0 SUMMER ST	DUXBURY RURAL & HIST SOC INC	0.25	6352		
160.0-0404-0000.0	0 TREMONT ST	DUXBURY RURAL & HIST SOC INC	2.5	3141	31	
170.0-0404-0078.0	0 TREMONT ST	DUXBURY RURAL & HIST SOC INC	5	5096	113	
170.0-0404-0117.0	0 TREMONT ST	DUXBURY RURAL & HIST SOC INC	0.1	1223	520	
190.0-0404-0006.0	0 TREMONT ST	DUXBURY RURAL & HIST SOC INC	13.55	1931	551	
190.0-0404-0000.0	931 TREMONT ST	DUXBURY RURAL & HIST SOC INC	9.78	3461	258	
180.0-0404-0024.0	0 WASHINGTON ST	DUXBURY RURAL & HIST SOC INC	0.3	1846	156	
180.0-0404-0174.0	0 WASHINGTON ST	DUXBURY RURAL & HIST SOC INC	1.69	4385	440	
191.0-0139-0000.0	479 WASHINGTON ST	DUXBURY RURAL & HIST SOC INC	0.75	15775	294	
180.0-0404-0147.0	685 WASHINGTON ST	DUXBURY RURAL & HIST SOC INC	3.85	1379	125	
The Wildlands Trust of Southeastern Massachusetts						
180.0-0418-0013.0	0 ANCHORAGE LN	THE WILDLANDS TRUST OF S E MA	8.96	14828	260	
180.0-0418-0000.0	40 ANCHORAGE LN	THE WILDLANDS TRUST OF S E MA	18.39	14828	260	
170.0-0436-0121.0	0 GREAT HARRY FOOT ISL	THE WILDLANDS TRUST OF S E MA	9.99	14828	260	
170.0-0403-0012.0	0 TREMONT ST	THE WILDLANDS TRUST OF S E MA	17.04	18101	120	
200.0-0404-0059.0	0 STANDISH ST	THE WILDLANDS TRUST OF S E MA	3.94			LCC93520
190.0-0403-0092.0	0 SURPLUS ST	THE WILDLANDS TRUST OF S E MA	4	3724	355	99PO472-EP1
170.0-0403-0017.0	0 TREMONT ST	THE WILDLANDS TRUST OF S E MA	11.98	18101	120	

B. Semi-Protected Land

1. Town Owned Land

PARCEL ID	PROPERTY LOCATION	OWNER		LAND AREA	BOOK	PAGE	LAND COURT #
070.0-0501-0011.0	0 LINCOLN ST	DUXBURY TOWN OF	CEMETARY DEPT	0.03			
190.0-0501-0038.0	0 CHESTNUT ST	DUXBURY TOWN OF	CEMETERY DEPT	1.48			
020.0-0501-0079.0	0 KEENE ST	DUXBURY TOWN OF	CEMETERY DEPT	1.08			
150.0-0501-0433.0	0 MAYFLOWER ST	DUXBURY TOWN OF	CEMETERY DEPT	0.38	1424	385	
140.0-0501-0019.0	0 TREMONT ST	DUXBURY TOWN OF	CEMETERY DEPT	61.49	3954	477	
150.0-0501-0432.0	0 TREMONT ST	DUXBURY TOWN OF	CEMETERY DEPT	1.21	1424	385	
070.0-0501-0022.0	0 WEST ST	DUXBURY TOWN OF	CEMETERY DEPT	0.49			
120.0-0503-0007.0	159 FRANKLIN ST	DUXBURY TOWN OF	FIRE DEPT	0.11	1269	474	
060.0-0503-0016.0	794 FRANKLIN ST	DUXBURY TOWN OF	FIRE DEPT	1.09	3346	147	
150.0-0503-0040.0	668 TREMONT ST	DUXBURY TOWN OF	FIRE DEPT	1.82	3341	332	
180.0-0503-0149.0	645 WASHINGTON ST	DUXBURY TOWN OF	FIRE DEPT	0.59	988	321	
050.0-0504-0043.0	0 ACORN ST	DUXBURY TOWN OF	HIGHWAY DEPT	0.06	1678	585	
090.0-0504-0027.0	0 SUMMER ST	DUXBURY TOWN OF	HIGHWAY DEPT	0.3			
190.0-0504-0026.0	0 TREMONT ST	DUXBURY TOWN OF	HIGHWAY DEPT	0.05	1936	459	
180.0-0506-0010.0	147 ST GEORGE ST	DUXBURY TOWN OF	LIBRARY	0.68	3374	137	
010.0-0510-0026.0	0 KEENE ST	DUXBURY TOWN OF	PARKS & PLAYGROUNDS	8.46	3643	732	
070.0-0510-0017.0	0 LINCOLN ST	DUXBURY TOWN OF	PARKS & PLAYGROUNDS	12.22	3446	86	
200.0-0510-0102.0	0 MAYFLOWER AVE	DUXBURY TOWN OF	PARKS & PLAYGROUNDS	1.03	1579	548	
180.0-0510-0007.0	0 TRAIN FIELD	DUXBURY TOWN OF	PARKS & PLAYGROUNDS	4.62	1440	479	
200.0-0510-0000.0	0 TREMONT ST	DUXBURY TOWN OF	PARKS & PLAYGROUNDS	3.3	3824	9	
130.0-0507-0011.0	0 WEST ST	DUXBURY TOWN OF	POLICE DEPT	1.15	3324	792	
180.0-0508-0007.0	77 ALDEN ST	DUXBURY TOWN OF	SCHOOL DEPT	64	2088	489	
090.0-0508-0038.0	93 CHANDLER ST	DUXBURY TOWN OF	SCHOOL DEPT	63.51	2927	94	
170.0-0508-0057.0	130 ST GEORGE ST	DUXBURY TOWN OF	SCHOOL DEPT	37.88	3319	39	
170.0-0080-0000.0	0 ABRAMS HILL	DUXBURY TOWN OF		1.36	8975	140	
170.0-0500-0081.0	0 ABRAMS HILL	DUXBURY TOWN OF		0.92	8975	141	
170.0-0500-0082.0	0 ABRAMS HILL	DUXBURY TOWN OF		1.8			
161.0-0500-0013.0	0 ALDEN AVE	DUXBURY TOWN OF		0.15	5395	260	
070.0-0500-0006.0	0 ALEXANDER WAY	DUXBURY TOWN OF		4.88	11836	133	
020.0-0500-0016.0	0 ASHDOD LN	DUXBURY TOWN OF		2.98	5469	414	
020.0-0500-0017.0	0 ASHDOD LN	DUXBURY TOWN OF		2.39	8068	237	
040.0-0500-0949.0	0 AUTUMN AVE	DUXBURY TOWN OF		0.07	19218	21	
162.0-0500-0099.0	0 BARTLETT AVE	PERSONS UNKNOWN		0.02			
110.0-0500-0039.0	1 BASSETT BROOK LN	DUXBURY TOWN OF		5.4	17667	340	
160.0-0500-0025.0	0 BAY FARM RD	DUXBURY TOWN OF		44.1			LCC50512
160.0-0500-0039.0	0 BAY RD	DUXBURY TOWN OF		1.09	56446		
170.0-0500-0077.0	0 BOURNE WHARF RD	DUXBURY TOWN OF		2.59	5051	474	

170.0-0500-0099.0	0	BOURNE WHARF RD	DUXBURY TOWN OF	2.59	5051	474	
170.0-0500-0069.0	0	BRADFORD ST	DUXBURY TOWN OF	4.25	6356	76	
040.0-0500-0156.0	0	CHANDLER POND	DUXBURY TOWN OF	15	3458	423	
080.0-0500-0001.0	0	CHANDLER ST	DUXBURY TOWN OF	1.34	15045	219	
080.0-0500-0037.0	0	CHANDLER ST	DUXBURY TOWN OF	24.67	5306	79	
090.0-0500-0020.0	0	CHANDLER ST	DUXBURY TOWN OF	0.97	14086	93	
090.0-0500-0064.0	0	CHANDLER ST	DUXBURY TOWN OF	0.05	4844	233	
080.0-0500-0047.0	594	CHANDLER ST	DUXBURY TOWN OF	1.61	14996	50	
200.0-0500-0024.0	202	CHESTNUT ST	DUXBURY TOWN OF	0.42	18913	173	
040.0-0500-0009.0	0	CLEARWATER DR	DUXBURY TOWN OF	0.94	8331	184	
040.0-0500-0010.0	0	CLEARWATER DR	DUXBURY TOWN OF	0.92	8331	185	
040.0-0500-0023.0	0	CLEARWATER DR	DUXBURY TOWN OF	0.92	8331	176	
040.0-0500-0024.0	0	CLEARWATER DR	DUXBURY TOWN OF	0.92	8331	177	
040.0-0500-0026.0	0	CLEARWATER DR	DUXBURY TOWN OF	0.97	8331	178	
040.0-0500-0027.0	0	CLEARWATER DR	DUXBURY TOWN OF	0.92	8331	179	
040.0-0500-0028.0	0	CLEARWATER DR	DUXBURY TOWN OF	0.95	8331	180	
040.0-0500-0033.0	0	CLEARWATER DR	DUXBURY TOWN OF	0.92	8331	183	
170.0-0500-0121.0	0	COMMON ISLANDS	DUXBURY TOWN OF	113.69			
020.0-0500-0085.0	0	CONGRESS ST	DUXBURY TOWN OF	0.15	4956	140	
070.0-0500-0060.0	0	CONGRESS ST	DUXBURY TOWN OF	5.29	14089	217	
120.0-0500-0001.0	0	CORDWOOD PATH	DUXBURY TOWN OF	0.03	5522	405	
120.0-0500-0008.0	0	CORDWOOD PATH	DUXBURY TOWN OF	0.35	5522	405	
120.0-0500-0023.0	0	CORDWOOD PATH	DUXBURY TOWN OF	0.26	4119	107	
170.0-0505-0093.0	0	COVE ST	DUXBURY TOWN OF	1.23	1464	580	
030.0-0500-0049.0	0	CROSS ST	DUXBURY TOWN OF	0.54	8975	147	
190.0-0500-0015.0	155	DEPOT ST	DUXBURY TOWN OF	1.24	14037	349	PRO 90PO676
020.0-0500-0066.0	0	DINGLEY DELL LN	DUXBURY TOWN OF	3.44	8068	238	
040.0-0500-0017.0	0	DUCK HILL RD	DUXBURY TOWN OF	0.59			
040.0-0500-0048.0	0	DUCK HILL RD	DUXBURY TOWN OF	0.59			
170.0-0500-0042.0	0	DUCK HILL RD	DUXBURY TOWN OF	4.12	5191	457	
170.0-0500-0047.0	0	DUCK HILL RD	DUXBURY TOWN OF	0.89	5604	193	
170.0-0500-0048.0	0	DUCK HILL RD	DUXBURY TOWN OF	0.59	5256	95	
170.0-0500-0049.0	0	DUCK HILL RD	DUXBURY TOWN OF	0.19	18766	112	
170.0-0500-0076.0	0	DUCK HILL RD	DUXBURY TOWN OF	6.44	5604	164	
170.0-0500-0083.0	0	DUCK HILL RD	DUXBURY TOWN OF	2.62			
170.0-0502-0088.0	0	DUCK HILL RD	TOWN OF DUXBURY	1.81	17671	342	
210.0-0500-0903.0	0	DUCK HILL RD	DUXBURY TOWN OF	8	8975	145	
210.0-0500-0904.0	0	DUCK HILL RD	DUXBURY TOWN OF	5.7	18246	253	
210.0-0070-0000.0	0	DUXBURY MARSH	TOWN OF DUXBURY	11.44	14279	213	
140.0-0500-0029.0	0	EAST ST	DUXBURY TOWN OF	0.73	1217	204	
110.0-0502-0053.0	0	FORGE WAY	DUXBURY TOWN OF	17.1	5772	253	
150.0-0500-0024.0	0	FOX RUN	TOWN OF DUXBURY	0.18	9242	39	LCC78835
020.0-0500-0009.0	0	FRANKLIN ST	DUXBURY TOWN OF	0.68	18647	290	
020.0-0500-0034.0	0	FRANKLIN ST	DUXBURY TOWN OF	1.03	4165	334	

210.0-0500-0000.0	0	GURNET RD	DUXBURY TOWN OF	6.69	6518	322	
212.0-0500-0003.0	0	GURNET RD	DUXBURY TOWN OF	0.5	2471	136	
212.0-0500-0085.0	0	GURNET RD	DUXBURY TOWN OF	4.6	2140	124	
210.0-0500-0060.0	166	GURNET RD	DUXBURY TOWN OF	2.77			LCD 476460
040.0-0500-0029.0	0	HALLS BROOK WAY	DUXBURY TOWN OF	0.99	18766	111	
040.0-0500-0031.0	0	HALLS BROOK WAY	DUXBURY TOWN OF	0.99	8331	181	
040.0-0500-0032.0	0	HALLS BROOK WAY	DUXBURY TOWN OF	0.97	8331	182	
180.0-0500-0010.0	0	HARRISON ST	DUXBURY TOWN OF	0.27	2450	449	
030.0-0500-0020.0	0	HIGH ST	DUXBURY TOWN OF	1.91	2611	116	
030.0-0500-0022.0	0	HIGH ST	DUXBURY TOWN OF	1.78	4165	334	
030.0-0500-0005.0	297	HIGH ST	DUXBURY TOWN OF	12.37	1596	119	
040.0-0500-0015.0	0	HITTY TOM RD	DUXBURY TOWN OF	0.93	4737	15	
040.0-0500-0016.0	0	HITTY TOM RD	DUXBURY TOWN OF	0.92	4737	134	
040.0-0500-0920.0	0	HITTY TOM RD	DUXBURY TOWN OF	0.36	9465	139	
010.0-0500-0008.0	0	KEENE ST	DUXBURY TOWN OF	9.7	13849	179	
010.0-0500-0013.0	0	KEENE ST	DUXBURY TOWN OF	0.92	4250	632	
020.0-0500-0022.0	0	KEENE ST	DUXBURY TOWN OF	1.1			02/16/1989
020.0-0500-0073.0	0	KEENE ST	DUXBURY TOWN OF	4.49	6223	336	
060.0-0500-0006.0	0	KEENE ST	DUXBURY TOWN OF	3.66	1711	523	
010.0-0500-0001.0	100 0	KEENE ST	DUXBURY TOWN OF	0.18	13849	180	
110.0-0500-0029.0	0	KINGS TOWN WAY	DUXBURY TOWN OF	0.14	16010	346	
110.0-0500-0036.0	0	KINGS TOWN WAY	DUXBURY TOWN OF	0.79	3624	714	
040.0-0500-0087.0	0	LAKE SHORE DR	DUXBURY TOWN OF	2.09	4082	680	
040.0-0500-0121.0	0	LAKE SHORE DR	DUXBURY TOWN OF	0.7	3958	495	
080.0-5025-0003.0	0	LEWIS FARM RD	TILDEN CORP	1.09	16213	199	
070.0-0500-0017.0	0	LINCOLN ST	DUXBURY TOWN OF	1.01	4158	580	
070.0-0500-0036.0	0	LINCOLN ST	DUXBURY TOWN OF	12.84	4088	112	
070.0-0500-0037.0	0	LINCOLN ST	DUXBURY TOWN OF	8.44	4088	110	
080.0-0500-0046.0	0	LINCOLN ST	DUXBURY TOWN OF	0.02	13907	319	
080.0-0500-0048.0	0	LINCOLN ST	DUXBURY TOWN OF	0.66			
080.0-0500-0055.0	0	LINCOLN ST	DUXBURY TOWN OF	0.79			
080.0-0500-0058.0	0	LINCOLN ST	DUXBURY TOWN OF	0.99	4221	414	
080.0-0500-0158.0	0	LINCOLN ST	DUXBURY TOWN OF	0.6	4221	415	
130.0-0500-0301.0	0	LINCOLN ST	DUXBURY TOWN OF	0.08	4980	217	
211.0-0500-0935.0	0	MARGINAL RD	DUXBURY TOWN OF	0.03	0	188	
090.0-0500-0055.0	0	MAYFLOWER ST	DUXBURY TOWN OF	1.31	1217	204	
100.0-0500-0017.0	0	MAYFLOWER ST	DUXBURY TOWN OF	0.97			
100.0-0500-0024.0	0	MAYFLOWER ST	DUXBURY TOWN OF	1.88	1217	204	
100.0-0500-0065.0	0	MAYFLOWER ST	DUXBURY TOWN OF	11.74	1651	490	
140.0-0500-0053.0	0	MAYFLOWER ST	DUXBURY TOWN OF	4.08			
140.0-0500-0057.0	0	MAYFLOWER ST	DUXBURY TOWN OF	0.91	19268	261	
140.0-0500-0080.0	0	MAYFLOWER ST	DUXBURY TOWN OF	25.98	4366	403	
140.0-0500-0082.0	0	MAYFLOWER ST	DUXBURY TOWN OF	27.21	1577	312	
140.0-0500-0097.0	0	MAYFLOWER	DUXBURY TOWN OF	0.16	1233	395	

140.0-0500-0098.0	0	MAYFLOWER ST	DUXBURY TOWN OF	1.12	1217	204	
150.0-0500-0039.0	0	MAYFLOWER ST	DUXBURY TOWN OF	18.98	1028	391	
150.0-0500-0041.0	0	MAYFLOWER ST	DUXBURY TOWN OF	7.06	6579	292	
150.0-0500-0431.0	0	MAYFLOWER ST	DUXBURY TOWN OF	2.59	1424	385	
150.0-0500-0098.0	0	MAYFLOWER ST	DUXBURY TOWN OF	0.34	1217	204	
040.0-0500-0020.0	0	MEADOW LN	DUXBURY TOWN OF	0.95			
040.0-0500-0021.0	0	MEADOW LN	DUXBURY TOWN OF	1.1			
140.0-0500-0027.0	47	MERRY AVE	DUXBURY TOWN OF	291.2	4366	423	
010.0-0500-0031.0	0	NORTH ST	DUXBURY TOWN OF	18.45	15653	299	
010.0-0500-0043.0	0	NORTH ST	DUXBURY TOWN OF	12.38	13637	311	
040.0-0500-0042.0	0	OLD FORGE RD	DUXBURY TOWN OF	2.54	8434	180	
080.0-0500-0038.0	0	OTTER ROCK RD	DUXBURY TOWN OF	0.08	3862	565	
160.0-0500-0037.0	0	PARKS ST	DUXBURY TOWN OF	0.63	426	233	
190.0-0500-0037.0	0	PILGRIM BY-WAY	DUXBURY TOWN OF	0.37	5355	261	
170.0-0500-0056.0	0	PINE HILL AVE	DUXBURY TOWN OF	2	5191	457	
210.0-0500-0421.0	0	PINE PT	DUXBURY TOWN OF	6.68	5523	419	
211.0-0500-0073.0	0	PINE PT	DUXBURY TOWN OF	0.05	3338	289	
040.0-0500-0012.0	0	PINE ST	DUXBURY TOWN OF	0.36	12207	242	
090.0-0500-0118.0	0	PIONEER DR	DUXBURY TOWN OF	4.75	13929	325	
162.0-0500-0094.0	0	PRENCE ST	DUXBURY TOWN OF	0.14	4250	363	
162.0-0500-0095.0	0	PRENCE ST	DUXBURY TOWN OF	0.13			
070.0-0500-0020.0	0	S RIVER LN E	DUXBURY TOWN OF	0.85	14069	46	
070.0-0500-0021.0	0	S RIVER LN E	DUXBURY TOWN OF	2.91	14069	47	
070.0-0500-0022.0	0	S RIVER LN E	DUXBURY TOWN OF	1.26	14069	48	
070.0-0500-0122.0	0	S RIVER LN E	DUXBURY TOWN OF	0.71	14069	49	
210.0-0500-0066.0	0	SALTMARSH	DUXBURY TOWN OF	3	394	265	
161.0-0500-0193.0	0	SOULE AVE	DUXBURY TOWN OF	0.83	4875	465	
170.0-0500-0012.0	0	ST GEORGE ST	DUXBURY TOWN OF	1.65	5191	457	
170.0-0500-0025.0	0	ST GEORGE ST	DUXBURY TOWN OF	3.68	5191	457	
180.0-0500-0019.0	0	ST GEORGE ST	DUXBURY TOWN OF	0.03	1233	302	
180.0-0500-0009.0	175	ST GEORGE ST	DUXBURY TOWN OF	6.36	1706	299	
090.0-0500-0023.0	245	SUMMER ST	DUXBURY TOWN OF	5.75	1527	14	
090.0-0500-0014.0	413	SUMMER ST	DUXBURY TOWN OF	0.88	19000	122	
100.0-0598-0057.0	0	TOBEY GARDEN ST	DUXBURY TOWN OF	1.1	1646	20	
140.0-0500-0001.0	0	TREMONT ST	DUXBURY TOWN OF	1.11	4366	403	
140.0-0500-0002.0	0	TREMONT ST	DUXBURY TOWN OF	0.92	4366	403	
140.0-0500-0003.0	0	TREMONT ST	DUXBURY TOWN OF	0.93	4366	403	
140.0-0500-0004.0	0	TREMONT ST	DUXBURY TOWN OF	0.98	4366	403	
140.0-0500-0005.0	0	TREMONT ST	DUXBURY TOWN OF	0.95	4366	403	
140.0-0500-0006.0	0	TREMONT ST	DUXBURY TOWN OF	0.92	4366	403	
140.0-0500-0007.0	0	TREMONT ST	DUXBURY TOWN OF	0.92	4366	403	
140.0-0500-0008.0	0	TREMONT ST	DUXBURY TOWN OF	0.92	4366	403	
140.0-0500-0009.0	0	TREMONT ST	DUXBURY TOWN OF	0.92	4366	403	
140.0-0500-0010.0	0	TREMONT ST	DUXBURY TOWN OF	0.91	4366	403	
140.0-0500-0011.0	0	TREMONT ST	DUXBURY TOWN OF	0.91	4366	403	
140.0-0500-0012.0	0	TREMONT ST	DUXBURY TOWN OF	0.93	4366	403	
140.0-0500-0013.0	0	TREMONT ST	DUXBURY TOWN OF	0.92	4366	403	
140.0-0500-0014.0	0	TREMONT ST	DUXBURY TOWN OF	18.97	4366	403	
140.0-0500-0015.0	0	TREMONT ST	DUXBURY TOWN OF	0.91	4366	403	
140.0-0500-0033.0	0	TREMONT ST	DUXBURY TOWN OF	9.26	15045	222	
140.0-0500-0034.0	0	TREMONT ST	DUXBURY TOWN OF	5.23	4366	403	
140.0-0500-0114.0	0	TREMONT ST	DUXBURY TOWN OF	0.91	4366	403	
200.0-0500-0000.0	0	TREMONT ST	DUXBURY TOWN OF	1.81			LCC54871

140.0-0500 -0016.0	878	TREMONT ST	DUXBURY TOWN OF	9.56		
020.0-0500 -0048.0	0	UNION BRIDGE RD	DUXBURY TOWN OF	0.53	1605	245
090.0-0500 -0011.0	0	UNION BRIDGE RD	DUXBURY TOWN OF	2.09	13453	346
090.0-0500 -0012.0	0	UNION BRIDGE RD	DUXBURY TOWN OF	10.99	13453	345
010.0-0500 -0051.0	0	UNION ST	DUXBURY TOWN OF	0.97	3620	503
020.0-0500 -0044.0	0	UNION ST	DUXBURY TOWN OF	4.91	1711	524
020.0-0500 -0087.0	0	UNION ST	DUXBURY TOWN OF	5.27	7479	226
060.0-0500 -0002.0	0	UNION ST	DUXBURY TOWN OF	3.82		
190.0-0500 -0136.0	8	WASHINGTON ST	DUXBURY TOWN OF	0.82	219	118
070.0-0500 -0002.0	0	WEST ST	DUXBURY TOWN OF	7.3	7170	5

1. Church and Non-Profit Organizations

180.0-0401-0001.0	0	ALDEN ST	ALDEN KINDRED OF AMERICA	0.26	2648	483	
180.0-0401-0000.0	105	ALDEN ST	ALDEN KINDRED OF AMERICA	2.44			
010.0-0435-0000.0	0	NORTH ST	ARNOLD HALL INC	38.2	9224	313	
200.0-0452-0033.0	344	STANDISH ST	BALLOU CHANNING DIST UNIT	11.32	8426	1	
192.0-0405-0148.0	0	WASHINGTON ST	BATTELLE MEMORIAL INSTITUTE	9.06	5272	103	
160.0-0025-0003.0	145	LORING ST	BAY FARM MONTESSORI ACADEMY INC	3.76			LCC94604
160.0-0025-0020.0	183	PARKS ST	BAY FARM MONTESSORI ACADEMY INC	1.83			LCC89699
080.0-0403-0007.0	0	CONGRESS ST	BOYS AND GIRLS CAMPS INC	0.58			
010.0-0403-0002.0	0	KEENE ST	BOYS AND GIRLS CAMPS INC	103.58	1819	531	
010.0-0403-0005.0	0	KEENE ST	BOYS AND GIRLS CAMPS INC	3	1722	309	
060.0-0403-0004.0	0	KEENE ST	BOYS AND GIRLS CAMPS INC	16.09	3217	232	
010.0-0403-0000.0	742	KEENE ST	BOYS AND GIRLS CAMPS INC	131.94	3017	54	
010.0-0403-0001.0	0	MYRTLE ST	BOYS AND GIRLS CAMPS INC	1.03	3017	54	
010.0-0403-0006.0	119	MYRTLE ST	BOYS AND GIRLS CAMPS INC	7	17161	207	
010.0-0403-0102.0	1003	TEMPLE ST	BOYS AND GIRLS CAMPS INC	3.08	10681	44	
130.0-0442-0051.0	0	TREMONT ST	DUXBURY AMERICAN LEGION POST #223	1.02	4126	789	
130.0-0442-0049.0	5	WEST ST	DUXBURY AMERICAN LEGION POST #223	0.9	1613	303	
191.0-0761-0106.0	0	WASHINGTON ST	DUXBURY BAY MARITIME SCHOOL	0.1			LCC84495
220.0-0400-0000.0	0	DUX BEACH HIGH PINES	DUXBURY BEACH RESERVATION INC	213.51	4158	287	LCC56272
210.0-0421-0900.0	0	GURNET RD	DUXBURY BEACH RESERVATION INC	66.43	1351	96	LCC56272
210.0-0453-0000.0	0	SKIRT MEADOW	DUXBURY BEACH RESERVATION INC	1.89	1899	99	LCC53272
210.0-0445-0000.0	0	SKIRT MEADOW ST	DUXBURY BEACH RESERVATION INC	21.95	2584	304	LCC56272
120.0-0441-0006.0	153	FRANKLIN ST	DUXBURY WEBSTER GRANGE #288	0.13	1612	496	
170.0-0407-0107.0	40	ALDEN ST	ELOISTS INC THE	0.26			80250/312089
110.0-0439-0001.0	0	WINTER ST	MANN RICHARD D ET AL TRS	7.91	2627	169	
110.0-0439-0002.0	0	WINTER ST	MANN RICHARD D ET AL TRS	0.22	2627	169	
110.0-0439-0003.0	0	WINTER ST	MANN RICHARD D ET AL TRS	6.04	2627	169	
110.0-0439-0000.0	267	WINTER ST	MANN RICHARD D ET AL TRS	35.16	2627	169	
140.0-0424-0000.0	0	WEST ST	MASS AUDUBON SOCIETY INC	137.69	13834	85	
150.0-0458-0048.0	5	EVERGREEN ST	ROMAN CATHOLIC ARCHBISHOP	0.92	6235	74	
170.0-0035-0002.0	1115	TREMONT ST	S S HABITIAT FOR HUMANITY INC	1.34	18899	78	
200.0-0461-0063.0	0	HARDEN HILL RD	SOCIETY OF ST MARGARET	1.79			
180.0-0458-0027.0	64	ST GEORGE ST	SOUTH SHORE CONSERVATORY OF MUSIC	1.53	12474	344	
060.0-0448-0041.0	622	CONGRESS ST	STANDISH HUMANE SOC INC	0.97	9545	3	
180.0-0440-0161.0	585	WASHINGTON ST	TRUSTEES OF CORNER STONE LODGE A F & A M	0.71	2657	486	
110.0-0451-0002.0	339	KINGS TOWN WAY	CHURCH OF THE NAZARENE	1.81	4321	311	
110.0-0461-0003.0	339	KINGS TOWN WAY	CHURCH OF THE NAZARENE	0.92	3057	490	
110.0-0451-0003.0	136	SUMMER ST	CHURCH OF THE NAZARENE	2.3	3057	490	
110.0-0452-0002.0	0	ISLAND CREEK VILLAGE	FIRST BAPTIST CHURCH	3.1	5537	404	

110.0-0452-0000.0	2	TREMONT ST	FIRST BAPTIST CHURCH	2.52	3339	487	
110.0-0452-0001.0	2	TREMONT ST	FIRST BAPTIST CHURCH	3.7	4203	100	
160.0-0450-0031.0	0	PARKS ST	FIRST CHURCH OF CHRIST SCIENTIST	0.32	3132	428	
190.0-0463-0004.0	0	TREMONT ST	FIRST PARISH CHURCH	1.39			
140.0-0453-0018.0	842	TREMONT ST	FIRST PARISH CHURCH	3.27	2614	491	
020.0-0464-0077.0	420	KEENE ST	FREE CHRISTIAN SOCIETY	1.31	3992	235	
020.0-0454-0078.0	425	KEENE ST	FREE CHRISTIAN SOCIETY	1.03	915	267	
020.0-0455-0000.0	298	HIGH ST	HIGH STREET UNITED METHODIST CHURCH	0.48	3427	364	
200.0-0470-0053.0	23	HOWLANDS LANDING RD	MASS NEW CHURCH UNION	4.84			
192.0-0466-0073.0	410	WASHINGTON ST	PARISH ST JOHN EVANGELIST	1.59	2913	400	
110.0-0457-0015.0	74	BUCKBOARD RD	PILGRIM CHURCH OF DUXBURY	0.97	7678	128	
192.0-0457-0073.0	404	WASHINGTON ST	PILGRIM CHURCH OF DUXBURY	0.56	5638	140	
192.0-0457-0074.0	404	WASHINGTON ST	PILGRIM CHURCH OF DUXBURY	1.24	3471	383	
190.0-0458-0000.0	601	TREMONT ST	ROMAN CATHOLIC ARCHBISHOP	0.92	5705	174	
190.0-0458-0001.0	601	TREMONT ST	ROMAN CATHOLIC ARCHBISHOP	1.01	5705	174	
190.0-0458-0002.0	601	TREMONT ST	ROMAN CATHOLIC ARCHBISHOP	2.1	5705	174	
190.0-0458-0003.0	601	TREMONT ST	ROMAN CATHOLIC ARCHBISHOP	1	5705	174	
190.0-0458-0004.0	601	TREMONT ST	ROMAN CATHOLIC ARCHBISHOP	7.53	5705	174	
160.0-0472-0001.0	0	PARKS ST	SOCIETY OF DIVINE WORD	32.09	9698		
190.0-0461-0221.0	0	HARDEN HILL RD	SOCIETY OF ST MARGARET	1.15	2427	112	
190.0-0461-0220.0	50	HARDEN HILL RD	SOCIETY OF ST MARGARET	1.09	1734	31	
190.0-0461-0219.0	71	WASHINGTON ST	SOCIETY OF ST MARGARET	4.79	1349	16	
110.0-0458-0006.0	355	KINGS TOWN WAY	ST PAULS CHURCH OF THE NAZARENE	0.76	4839	40	
110.0-0458-0005.0	365	KINGS TOWN WAY	ST PAULS CHURCH OF THE NAZARENE	0.21	4839	38	
200.0-0511-0033.0	0	BAY RD	DUXBURY HOUSING AUTHORITY	0.09	4970	116	
190.0-0511-0040.0	0	CHESTNUT ST	DUXBURY HOUSING AUTHORITY	3.23	9155	324	
190.0-0511-0044.0	0	CHESTNUT ST	DUXBURY HOUSING AUTHORITY	0.12	4844	234	
020.0-0511-0099.0	748	UNION ST	DUXBURY HOUSING AUTHORITY	1.05	7022	349	LCC182202
140.0-0511-0001.0	0	MERRY AVE	DUXBURY TOWN OF	0.92	4848	448	

C. Chapter Lands

PARCEL ID	PROPERTY LOCATION		OWNER	ACRES	BOOK	PAGE	LAND COURT #
Chapter 61, Forestry							
082/120.0-0013-0000.0	221	ENTERPRISE ST	CLIGGOTT CATHERINE J	23.51	2683	50	
082/120.0-0015-0014.0	0	OLD CORDWOOD PATH	DELANO C MARTIN	19.7	9402	332	
082/120.0-0015-0010.0	324	OLD CORDWOOD PATH	DELANO CHARLES M	13.44	9402	335	
082/120.0-0015-0005.0	0	ENTERPRISE ST	DELANO ROBERT B & DELANO NANCY B	3.65	18273	12	
082/120.0-0015-0008.0	142	OLD CORDWOOD PATH	DELANO ROBERT B & NANCY B	4.71	18273	12	
082/120.0-0015-0015.0	228	OLD CORDWOOD PATH	GEORGE O FONTAINE TRUST	7.85	9698	182	
082/120.0-0018-0006.0	301	TEMPLE ST	MERRY WILLIAM NEAL	18.28	3925	676	
082/010.0-0058-0000.0	10	NORTH ST	PHALEN JAMES A & FLAHERTY A TRS	12.5	10691	152	
082/160.0-0041-0000.0	175	TREMONT ST	PIERCE FAMILY NOM TRUST	21.16	14356	100	
082/130.0-0039-0001.0	0	WEST ST	CLAIRE J WALKER REV TRUST	10.38	14698	277	
082/050.0-0028-0000.0	0	LAUREL ST	COSTELLO ESTHER	0.28	9805	65	
082/120.0-0015-0012.0	0	OLD CORDWOOD PATH	DELANO PHILLIP W JR	18.9	3639	138	
082/120.0-0015-0017.0	0	OLD CORDWOOD PATH	DELANO PHILLIP W JR	12.75	4700	114	
082/120.0-0015-0007.0	0	ENTERPRISE ST	DELANO ROBERT B & DELANO NANCY B	5.54	18273	12	
082/020.0-0066-0000.0	0	DINGLEY DELL LN	DINGLEY DELL ESTATES INC	19.13	6150	261	
082/010.0-0056-0000.0	0	NORTH ST	GEORGE E PHALEN R E TRUST	5	10691	147	
082/120.0-0018-0000.0	0	TEMPLE ST	MERRY CRANBERRY REALTY TRUST	81.74	18069	332	
082/120.0-0018-0005.0	0	TEMPLE ST	MERRY WILLIAM NEAL	6.5	13801	224	
082/120.0-0018-0007.0	0	TEMPLE ST	MERRY WILLIAM NEAL	7.88	13801	224	
082/020.0-0023-0000.0	0	KEENE ST	NELSON FAMILY NOMINEE TRUST	11.95	15599	205	
082/020.0-0028-0000.0	0	KEENE ST	NELSON FAMILY NOMINEE TRUST	6.94	15599	205	
082/010.0-0052-0000.0	0	NORTH ST	PHALEN J S JR & FLAHERTY A TRS	10.95	9861	226	
082/010.0-0059-0000.0	0	NORTH ST	PHALEN VERONICA	7.69	3764	437	
082/120.0-0022-0000.0	0	CHURCH ST	WILLIAMS JOHN A	20.53	16779	293	

Chapter 61-A, Agricultural							
082/070.0-0017-0001.0	602	LINCOLN ST	CHANDLER JEFFREY A	5.8	5347	311	
082/050.0-0019-0003.0	109	LAUREL ST	DELOID FAMILY TRUST	10.47	19148	279	
082/130.0-0042-0009.0	###	TREMONT ST	DORAN FRANCIS R	8.01	4899	56	
082/200.0-0830-0003.0	74	BAY RD	EDDY MARY H	10.59	11945	240	
082/120.0-0015-0019.0	0	OLD CORDWOOD PATH	GEORGE O FONTAINE TRUST	19.7	9698	182	
082/050.0-0022-0000.0	761	TEMPLE ST	HARRINGTON PAULINE M	18.4	3473	550	
082/110.0-0016-0000.0	144	WINTER ST	ONEIL CARL D	74.41	3512	26	
082/010.0-0057-0005.0	80	NORTH ST	QUEVILLON BRUCE	8.64	9731	26	
082/150.0-0024-0000.0	293	MAYFLOWER ST	RICKER EARLE B	36.86	4041	96	
082/040.0-0004-0000.0	68	PINE ST	WEST JAMES C	23.2	4909	285	
082/040.0-0010-0000.0	0	PINE ST	WEST JAMES C	62.99	4250	111	
082/110.0-0046-0000.0	0	OAK ST	BEATON CRANBERRIES INC	46.59	5053	38	
082/060.0-0018-0040.0	618	CONGRESS ST	CEADAR TREE FARM RLTY TRUST	60.6	13585	126	
082/130.0-0005-0000.0	0	CONGRESS ST	CROWELL CRANBERRY CORP	45.39	9648	325	
082/100.0-0021-0000.0	0	EAST ST	EDGAR W LORING INC	39.04	1790	492	
082/100.0-0901-0038.0	0	EAST ST	EDGAR W LORING INC	17.3	4079	359	
082/100.0-0901-0039.0	0	EAST ST	EDGAR W LORING INC	22.5	4079	359	
082/140.0-0055-0000.0	0	MAYFLOWER ST	EDGAR W LORING INC	16.58	1790	492	
082/150.0-0018-0000.0	0	ELM ST	EDGAR W LORING INC	5.03	1790	492	
082/120.0-0015-0006.0	0	ENTERPRISE ST	MEERBROOK LIMITED	13.12	10121	345	
082/120.0-0018-0101.0	0	CHURCH ST	MEERBROOK LIMITED	38.78	10121	345	
082/120.0-0020-0003.0	0	OLD CORDWOOD PATH	MEERBROOK LIMITED	5.8	10121	345	
082/060.0-0030-0001.0	0	TEMPLE ST	MERRY CRANBERRY REALTY TRUST	33.95	18069	332	LCC96649
082/070.0-0044-0000.0	0	TEMPLE ST	MERRY CRANBERRY REALTY TRUST	18.55	18069	332	
082/130.0-0036-0000.0	0	WEST ST	MERRY CRANBERRY REALTY TRUST	3	18069	332	
082/140.0-0104-0000.0	0	WEST ST	MERRY CRANBERRY REALTY TRUST	0.7	18069	332	
082/050.0-0032-0003.0	0	TEMPLE ST	MERRY CRANBERRY RLTY TRUST	39.47			DOC 460472

082/050.0-0032-0008.0	0	TEMPLE ST	MERRY CRANBERRY RLTY TRUST	1.79	18069	332	LCC96649
082/150.0-0021-0000.0	0	TOBEY GARDEN ST	MORNING DEW FARM INC	12.19	15772	337	
082/100.0-0901-0037.0	0	EAST ST	NUDD FRANK E JR & LORING J	23.9	16264	194	
082/100.0-0941-0042.0	0	TINKERTOWN PONDS	TINKERTOWN PONDS TRUST	8.33	4793	282	LCC63190
082/070.0-0012-0001.0	0	FRANKLIN ST	CHANDLER JEFFREY A	6.04	5347	311	
082/050.0-0026-0000.0	0	ACORN ST	BAKER JOHN W	62.5	12583	286	
082/020.0-0014-0000.0	0	CONGRESS ST	COSTANZO ROBERT A	28.71	13447	244	
082/040.0-0035-0000.0	0	AUTUMN AVE	ONEIL CARL D	65.15			PR0132007
082/060.0-0029-0000.0	0	TEMPLE ST	HARRINGTON PAULINE M	14.01	3473	550	
082/050.0-0032-0002.0	92	TEMPLE ST	MERRY CRANBERRY REALTY TRUST	22.14	18069	332	
082/050.0-0023-0000.0	705	TEMPLE ST	MERRY RLTY TRUST	4.8	18069	343	
082/150.0-0020-0001.0	0	TOBEY GARDEN ST	MORNING DEW FARM INC	0.56	15772	337	
082/130.0-0020-0000.0	0	LINCOLN ST	CROWELL CRANBERRY CORP	16.74	9648	325	
082/110.0-0055-0001.0	0	SOUTH ST	EDGAR W LORING INC	3	1790	492	
082/140.0-0001-0001.0	0	MODOC ST	MERRY CRANBERRY REALTY TRUST	50.9	18069	332	LCC96648
Chapter 61-B, Recreational							
082/190.0-0001-0000.0	70	FAIRWAY LN	DUXBURY YACHT CLUB	90.42	1221	294	
082/180.0-0008-0003.0	106	HARRISON ST	DUXBURY YACHT CLUB	52.34	2987	368	
082/190.0-0001-0001.0	0	SURPLUS ST	DUXBURY YACHT CLUB	0.34	5076	220	
Residential/Commercial Mixed Use							
082/180.0-0402-0000.0	189	ALDEN ST	ART COMPLEX INC THE	14.78	3470	103	
082/190.0-0600-0122.0	103	DEPOT ST	BERRIDGE R BRUCE	0.94	4274	401	
082/020.0-0042-0002.0	681	CONGRESS ST	CONGRESS ST RLTY TRUST	1.82	16476	163	
082/160.0-0067-0035.0	125	WADSWORTH RD	DEMING GENEVIEVE A	0.42	9881	16	
082/150.0-0840-0101.0	650	TREMONT ST	DESMARAIS PAMELA S	3.25	5500	151	

082/080.0-0502-0010.0	0	CHANDLER ST	DUXBURY TOWN OF	23.65			LCC47650
082/090.0-0502-0033.0	0	MAYFLOWER ST	DUXBURY TOWN OF	173.9			
082/100.0-0502-0066.0	0	ELM ST	DUXBURY TOWN OF	54.9	4776	199	
082/070.0-0811-0003.0	353	FRANKLIN ST	FADER ROBERT D	2.52	3454	547	
082/192.0-0600-0080.0	58	STETSON PL	GOOSE HOLLOW RLTY TRUST	2.06	15345	341	LCC91771
082/040.0-0047-0000.0	346	SUMMER ST	LINTNER LEONARD C	26.85	17406	7	
082/130.0-0011-0000.0	467	WEST ST	MARKELLA CAROLYN	0.92	4830	216	
082/020.0-0018-0001.0	881	CONGRESS ST	MASON DEBORAH W & DIANA L &	7.56			DOC 459094
082/160.0-0049-0002.0	112	SOULE AVE	NUDD LORING J	8.51	3429	605	
082/060.0-0018-0071.0	454	FRANKLIN ST	NUDD MARCIA C	12.82	6710	228	
082/110.0-0056-0002.0	1	SOUTH ST	OJALA ROBBIN A	6.19	17540	348	
082/130.0-0040-0002.0	9	S PASTURE LN	ROBERTS JERRY G	3.71	13694	293	
082/110.0-0034-0201.0	114	KINGS TOWN WAY	SAWYER FAMILY TRUST	1.05	14359	324	
082/190.0-0805-0002.0	879	TREMONT ST	STEIN JOEL A	0.92	17609	127	
082/030.0-0024-0000.0	107	HIGH ST	STONEYBROOK RLTY CO	131.2	17002	117	
082/200.0-0027-0001.0	120	CHESTNUT ST	WIRT HERBERT C JR	0.89	18643	210	
082/191.0-0761-0113.0	449	WASHINGTON ST	BAILEY GEORGE J	0.17	15206	319	LCC91453
082/160.0-0752-0014.0	296	PARKS ST	BENNETT ARTHUR W JR	0.58			LCC41569
082/200.0-0771-0069.0	19	STANDISH ST	BENOTTI RICHARD	0.35	5395	174	
082/200.0-0771-0037.0	14	STANDISH ST	BIG ROOT RLTY TRUST	0.73	16218	242	
082/110.0-0672-0000.0	414	KINGS TOWN WAY	BONGIORNO ANTHONY J	3.28	6507	87	LCC72608
082/170.0-0741-0058.0	272	ST GEORGE ST	CARLETON STEPHEN M & ANDRA M	0.97	7754	263	
082/120.0-0731-0350.0	###	TREMONT ST	COX CORNER INC	1.5	13153	188	
082/170.0-0710-0002.0	###	TREMONT ST	DAHLEN SHAWN TRS	0.19	5672	76	
082/120.0-0731-0351.0	33	ENTERPRISE ST	DORAN RLTY TRUST	0.99	15191	313	
082/020.0-0502-0042.0	0	CONGRESS ST	DUXBURY TOWN OF	9.1	18715	307	
082/120.0-0509-0018.0	0	CHURCH ST	DUXBURY TOWN OF	17.74	4069	677	
082/191.0-0761-0104.0	453	WASHINGTON ST	FERREIRA JOHN T	0.28	3878	128	
082/191.0-0761-0103.0	9	ON THE WHARF	HARBORSIDE REALTY TRUST	0.12	10533	243	

082/200.0-0771-0064.0	11	STANDISH ST	KARR PAUL J	0.17	4921	336	
082/200.0-0772-0034.0	8	CHESTNUT ST	KDR REALTY TRUST	0.61	17935	9	
082/190.0-0771-0130.0	49	DEPOT ST	LEAHY REALTY COMPANY	0.62	12415	281	
082/170.0-0600-0064.0	178	ST GEORGE ST	MANNING KEVIN T	0.37	11121	144	
082/192.0-0172-0000.0	291	WASHINGTON ST	MCCAIG MIRIAM B	0.38	12922	65	
082/110.0-0721-0103.0	372	KINGS TOWN WAY	PRICE ALBERT M	0.96	4747	435	
082/170.0-0710-0001.0	4	DUCK HILL RD	RIVER ST RLTY TRUST	0.39	13884	45	
082/160.0-0752-0015.0	127	TREMONT ST	S&M GAS	0.5			LCC97353
082/200.0-0771-0030.0	16	CHESTNUT ST	SEASIDE RLTY TRUST	0.17	17292	69	
082/030.0-0782-0001.0	638	SUMMER ST	SIMMONS FREDERICK J JR	2.31	18942	242	
082/200.0-0771-0036.0	1	BAY RD	STANDISH BAY RLTY TRUST	0.2	14852	236	
082/170.0-0741-0105.0	53	RAILROAD AVE	WENHAM MARK L & CAROL TRS	0.53	7031	184	
082/200.0-0771-0055.0	11	WASHINGTON ST	WIEMEYER PETER AND ELAINE ANN TRUSTEES	0.14	11203	20	
082/060.0-0721-0003.0	0	FRANKLIN ST	ZIKO MAUREEN R	6.91	7996	45	

D. Conservation Restrictions

Conservation Restrictions

C.R. #	*C.R. Grantor*	*Grantee*	*Address*	*Acres*	*Year Recorded*	*Registry Recording Book*	*Page*
01	Vera Realty Trust	Town	Fordville Rd.	8.57	1971	3939	383
02	(application withdrawn)						
03	19 Bluefish River Property Owners DR&HS	along Bluefish River	0		1971	3786	674
04	Trout Farm (Hall's Corner Assoc.	Town	Trout Farm Lane	17.67	1977	4288	95
05	(application withdrawn)						
06	Winthrop B. Coffin	DR&HS		1.09	1981	5097	458
07	Gordon & Ruth Berg	Town	Western Way	10.60	1981		
08	Christmas Tree Farm Realty Trust	Town	Christmas Tree Farm	18.83	1991	10211	136
09	Mary Winslow	WTSM	Standish St.	3.37	1999		
10	Charles & Kay Foster	WTSM	Surplus St.	0.94	2000	19135	99
11	Town of Duxbury	WTSM	Washington St.	1.29	2001	20305	98 - 112
12	Richard & Sheila Morse	DCC & WTSM	Washington St.	0.65	2001	20305	113 - 130
13	Sisters of St. Margaret's	DCC & WTSM	Washington St.	1.04	2001	20305	131 - 146
14	Jones River Watershed Assoc.	Town	Pine Brook Way	9.9	2001		
15	Kelso WTSM	Marshall St.	19+				

E. Recreation Land

Recreation land and facilities in Duxbury, in addition to the Town-owned recreational fields, include The Percy Walker Pool, which offers year-round indoor swimming programs for all ages, and North Hill (342 acres) which offers cross country skiing, hiking, picnicking, and horseback riding in addition to a nine-hole golf course. Many other recreational programs and other opportunities are offered by the Duxbury Recreation Department.

The Town of Duxbury has a number of recreation facilities; some School Department owned and others Town owned. Three departments: School Department; Lands and Natural Resources Department; and Recreation Department, are involved in the management of these facilities and manage their own budgets. All three municipal entities recommend that these facilities, especially the playing fields, would be more efficiently managed by a single department rather than three.

The following is an inventory of the School and Recreation Departments' facilities, presently in active use:

Recreational Facilities

Field	Location	Type	Acreage
Train Field	Alden St.	2 baseball	6
		1 lighted softball	
		2 regulation soccer	
Lower Alden*	off Alden St.	2 youth baseball	6
		1 100 yd field hockey	
		2 80 yd soccer	
		1 multipurpose	
		playground equipment	
		3 tennis courts	
Elementary School*	Behind DES	1 multipurpose	4
		1 track	
		2 basketball courts	
Duxbury High School*	Behind DHS	1 multipurpose	7
		1 softball	
		1 regulation track	
		1 soccer	
		1 practice	
		6 tennis courts	
Wadsworth	Tremont St.	1 youth softball	2
		Playground equipment	
		2 tennis courts	
		1 soccer field	

Lincoln St.	Lincoln St.	1regulation soccer field	3.5
Keene St.	Keene St.	1 tennis courts	5
		3 youth baseball	
		1 multipurpose	
		1 playground	
Tarkiln	Summer St.	2 tennis courts	1.5
		2 youth baseball	
Chandler*	Chandler St.	2 regulation soccer	6
		1 lighted baseball	
		3 youth soccer	
		Playground equipment	
Percy Walker Pool	St. George St.	25 yard, 6 lane pool with 1 meter diving board	
Total			41 Acres

* Owned by School Department

In April, 2000 the Selectmen appointed the Recreation Facilities Study Committee to study and determine the adequacy of Duxbury's existing recreational facilities and to assess the future needs. The Committee has determined that the outdoor sport facilities are in very good condition, but due to the increased usage that has come with population growth and expanded activities, the capacity of our playing fields has been exceeded. The Committee in an extensive report made these recommendations with respect to the adequacy of existing outdoor recreational activities:

- Two additional full sized soccer fields and one-half sized practice field are needed.
- Three additional Little League fields and one regulation field for softball and baseball are needed.
- One additional football field for Duxbury Youth Football is needed.
- The number of tennis courts is adequate at this time.
- The number of outdoor basketball courts is adequate at this time.
- A consultant should be engaged to assess the capacity of North Hill Golf Course to support expanded recreation without endangering the aquifer or the environment, and to develop a master plan for the area's future use.
- Expansion could take place in the Chandler and Alden school areas, the Lincoln Street area and/or further development of the North Hill property.

The Committee made the following recommendations for indoor recreational activities:

- The addition of one full sized basketball court with the planned expansion of the Alden School complex.

- A dehumidification system is needed at the Percy Walker Pool to address the corrosion and deterioration of the physical plant and equipment.

- An ice skating rink to serve Duxbury and the surrounding communities.

The Committee did not attempt to prioritize the needs identified or include an analysis of the costs associated with meeting anticipated recreational needs. In conclusion, the Recreation Facilities Study Committee recommended the following:

- A Recreational Facilities Master Plan should be developed to identify costs and to determine a timetable for recreational facilities needs;

- A North Hill Study to determine the capacity of North Hill to support expanded recreation without endangering the aquifer or the environment;

- The Fiscal Advisory Committee should consider an enterprise account to pay for the costs associated with the development and execution of a Recreation Master Plan;

- The town should appropriate funds for ongoing identification and acquisition of land for recreational purposes.

The Department of Lands and Natural Resources, the Recreation Department, and the School Department have identified the following needed improvements to various recreation facilities owned by the Town of Duxbury:

- The School Department will finance the construction of a Little League field at Keene Street to replace the field eliminated by the expansion of the Alden School.

- The girl's softball field behind Duxbury Middle School will be moved to the soccer field/softball field (Onion Hill field) behind the High School.

There are several private recreational facilities. Crossroads For Kids, Inc. Camp, situated on 270 acres, offers overnight and day camp experiences for inner-city and local children during the summer. Boating, hiking, pool swimming, and archery are included in the camp program. The Duxbury Yacht and Golf Club with two locations and a total of 140 acres offers boating, golf, swimming, tennis, and paddle tennis to its members. The Duxbury Beach Reservation's 280 acres of barrier beach provides nature observation, picnicking, salt water swimming, walking, jogging, and shell and finfishing to Duxbury residents and the general public. A small portion of the Marshfield Country Club is located in Duxbury, off Acorn Street.

The Duxbury Bay Maritime School, established in 1997 as a community sailing school, offers an extensive program. Courses include junior and adult sailing; marine ecology, taught by the New England Aquarium; Accessail, a handicapped sailing program; an on the water program for the Crossroads For Kids, Inc. inner-city campers; racing, navigation, boat building, rowing, and boating safety. The Maritime School also initiated the new Duxbury High School Sailing Team and sailing regattas are held on the Bay throughout the season.

Duxbury Bay is an important natural resource that is increasingly being used for both active and passive recreation, such as, boating, swimming, shellfishing, birdwatching, and fishing. These activities contribute to Duxbury's quality of life and directly and indirectly provide revenue. For example, mooring and shellfishing fees combined brought in nearly $110,000 in FY 2001. There are between 166 to 177 boats moored in the Federal Anchorage Area and an additional 400 on the mudflats. The Harbormaster reports 1,850 boats registered in 2001. In addition, public access to the bay has always been a concern, particularly when development along the coastline competes with citizen's rights, when environmentally sensitive areas are threatened, and when parking and frequent activity present management problems. As Duxbury grows and develops, the need for a Bay Management Plan becomes more pressing.

VI. Community Vision

A. Process: How the Goals Were Determined

The goals of the *1997 Open Space Plan* were derived from meetings with Town boards and departments and from the results of the *1995 Long Range Planning Survey*. The Open Space and Recreation committee met with the Town boards and departments at the halfway mark and at the end of five years to review how each group managed their objectives and five year action plans. As noted earlier, most groups, with few exceptions, completed their goals. Other groups continue to move forward to accomplish their goals, however, due to the complexity of their objectives, they need more time.

The goals for the *2002 Open Space Plan* remain the same, but in a different order. This does not imply a weighting of importance, it is meant to reflect the tenor of the community's desires at this time. The decision to keep these same goals is based on personal interviews with Town boards, committees, and departments and from responses to letters inviting input from these groups. The goals are in keeping with *The 1999 Comprehensive Plan.* In addition, voters at Town Meeting have been very receptive to land acquisition for aquifer protection and open space, and in 2001 adopted the Community Preservation Act.

B. Statement of Goals

Input from the above sources, following further analysis and discussion, was developed into these acquisition, protection, and management goals:

Protection of the Town's drinking water supply.

2. Preservation of the unique character of Duxbury.

3. Protection and enhancement of Duxbury's natural resources and ecosystems.

4. Improvement of Town recreational opportunities with minimum impact to the environment.

VII. Analysis of Needs

A. Summary of Resource Protection Needs

The 1999 Comprehensive Plan reports that the Town of Duxbury contains approximately 15,454 acres of which 15,021 acres are land and 432.9 acres are water bodies. "Developed" land accounts for 64.7% of the Town's total area. This includes residential, commercial, public/semi-public, and transportation land. Public/semi public land (4,106 acres) is land owned by the public or institutions such as churches and non-profit organizations. Protected open space (which is included in the "public/semi public" category) includes roughly 3,660 acres; 36.6% of the "developed" land area or 23.7% of the Towns total area. "Undeveloped" land accounts for 32.5% of the Town's total area. Water Department land accounts for the remaining 2.8% of the total Town area.

The Land Acquisition Task Force reviewed existing land use and concluded that maintaining the existing ratio of open space to developed land would preserve the semi-rural character of Duxbury. It was recommended that 3 out of every remaining 10 acres of undeveloped land should be set aside as open space, leaving 7 out of 10 acres for development. The amount of land to be acquired for open space would be approximately 1,500 acres.

The Inventory of protected and unprotected land and the *1999 Comprehensive Plan* have identified several types of land in need of protection. Areas that extend into neighboring towns would be better protected if the "host" communities agree to mutual protection. The most powerful tool for resource protection is ownership through a gifting or purchase of land in fee or purchasing an interest through an easement or restriction. Although an acquisition program will depend on willing sellers and funding, a list of criteria has been developed that will help to determine which parcels should be protected. Parcels which meet one or more of the following criteria, will be considered for:

- Additional aquifer protection land to reduce encroachment and potential contamination of existing and future municipal wells;
- Freshwater wetlands and saltwater wetlands, especially the Duxbury marshes and land along the six river watersheds and their upland buffers;
- Areas where development threatens surface waters of coastal or fresh water wetlands;
- Parcels that provide linkage to existing open space. This includes linkage to public ways, and access to the bay, ponds, and streams, and wildlife corridors;
- Land with specially desirable features, such as scenic views, historic values, rare plant and animal habitat, and farm land;
- Working farms and their associated lands (such as the O'Neil Farm) cranberry bogs (61A lands), tree farms (61 lands), and recreational open space (61B lands).

- Camp and school properties (such as the remaining portion of Camp Wing, Camp Blairhaven, and Berrybrook School).

The Land Acquisition Task Force recommended adopting the Community Preservation Act to achieve balanced growth consistent with the goals of the *1999 Comprehensive Plan*, the *1997 Open Space Plan*, and the *1995 Town-wide Survey*.

The Open Space Plan reinforces our Zoning By-laws which, are currently undergoing revision by the Comprehensive Plan and Zoning Bylaw Implementation Committee (CPZBIC). Revisions of the Zoning Bylaws are intended to reduce the final buildout density, establish design guidelines for neighborhood business districts, and protect our natural resources. Specific actions/strategies are listed in the Five Year Action Plan.

Ownership of land cannot alone protect important land or historic resources. Therefore, a stewardship program has been developed for town-owned and Conservation Commission land. The cooperation between the public and the non-profit organizations for the oversight of the respective properties needs to be further developed. A sound stewardship program could prevent problems from developing fosters public confidence, and thereby gains public support, which may translate into financial support.

Consistent with the stewardship program is the need for the redesign and development of trails that link together Town-owned land, Conservation Commission land, and private land for recreational use and wildlife corridors. The Conservation Commission has been successful in acquiring land and easements from landowners, yet more work needs to be done.

Increasing usage of our recreational areas, such as Duxbury Beach, Duxbury Bay, and our open spaces calls for more effective management. Duxbury Beach is the most heavily used recreational area in town for both residents and visitors and is an important nesting and resting area for endangered and common birds and marine animals. The dune area and intertidal zones are equally important as they support diverse ecosystems. In addition, Duxbury Beach is the only vehicular access for residents of Gurnet and Saquish. Management of these issues needs to be reviewed and revised regularly. Duxbury Bay also faces increasing recreational and commercial activity, and development pressure. Better management of Duxbury Bay, its points of access, and coastline and marshes is needed to prevent degradation of this most valuable resource.

A forest management plan must also be developed for our wooded areas. Implementing such a plan will require an operating budget and as funds will most likely be drawn from the Conservation Fund, the Conservation Fund must be adequately funded.

B. Summary of Community Needs

In addition to protection of the Town's drinking water supply, Duxbury residents are concerned with the preservation of the unique and historic character of the Town; protection of wildlife habitat; acquisition of additional conservation land which links existing open space parcels to form trail networks and bikeways; and adequate well maintained recreational

facilities. Improved management of existing conservation, recreation land, and bodies of water is a priority for residents. Of particular importance is Duxbury Beach, which serves as access to the Gurnet and Saquish communities and is facing intense recreational use, especially during the summer nesting period of endangered bird species. Duxbury Bay is also a focus of attention as it is increasingly being used for recreation and commercial shellfishing activity. This calls for a Bay Management Plan. In order to move forward in these areas, more long range planning and goal setting needs to occur among the several management groups and agencies. Improved accessibility for individuals with disabilities needs to be taken into consideration during the planning process.

C. Management Needs

Duxbury is fortunate that management needs do not stem from lack of staff or volunteers. Town departments are generally well funded and professionally staffed. Volunteerism is very strong throughout the Town in public, private, civic, and religious organizations. Improved communication and coordination between Town departments and private non-profit groups involved with the open space and recreation needs of the community has improved the effectiveness of the services provided and management of facilities. However, the growth and development of Duxbury and the increasing demand on our natural resources calls for additional management.

A management plan needs to be developed for Duxbury Bay to better protect this diverse ecosystem and meet the increasing recreational, shellfishing, and fishing activities. The management of Duxbury Beach must be reviewed and strengthened. A Forest Management plan must be developed for conservation and town-owned lands. A plan needs to be developed to establish walk/bike paths and routes linking residential areas to popular destinations. Mutual discussions and coordination of activities between the many organizations and departments will serve to develop management strategies that both protect the town's open spaces and meet the recreational needs of the community.

VIII. Goals & Objectives

The following comprehensive set of goals and objectives that should provide clear guidelines for Duxbury's open space and recreation planning for the next five years. The order of the goals has changed since the *1997 Open Space Plan* was written. This does not reflect a weighting of importance, but rather the focus of the community at this time. Goal 2. Preservation of the Character of Duxbury, has come to the forefront as demonstrated by the passage of the Community Preservation Act; the acquisition of land to preserve the character of Duxbury, such as the Millennium Town Green and Camp Wing; the updating of the *Comprehensive Plan*; the ongoing review of the Comprehensive Planning/Zoning Bylaw Implementation Committee (CPZBIC); and the goals of the Duxbury Historic Commission.

Goal 1. Protection Of The Town's Drinking Water Supply

- Develop an overall strategy for protecting the Town's drinking water supply through regulation and acquisition.
- Develop and implement water conservation plans.
- Protect water that directly contributes to aquifer recharge from contamination, runoff, and diversion.
- Develop an Education Plan to convince residents of the value of protecting wetlands and Duxbury's aquifers.
- Identify financial resources needed to implement a land protection strategy around bodies of water and existing and future well sites.

Goal 2. Preservation Of The Unique Character Of Duxbury

- Identify key areas, vistas, historic buildings, archaeological sites, and open space which contribute significantly to Duxbury's unique character.
- Strengthen provisions of the Zoning By-laws for the protection of natural resources and the historic character of Duxbury.
- Develop recommendations to citizens, town departments, committees, and civic organizations on ways to preserve and enhance the small town residential character.
- Develop a farmland protection strategy that includes preservation of working farms.
- Continue to improve communication between town boards, private non-profit and other local civic organizations to recognize mutual interests, improve open space land management. Identify financial resources, and develop a community-wide outreach program to large land owners and landowners with properties contiguous to key areas.

Goal 3. Protection And Enhancement Of Natural Resources And Ecosystems

- Develop and promote an updated land acquisition/protection strategy based on the greenbelt concept.

- Develop a coordinated strategy with neighboring communities to protect natural resources.

    - Initiate, implement, and fund Land Management Plans for individual Conservation Land and Town owned open space.

    - Evaluate and refine the Duxbury Beach Management Plan to further protect the beach, including dune and intertidal areas, as a natural resource while balancing recreational interests and the interests of the Gurnet/Saquish residents.

    - Increase public awareness of the value of natural resource protection.

    - Develop a long-range financial strategy for acquiring, protecting, and managing Duxbury's open space, including identification of outside financial resources.

    - Develop a resource-based Bay Management Plan that includes the Towns of Duxbury, Marshfield, Kingston, and Plymouth to protect our coastal resources.

Goal 4. Improvement Of The Town's Recreational Opportunities With Minimum Impact To The Environment

- Support a maintenance and improvement program for the Town's open spaces, recreation areas, athletic facilities, and programs.

- Deliver quality recreation programs that address the diverse avocational interests of Town residents.

- Develop a Bay Management Plan that addresses public access to Duxbury's coastal resources with minimum impact to the environment

- Facilitate public outreach efforts to maximize resident participation in open space and recreational activities offered by the Town.

- Develop a comprehensive long-range financial plan for Recreation Department capital improvements, operation and maintenance costs.

- Identify the recreational needs and resources available for the acquisition of land for those purposes.

- Develop and implement a long-range plan for a path network to provide safe walking and biking in Duxbury.

- Provide access to Duxbury's natural resources and recreational facilities to the physically challenged.

IX. Past Five Year Review (1997 – 2001)

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 7th 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. 10th 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 Triathalon. 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 ben 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.

X. Five Year Action Plan

Goal 1. Protect The Town's Drinking Water Supply

Objective	Action	Department	Time Frame
Water protection	Identify parcels for future municipal well sites	Conservation Commission, Water Advisory Board, Department of Public Works	2002-2007
	Through a joint effort, earmark funds for purchase of new aquifer protection property.	Water Advisory Board, Department of Public Works, Conservation Commission, Community Preservation Committee)	2003
	Identify for purchase aquifer protection property, particularly within the 400 foot radii required around municipal wells, such as the Partridge Well and Lake Shore Drive Well	Water Advisory Board, Conservation Commission, DPW	2002
	Purchase all Zone I land	Conservation Commission, Water Department	2002-2003
	Investigate and develop an Integrated Pest Management Plan to reduce or eliminate the application of pesticides and herbicides on Town owned properties	DPW, Board of Health, North Hill Advisory	2003-2005
	Downzone land within Aquifer Protection Overlay Districts to protect the drinking water supply	Selectmen, Planning Board, CPZBIC	2002
	Continue monitoring Conservation Commission owned cranberry bogs to ensure compliance with environmental provisions of management agreements.	Conservation Commission	Ongoing
	Enlarge lot size to 60,000 square feet within the Aquifer Protection Overlay District	Planning Board, CPZBIC	2002
	Establish new land clearing and grading regulations to limit clearing of vegetation and topographical changes and protect surface ground water supplies	Planning Board, CPZBIC	2002

Goal 1 (Cont'd.). Protect The Town's Drinking Water Supply

Objective	Action	Department	Time Frame
Water Protection	Amend the planning board rules and regulations to include a policy of Right of First Refusal for proposed subdivision plans of 12 lots or more	Planning Board, CPZBIC	2002
	Eliminate all Planned Development districts currently in the Zoning Bylaws and add new design standards for cluster subdivisions with mandatory affordable units.	Planning Board, CPZBIC	2002
	Adopt a mandatory cluster subdivision bylaw of all subdivision proposals of seven or more lots	Planning Board, CPZBIC	2002
	Continue the hazardous waste disposal program at the Transfer Station.	Department of Public Works	Ongoing
	Establish a committee to investigate ways to improve the operation of the transfer station and to increase recycling activity and rates. Investigate new storm water collection/treatment system	Selectmen, DPW, Board of Health	
Water Protection and North Hill	At the North Hill Golf Course, ensure that annual reports of volume of pesticide, herbicide, and fertilizer used and annual water withdrawal are submitted to the Recreation Department, the Water Department, the Board of Selectmen, and the Board of Health. Observation well monitoring results for pesticides, herbicides, and fertilizers shall also be submitted to these Boards and Departments	North Hill Advisory Committee	Ongoing
	Annual review of the data gathered at North Hill on chemical applications and observation wells in a public meeting	Selectmen, Board of Health, North Hill Advisory	Ongoing
	Landowners within the North Hill Marsh area will continually monitor water withdrawal and its impact on wetland resources	Selectmen, Massachusetts Audubon Society, Department of Public Works, Conservation Commission	Ongoing

Goal 1 (Cont'd.). Protect The Town's Drinking Water Supply

Objective	Action	Department	Time Frame
Conservation Fund	Request annual appropriations to the Conservation Fund at Town Meeting at sufficient level to effectively purchase aquifer protection land	Conservation Commission	Ongoing
Water Quality	Continue to monitor and assess nitrogen loading and contaminants in groundwater.	Department of Public Works, Board of Health	Ongoing
Water Conservation & Education	Continue to support water conservation measures	Department of Public Works, Water Advisory Board	Ongoing
Water Conservation and Education	Improve public education efforts through the use of cable TV access, presentations, and Duxbury school programs where appropriate. Expand public education on water conservation, lawn chemical application, aquifer protection, and new water resources acquisitions.	Department of Public Works, Friends of Conservation, Open Space Committee, Conservation Commission	Development 2002 Implement 2003-2007

Goal 2. Preserve the Character of Duxbury

Objective	Action	Department	Time Frame
Community Preservation	Continue to support the Community Preservation Act surcharge for the acquisition of open space and historic resources and the creation of community housing. The Committee shall assess the needs and resources of the Town and make recommendations to Town Meeting	Community Preservation Committee, Finance Committee	2002-2006
	Explore and adopt options for control of "mansionization" within existing neighborhoods and viewsheds	Planning Board, CPZBIC	2002-2003
	Continue quarterly meetings to develop and coordinate mutual open space planning.	Lands Group	Ongoing
	Increase landowner awareness of land protection opportunities	Conservation Commission, The Wildlands Trust	2003-2004
	Continue annual Open Space Award to a Duxbury resident who has done the most to promote and enhance the Town's open spaces.	Open Space Committee	Ongoing
	Establish new Neighborhood Business District regulations for each of the village business areas and add a Site Plan Approval process for non-residential applications to minimize impact to surrounding neighborhood	Planning Board, CPZBIC	2003-2004
	Protect scenic vistas through zoning changes	Planning Board, CPZBIC	2003
	Add new standards for change of use of preexisting non-conforming non-residential structures. Add new standards for alterations to preexisting non-conforming single and two-family structures	Planning Board, CPZBIC	2003-2004
	Change Site Coverage Standards for both residential and non-residential structures to reduce amount of site that can be covered with impervious surfaces	Planning Board, CPZBIC	2002

Goal 2 (Cont'd). Preserve the Character of Duxbury

Objective	Action	Department	Time Frame
Community Preservation	Increase awareness of Conservation Restrictions as a land protection tool	Conservation Commission, The Wildlands Trust	Ongoing
	Target properties that meet established criteria, i.e. linking parcels and habitat corridors, trail networks, and contiguous open space	Conservation Commission, Community Preservation Committee	Ongoing
	Continue discussions with owners of private non-profit properties about long-range protection options	Conservation Commission, The Wildlands Trust	Ongoing
	Strengthen environmental protection provisions of zoning by-laws and land use boards rules and regulations	Planning Board, Conservation Commission, Board of Health, CPZBIC	Ongoing
Farms	Purchase lands in fee or restrictions to protect farms and landscapes in coordination with other land protection agencies	Lands Group, Community Preservation Committee	Ongoing
	Continue to protect cranberry bogs and other farmland and develop cooperative strategies for landowner contact	Conservation Commission, The Wildlands Trust, Community Preservation Committee	Ongoing
Duxbury Bay	Develop a comprehensive Duxbury Bay Management Plan	Selectmen, Waterfront Advisory Committee, Harbormaster, Conservation Commission, Shellfish Advisory Committee, Planning Board, Duxbury Beach Reservation, Duxbury Beach Committee, Duxbury Maritime School, Duxbury Yacht Club	2003
Historic Preservation	Strengthen the Demolition Delay Bylaw at the Annual Town Meeting.	Planning Board, Historic Commission	2002
	Continue inventory of historic properties and survey historic agricultural/archaeological sites and develop a Community Preservation Plan to protect the historic and cultural resources	Historic Commission	2002-2003

Goal 2 (Cont'd). Preserve the Character of Duxbury

Objective	Action	Department	Time Frame
	Promote the development of Local Historic districts to further protect the historic character of the town	Historic Commission, Town Planner, Duxbury Rural & Historic Society	2004
Education	Continue ongoing lectures, articles, and publications and explore the use of cable tv to educate the public about open space and historic preservation	Duxbury Rural & Historical society, Clipper, Alden Kindred, Historic Commission	Ongoing

Goal 3. Protect and Enhance Duxbury's Natural Resources and Ecosystems

Objective	Action	Department	Time Frame
Land Protection Strategy	Acquire land in fee or develop conservation restrictions in coordination with neighboring communities	Conservation Commission, The Wildlands Trust, Community Preservation Committee	2003-2005
	Promote annual appropriations to the Conservation Fund at a sufficient level to enable the Conservation Commission to take advantage of acquisition and protection opportunities	Conservation Commission	Ongoing
	Continue to support the Community Preservation surcharge for the acquisition, creation, and preservation of open space through public informational meetings	Community Preservation Committee	2002-2006
	Identify land taken for back taxes and transfer to appropriate department	Board of Selectmen, Conservation Commission	Ongoing
Resource Protection Strategy	Strengthen and implement proposed changes to wetland by-law	Planning Board, Conservation Commission	2002 –2003
	Continue land stewardship program for trails and open spaces and hold public recognition event for land stewards	Open Space Committee	Ongoing
	Establish new land clearing and grading regulations to limit clearing of vegetation and topological changes and protect surface and ground water supplies	Planning Board, CPZBIC	2002
	Identify unprotected saltmarsh and freshwater wetland areas and their landowners	Conservation Commission	Ongoing
Duxbury Beach	Develop a more effective Beach Management Plan to protect the beach as an important natural resource that shelters the bay, serves as a nesting and resting site for migratory birds and other species, and serves the community's recreational needs	Selectmen, Conservation Commission, Duxbury Beach Reservation, Inc., Duxbury Beach Committee, Harbormaster, Massachusetts Audubon Society	2002

Goal 3 (Cont'd). Protect and Enhance Duxbury's Natural Resources and Ecosystems

Objective	Action	Department	Time Frame
Duxbury Beach	Continue annual beach grass planting; restore dunes as necessary; and repair or replace snow fence, post and cable	Duxbury Beach Reservation, Inc., Conservation Commission	Ongoing
	Continue Endangered Species Monitoring Program at Duxbury Beach and maintain and expand habitat for endangered and common bird species at Duxbury Beach	Duxbury Beach Reservation, Inc., Harbormaster, Duxbury Beach Committee, Conservation Commission, Massachusetts Audubon Society	Ongoing
	Coordinating efforts with Plymouth, re-evaluate the traffic problems associated with the access road to Gurnet/Saquish	Duxbury Beach Reservation, Inc., Harbormaster, Conservation Commission, Massachusetts Audubon Society	2002
Duxbury Bay	Develop a Duxbury Bay Management Plan and implement the Plan	Selectmen, Waterfront Advisory Committee, Harbormaster, Conservation Commission, Town Planner, Planning Board, Shellfish Advisory	Develop 2002-2003 Implement 2004 -2007
	Continue with courses in marine ecology and conservation in collaboration with the New England Aquarium	Duxbury Bay Maritime School	Ongoing
Water Quality Protection	Continue to monitor water quality within each of the six watersheds as well as Kingston and Duxbury Bays. Report status to public and implement corrective action	Water Department, Harbormaster, Board of Health, Conservation Commission, Planner, Planning Board	Monitor 2002 Implement 2003-2007
Forest Management	Establish a volunteer committee for the development of a town-wide Forest Management Plan that addresses environmental and recreational concerns with the assistance of a forester and other professionals	Conservation Commission, Open Space Committee	2002-2003
Regional Planning	Develop a cooperative watershed protection plan with neighboring communities	Conservation Commission, The Wildlands Trust	Ongoing

Goal 3 (Cont'd). Protect and Enhance Duxbury's Natural Resources and Ecosystems

Objective	Action	Department	Time Frame
Education	Educate the public about the value of natural resources and ecosystems through periodic newspaper articles, presentations, and walks, and explore the use of public access tv	Open Space Committee, Duxbury Rural & Historical Society	Ongoing

Goal 4. Improve Town Recreational Opportunities with Minimum Impact on the Environment.

Objective	Action	Department	Time Frame
Land Management	Develop a plan for trail improvement on town owned and conservation land, including the Bay Circuit Trail and continue to publish trail guides and revised open space parcel maps	Conservation Administrator, Department of Public Works,	Ongoing
	Secure trail easements over private parcels	Conservation Commission, Open Space Committee, The Wildlands Trust	2002-2004
	Review and revise trail management guidelines for land stewards as needed	Open Space Committee	2003
Pond Management	Utilize weed harvester on Duxbury ponds and educate pond associations of the implications of nutrients and fertilizers on the recreational use of the ponds	Conservation Commission	Ongoing
	Continue to promote pond associations	Conservation Commission	2002-2004
Recreational Facilities	Develop a long range capital budget for recreational facility construction and maintenance, i.e. Percy Walker Pool, North Hill, playing fields	Recreation Director, North Hill Advisory, Fiscal Advisory, Department of Lands and Natural Resources	Ongoing
	Develop capital improvement and operations and maintenance budgets for playing fields, playgrounds, pool, and the North Hill Golf Course	Recreation Department, Department of Public Works, Department of Lands and Natural Resources	Ongoing
	Inventory and examine for improvement: fresh water fishing access, equestrian trails, mountain bike trails, cross-country skiing, bike paths and cycling routes, walkways, paths and trails to link town recreational and open space facilities	Recreation Committee, Open Space Committee, Town Path Council	2002-2003
Duxbury Bay	Develop and expand rowing and sailing teams, develop an interscholastic program throughout the South Shore	Duxbury Bay Maritime Schools	2002-2003

Goal 4 (Cont'd.). Improve Town Recreational Opportunities with Minimum Impact on the Environment.

Objective	Action	Department	Time Frame
Duxbury Bay	Develop a Duxbury Bay Management Plan and implement the Plan	Selectmen, Waterfront Advisory Committee, Harbormaster, Conservation Commission, Town Planner, Planning Board, Shellfish Advisory	Develop 2002-2003 Implement 2004-2007
North Hill	Continue to monitor improvements to North Hill Golf Course facilities; such as the clubhouse, grounds, equipment storage, chemical usage, etc.	North Hill Advisory Committee	Ongoing
Town Path	Appoint a Town Path Committee to develop and implement a long range plan for a walk/bike path network	Selectmen	2002
	Develop a walk/bike path master plan and budget	Town Path Committee	2002
	Prepare first phase plans/specifications. Obtain bids and financing. Have public hearing	Town Path Committee, DPW	2003
	Begin first phase construction. Prepare second phase plans/specifications. Obtain bids and financing, have public hearings	Town Path Committee, DPW	2004
	Begin second phase construction. Prepare third phase plans/specifications. Obtain bids and financing, have public hearings	Town Path Committee, DPW	2005
	Begin third phase construction. Prepare fourth phase plans/specifications. Obtain bids and financing. Review progress and set goals for further path development.	Town Path Committee, DPW	2006

Goal 4 (Cont'd.). Improve Town Recreational Opportunities with Minimum Impact on the Environment.

Objective	Action	Department	Time Frame
ADA	Implement the recommendations of the American with Disabilities Act Compliance Report	Recreation Director, Department of Public Works, Disabilities Commission	Ongoing
Benefits/ Sponsorships	Promote benefits and sponsorships, i.e., races, triathalons	Recreation Department	Ongoing

XIII. References

1999 Duxbury Comprehensive Plan

Open Space and Recreation Requirements, 2001

The Open Space Planners Workbook, Draft 2001

Soil Survey: Plymouth County, Massachusetts

Town of Duxbury Survey of Registered Voters For Long Range Planning Study

Division of Fisheries & Wildlife, Massachusetts Natural Heritage Atlas, 2000 –2001 Edition

Dufresne-Henry Engineering Study of the Duxbury Water Department, dated 2000

Duxbury Communitywide Survey – Phase I Final Report, Karen Davis, July 3, 2001

Preliminary Survey of Duxbury, Massachusetts, Edward Connors and Associates, May 2000

Town of Duxbury, MA General Obligation Bonds Final Official Statement, dated August 14, 2001

Town of Duxbury Department of Public Works, 2001 Annual water Quality Report

Town Of Duxbury Americans With Disabilities Act Compliance Report 1994

1997 Duxbury Open Space and Recreation Plan

Duxbury Recreation Facilities Study Committee Final Report, 2000

U.S. Department of Commerce, U.S. Census Bureau

Duxbury Rural and Historical Society: Sara Wingate Taylor Lecture Series

Metropolitan Area Planning Council Newsletters

Duxbury Clipper

Boston Globe

Conservation Land Field Data Sheet

Assessors Lot # 050a-502-006 99.58 Acres (Feinberg Bog)

- Also Assessor's Lot #'s 010b-502-000 .6 Acres
  010b-502-001 2.2 Acres
  010b-502-002 .1 Acres

Location

Southeast side of North Street, from the Marshfield - Duxbury town line to Route 3. The only access is a 40' public way off North Street. The three smaller lots are located on the south side of Route 3. It appears that these three lots were part of 050a-502- 006 but separated when Route 3 was constructed. Due to their size and isolated location their only use is for open space and wild life habitat.

Physical Boundaries

One cement bound located on North St. at the right of way. The property has not been posted.

Significant Features

The South River runs through the parcel which supplied water for the cranberry bog on either side of the river. The bog has since been abandoned and has pretty much reverted back to a red maple swamp. The remnant of dikes and control structures are still in place, however some of the control structures are open and can cause a liability problem. North Street at the public way is approximately at the 100' contour line. This is the remnant of a moraine, and slopes down rapidly to the bog elevation of 40' feet above sea level.

This parcel has a mixed soils classification. Along North St. the soils are classified in the Gloucester which consist of low rolling hills with wet areas. Gloucester soils are formed in stony glacial till and consist of sandy silts. This series This series has moderate to severe limitations for development purposes and severe limitations for athletic fields. This classification constitutes about 25% of the parcel. The rest of the parcel mud (swamp) both shallow and deep.

Vegetation

On the North St. side of the parcel the vegetation consist of a heavily wooded pine - oak climax forest. The predominant species are eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak (*Quercus alba*). I also found several American chestnut (*Castanea dentata*) trees, as well as some red maple (*Acer rubrum*). As the parcel sloped towards the wetlands the vegetation changed to a red maple swamp consisting almost entirely of red maple, with a thick under story of common green brier (*Simlax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), sassafras (*Sassafras albidum*), and witch hazel(*Hamamelis virginiana*). There are scattered hemlock (*Tsuga canadensis*) where the upland changes to wetlands. The bog is now a red maple swamp.

Existing Trails

There is a cart path from North St. to the southeasterly side of the bog, which eventually circles the bog. These trails are pretty much grown over, but can be brushed back with a little effort.

Parking

There is room for three or four cars at the cart path off North St.

Problems

There are no problems at this time except the open control structures for the bog.

Recommendation

TIMBER: There is a considerable amount of mature pine that should be harvested.

TRAILS: The existing trails should be brushed back and opened for hiking and cross country skiing. New trails and additions to existing trails could be constructed.

Conservation Land Field Data Sheet

Assessor's Lot # 020a - 500 - 022 1.11 Acres

Location

Keene Street, East side just off Summer Street.

Soils

The majority of the parcel is in the Au Gres Series which consist of nearly level to gently sloping, poorly drained loamy sands, occupying the low lying parts of out wash plains. A seasonal high water table is at or near the surface for 7 to 9 months each year.

Vegetation

The parcel is heavily wooded with red (swamp) maple - Acer rubrum- and a scattering of eastern white pine - Pinus strobus. The understory consists of common green brier - Smilax rotundifolia, Sweet pepper bush - Cornus alternifolia, and high bush blueberry - Vaccinium corybosum.

Comments

This parcel is surrounded by private land and does not abut any other town property. It is completely in the wetlands and does not lend itself to any recreational uses at this time. It might best be left as open space, wildlife habitat, and a water recharge area.

This Data sheet was completed in April, 2000

Conservation Land Field Data Sheet

Assessor's Lot # 020a-502-004 24.54 Acres

Location

This lot is located off the northwest side of Franklin Street with two access points to Franklin Street : a 40 foot strip of land between lots # 020a-035-003 and 020a-035-004, and a second 40 foot strip of land between lots # 020a- 035-011 and 020a-035- 012. The lot abuts lot 020a-033-000 currently owned by the Swanson family. On the northeast side the lot abuts lot # 020a-502-036 which is under the jurisdiction of the Duxbury Conservation Commission.

General Description

With upland on the southeast side, the lot slopes down quickly into Blackfrier's Swamp, a privately owned wetlands. The upland constitutes about 30 to 40 percent of the lot. Much of the south and southeast side of the lot is a pine - oak climax forest with little undergrowth. Several foot paths have been constructed throughout the upland. The lot is contiguous with lot # 020a-502- 036, a small lot that is contiguous on two side with lot # 020a-502-020, an 86 acre lot with access on Keene Street and Union Bridge Road. Since both of these lots are under the jurisdiction of the Duxbury Conservation Commission, also, there is a very good opportunity for an extended trail system.

Soils

The upland portion of the lot is classified in the Gloucester series, which consists of moderately steep, well drained soils that formed in glacial till derived chiefly from granite material, which occur mostly on the high parts of ground moraines. The wetlands area on the west side is classified as peat, which consist of poorly drained soils that formed in an accumulation of partly decomposed organic material. Plant remains can still be identified, and are saturated much of the year.

Vegetation

The wet areas form a typical red maple swamp, where the dominate tree is the red maple (*Acer rubrum*), and a lesser population of black birch (*Betula lenta*), and yellow birch (*Betula alleghaniensis*) . The understory is made up of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia)*, high bush blueberry (*Vaccinium corymbosum*), and sassafras (*Sassafras albidum*). The upland area is forested with a climax pine - oak forest, made up of eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak (*Quercus alba*). There is very little understory except for some sheep's laurel (*Kalmia angustifolia*).

Problems and Recommendations

There appears to be no problems with this area at this time except parking. Franklin Street in narrow, curved and congested, however since the Duxbury Conservation Commission has jurisdiction of the land across Franklin Street, parallel parking for several cars could be developed here. With the two access points on Franklin Street, a trail system can be constructed from the Phillips Brook area, which is across Franklin Street, and continue through to Keene Street, crossing Keene Street, which would connect with a trail from Summer Street to Congress Street. The Conservation Commission has jurisdiction over 200.3 acres of land in this Assessor's block alone, and jurisdiction over large pieces of land which are on abutting blocks that connect across streets. With parking on many of the streets, a network of various trails for hiking, cross country skiing and snow shoeing could be developed. Observation platforms for wildlife viewing and photography can be constructed. Interpretive trails for educational programs are a possibility. A comprehensive management plan needs to by developed.

This data sheet was completed February 2000

Conservation Land Field Data Sheet

Assessor's Lot # 020a-502-008 10.03 Acres

Location

This parcel is located on the westerly side of Summer Street (Route 53), and is roughly 1033 feet south of the Pembroke-Duxbury townline with about 701 feet of frontage on Summer Street.

General Description

A relatively flat piece of property falling almost entirely between the 100 foot and the 110 foot contour lines on the Hanover quadrangle of the USGS topographical maps. Approximately 90% of the area is wetlands with standing surface water in many areas on the northerly side and has a small brook meandering through the lot. The entire parcel has a high water table. The majority of the area is a red maple swamp on the northern side with a stand of mature pine on the southern boundary. The rear of the lot is defined by a partial stone wall.

Soils

The surface soils are classified in the Gloucester series - Sandy loam, very stony glacial till derived from granite, which are generally well drained. However, this area has a substratum of a firm layer of fine sands at a depth of two and a half to five feet. It is this firm layer of fine sands that is causing the high water table and the poor percolation rate.

Vegetation

The predominate tree on most of the lot is red maple (*Acer rubrum*) on the northerly side and changes to a grove of eastern white pine (*Pinus strobus*) as the predominate species on the southern side. Other species of trees in lesser number are white oak (*Quercus alba*), red oak (*Quercus rubrum*), and yellow birch (*Betula alleghanien*). The understory on most of this area is a thick tangle of common green brier (*Simlax rotundifolia*), Sweet pepper bush (*Clethra alnifolia*), High bush blueberry (*Vaccinium corymbomus*), and

arrowwood (*Viburnum dentatum*). The understory in the pine grove is much less dense, however, made up of much the same species.

Problems and Recommendation

Other than road side litter there seems to be no problems. Although this parcel does have parallel parking along the roadside it does not abut any other town owned land and is very wet. Due to these factors and since there are no trails or old cart paths on the property its best use is for open space, wildlife habitat, and to recharge the water table, at the present time. It also makes a good buffer zone against strip mall development along the street, and might be considered as a good candidate for a timber harvest.

This data sheet was completed Dec. 1999.

Conservation Land Field Data Sheet

Assessor's Lot # 020a-502-010 2.77 Acres

Location

A rectangular lot located, with 200 feet of frontage, on the northeasterly side of Summer Street. The lot abuts lot # 020a-011-010 on its east side and lot # 020a-009-002 on its west side. The back of the lot abuts lot # 020a-502-030, which is also under the jurisdiction of the Duxbury Conservation Commission.

General Description

The lot with its 200 feet of frontage on Summer Street offers parallel parking along Summer Street. The lot is a wet dense maple swamp with some higher land on the east side along lot # 020a-011-009 and 010. Most of the lot has standing water on it 7 to 9 months of the year and the entire lot would have to be considered in the wetlands . It does offer access off Summer Street (Route 53) to a large conservation lot behind it for future hiking trails. A stone wall forms its northern boundary.

Soils

The soils on this lot consist of level, poorly drained sandy loam that formed in firm glacial till that contain many granitic stones and boulders. These soils have a fragipan at a depth of 2 feet or less. They occupy low parts of ground moraines, and have a high water table for 7 to 9 months of the year.

Vegetation

Being a maple swamp the primary tree is the red maple (*Acer rubrum*). There is a small population of eastern white pine (*Pinus strobus*) along the eastern boundary with lot # 020a-011-029, where there is a slight rise in elevation. The understory is a very dense tangle of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), and high bush blueberry (*Vaccinium corymbosum*).

Problems and Recommendation

With the exception of road side litter there is no problem on this parcel. It is a very wet parcel with a very dense bushy undergrowth. There is parallel parking along Summer Street for three or four cars, and a hiking trail could easily be constructed across this parcel to continue on to lot # 020a-502-030, which is a 40 acre parcel also under the jurisdiction of the Duxbury Conservation Commission. This could be the beginning of a series of hiking trails which could wind all the way to Camp Wing.

This field data sheet was completed February 2000.

Conservation Land Field Data Sheet

Assessor's Lot # 020a-502-011 4.76 Acres

Location

This parcel is located on the southwesterly side of Summer Street (Route 53) approximately 370 feet north of the intersection of Summer and Keene Streets.

Description

An irregular shaped lot with approximately 800 feet of frontage on Summer Street, consisting mostly of pasture, which is mowed annually to keep it as a pasture. This lot is part of the Swanson Farm. The stone foundation of the barn still exists in the pasture with the entrance of the cow tunnel under Summer Street a short distance from the foundation. A portion of the northerly side of the pasture has reverted back to a maple swamp. Presently the cow tunnel is filled with water leaving only bullfrogs access.

Soils

A thin layer of sandy loam soil covers most of the pasture, sloping to a maple swamp on the northerly side, and sloping to a wet area on the southern side. Very fine, hard packed outwash and peat lie below allowing poor water percolation resulting in a high water table. Having been a farm much of the surface soil has been altered from its original glacial outwash, although the area has an impervious substratum allowing for the poor percolation.

Vegetation

The majority of the parcel is a grassed pasture with eastern red cedar (*Juniperus virginiana*) seedlings trying to encroach on the pasture. The predominate tree in the maple swamp on the north side of the parcel is red maple (*Acer rubrum*), and eastern white pine (*Strobus pinus*) on the higher side of the area towards Summer Street. The understory in the maple swamp consist of common green brier (*Smilax rotundifolia*), sweetpepper bush (*Clethra alnifolia*), and some high bush blueberry (*Vaccinium corymbosum*). Around the stone foundation there are some mature eastern red cedar, and along the Summer Street on the southern side of the area are some Norway maples (*Acer platanoides*), an introduced species.

Recommendations and Problems

It will be necessary to mow the pasture each year to keep the trees from taking over. An application of agricultural lime each spring would be of great benefit to the grasses in the pasture. A test of the soils to determine the amount of lime to apply is in order. There is parking along Summer Street for several cars, however the parcel is not contiguous with any other town owned property which limits its use. Being a cleared field it does lend itself to playground use in the future. The stone foundation will need some cleaning, but does not present a hazard at the present time. There is also the standard road side litter problem that should be addressed. This is an ever present problem on all the road side parcels. At the present time its best use is open space, wildlife habitat, and a buffer to strip mall development.

Data sheet completed Dec. 1999.

Conservation Land Field Data Sheet

Assessor's Lot # 020a-502-018 & 019 A total of 8.24 Acres

Location

At the intersection of West Street and Summer Street (Route 53), approximately 250 feet north of the intersection of Summer Street and Franklin Street. Parcel 019 is on the west side of Summer Street and parcel 018 is on the east side of Summer Street. On Summer Street, parcel 018 abuts parcel 020a-029-002 on the south side, and 020a-029-011 on the north side. Parcel 019 abuts the intersection of West and Summer Streets on the south side and parcel 020a-029-012 on the north side.

Description

Originally lots 018 and 019 were one lot which was bisected by the reconstruction of Summer Street, leaving 018 located on the easterly side of Summer Street and 019 on the westerly side. Parcel 018 has 545

feet of frontage on Summer Street and parcel 019 has 462 feet of frontage on Summer Street and 562 feet of frontage on West Street. The area is a ground moraine of glacial till with parcel 018 on the northern slope sloping down to a maple swamp and a water impoundment. The description of parcel 019 is much the same. Approximately 50% of the lots are upland with the other 50% as wetlands.

Soils

Much of this parcel is in the Gloucester Series consisting of well drained soils that formed in glacial till derived chiefly from granite which occurs mostly on the higher parts of rolling ground moraines. The eastern boundary of the parcel is located at the top of the moraine and slopes to a swampy area of peat. The soils in the upper portions of the moraine consist of sandy mineral material allowing for good percolation of water. As the parcel slopes to the swamp the soils are made up of peat, which consist of poorly drained soils that formed in an accumulation of partly decomposed organic material, mostly plants which can be readily identified. These soils are saturated much of the year.

Vegetation

The undulating topography allows for quite a diversity in vegetation. On the areas of well drained soils the vegetation is made up of a pine - oak climax forest, consisting of a mixture of eastern white pine (*Pinus strobus*), red oak (*Quercus rubrum*), and white oak (*Quercus alba*) with a very sparse understory of some common green brier (*Smilax rotundifolia*) and a few high bush blueberries (*Vaccinium corymbosum*). The predominate tree in this area is the white pine.

As the parcel slopes to the swamp the vegetation changes to a maple swamp consisting of red maple (*Acer rubrum*) as the predominate tree and a thick understory of common green brier (*Smilax rotundifolia*, sweet pepper bush (*Cornus alternifolia*), High bush blueberriy (*Vaccinium corymbosum*), and a few inkberry (*Ilex glabra*)

Problems and Recommendations

Basically there are no problem on the parcel except the standard roadside litter. There is parking along the road side and a cart path on lot 018 which extends in a short distance. Fortunately this cart path is not collecting rubbish at this time. Lot 019 is too small to have any cart paths or foot trails although it does have road side parking for several cars. Because neither lots abut any other conservation or town owned land constructing any hiking trails is not recommended. A private lot (020a -033-000) is located between 018 and a large parcel of conservation land. Should this parcel become conservation land the construction of hiking trails would take high priority. A timber harvest should be considered on lot 018. There are some mature pines that should be removed to allow for forest regeneration.

This data sheet completed January 2000.

Conservation Land Field Data Sheet

Assessor's Lot #		
	020a-502-020	86.28 Acres
	020a-502-036	4.06 Acres
	020a-502-034	1.03 Acres
	020a-502-044	4.51 Acres
	020a-502-022	5.19 Acres
	Total	101.07 Acres

Location

All five lots are contiguous. Lot # 020a-502-022 has approximately 450 feet of frontage on west side of Union Bridge Road, between lot # 020a-047-000 and lot # 020a-051-001. Lot # 020a-502-020, the larger of the five lots, has 710 feet of frontage on Keene Street, between lot # 020a-023-001, and lot # 020a-030-001. Lot # 020a-502-036, in the southeast corner of the area, abuts lot # 020a-502-004, which is under the jurisdiction of the Duxbury Conservation Commission, and has access on to Franklin Street.

General Description

The majority of the five lots are wetlands with lot # 020a-502-020 almost entirely a dense maple swamp, with a small brook flowing through the lot from Blackfrier's Swamp. The only upland on this lot is a small strip along Keene Street. On the other side of the area, on the west side of Union Bridge Road, on lot 020a-502-023, is an irregular shaped ridge or hill that slopes down into a maple swamp leaving about half of this lot in the uplands. Although the entire area is mostly wetlands, a system of trails could be developed.

Soils

The majority of the five lots are classified as Peat, which contains very poorly drained soils derived from organic material. The water table is at or near the surface most of the year. The exception to this is a small kame deposit on lot # 020a-502-022, which consists of well drained coarse sand and gravel, granitic in nature. This occupies about 50 percent of the lot, which then slopes down to the maple swamp.

Vegetation

Much of this area is a maple swamp with the red maple (*Acer rubrum*) as the dominate tree. On the upland on lot # 020a-502-022, eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak (*Quercus alba*), are the dominate trees with little understory. There is a small population of Canadian hemlock (*Tsuga canadensis*) in the eastern corner of the area and some yellow birch (*Betula alleghaniensis*) in the wetland areas. As the topography changes from upland to wetlands, the dominate species of tree changes from pine and oak to red maple. In the wetlands the understory is that of a typical maple swamp, namely common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), and high bush blueberry (*Vaccinium corymbosum*) as the dominate bush, with witch hazel (*Hamamelis virginiana*), and sassafras (*Sassafras albidum*) in lesser population.

Problems and Recommendations

Parking seems to be the only problem at this time. Union Bridge Road is narrow, however parallel parking could be developed across the street along lot # 020a-502-027, since this lot is under the jurisdiction of the Duxbury Conservation Commission also. Keene Street is much the same, narrow, but parallel parking could be developed along the street with little effort.

With this area totaling over one hundred acres and abutting another lot of nearly 25 acres, it lends itself to a diverse set of trails. Interpretive trails, hiking trails for walking, jogging, cross country skiing, and snow shoeing, are all possibilities. Trails with exercise stations are a possibility. Observation platforms at various intervals for wildlife viewing and photography. There is access to another nearly 50 acres of conservation land across Keene Street and access to 140 acres of conservation land across Franklin Street. There are large parcels of conservation lands which also connect, leaving many possibilities for passive recreation and education opportunities.

The brook flowing out of Blackfrier's Swamp is rather clogged with dead branches. Removing these branches would improve the aesthetics and the flow of the stream.

This Data sheet was completed February 2000

Conservation Land Field Data Sheet

Assessor's Lot #		
	020a-502-030	34.94 Acres
	020a-502-029	9.68 Acres
	020a-502-010	2.77 Acres
	Total	47.39 Acres

Location

All three lots are contiguous and form a continuous passage from the north side Summer Street to the southwesterly side of Congress Street (Route 14). Lot 020a-502-010 is a rectangular shaped lot with 200

feet of frontage on Summer Street between lot # 020a-011-010 on its east and lot # 020a-009-002 on its west. This lot is contiguous on its north side with lot 020a-502-030, which lies on the west side of Keene Street. Lot # 020a-502-029 is located, with 760 feet of frontage, on the south side of Congress Street, between 020a-018-001 on its east and 020a-017-000 on its west. This lot abuts lot # 020a-502-030 on its south side.

General Description

Lot # 020a-502-010 is mostly a wet maple swamp with a dense tangled undergrowth. Much of the lot has surface water most of the year. There is a slight elevation on the easterly side. Lot # 020a-502-030 has three access points along Keene Street. The middle access point is a cart path leading to an overgrown field. The previous owner used the area as a chicken farm. The buildings had fallen into disrepair and had to be removed due to liability problems. The foundations are still visible. The field covers about half the lot which then slopes down westerly towards Keene's Brook, and becomes a wet maple swamp. Much of the field has been overgrown as the forest reclaims the area. This wet area, starting at Summer Street, and encompassing much of these three lots forms the head waters and water shed for Keene's Brook which flows northeasterly across these lots and under Congress Street. A stone wall on the east side of lot # 020a-502-029 forms the boundary between this lot and lot # 020a-018-001. A cement bound on Congress Street marks the western boundary between this lot and lot # 020a-017-000. Approximately 40 to 50 percent of the total area could be considered wetlands.

Soils

The topography of this area forms a shallow sloping, concaved, or dish shaped, region with Keene's Brook at the bottom. The soils at the lowest area consist of poorly drained nearly level soils formed in coarse textured stony glacial till. This type of soil occurs in low-lying areas along streams. Most of these areas are boarded by better drained soils, formed in glacial till, with gently rising topography, and are extremely stony, maple swamps with moisture tolerant shrubs. The percolation rate of the water through the fragipan, which is close to or at the surface, is very slow. As the ground slowly rises in elevation on either side of the brook, a layer of poorly drained sandy loam is present. This layer gives way to a somewhat excessively drained soil made up of glacial till derived chiefly from granite, occurring mostly on higher parts of rolling ground moraines, which are an undulating layer of till deposited as the glacier retreats.

Vegetation

The wetland area is made up of a maple swamp, the red maple (*Acer rubrum*) being the dominate tree, with a small population of black birch (*Betula lenta*). The understory in these areas is a dense tangle of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), and high bush blueberry (*Vaccinium corymbosum*), being the thickest on lot 020a-502-010. As the elevation starts to rise eastern white pine (*Pinus strobus*) become established. As the elevation continues to rise red oak (*Quercus rubrum*), white oak (*Quercus alba*), and a small population of white ash (*Fraxinus americana*) become established. The edges of the field are being taken over by bigtooth aspen (*Populus grandidentata*), and black cherry (*Prunus Serotina*). There is a large population of yellow birch (*Betula alleghaniensis*) along Congress Street on lot # 020a-502-029 and a small population of canadian hemlock (*Tsuga candensis*) towards the western side of this lot.

Problems and Recommendations

The major problem on this area was the dilapidated buildings left by the previous owner, a chicken farmer. These buildings have now been removed and the site been cleaned and restored to a field. all this work has just been completed. The field could be enlarged more by brushing back more of the aspen and black cherry at the southern end. There is also the remnants of a household dump (bottles and cans etc.) left by previous owners, however cleaning this would be a major task. The area does lend itself for the development of a trail system that would start at Summer Street and continue across the northwest side of Duxbury to the newly acquired Camp Wing property. Connecting trails from the Phillip's Brook area off Union Bridge Road could be constructed to form a network of trails from the south side of Duxbury along the west side to the north side. A platform constructed on the western edge of the field would give wildlife observers and photographers a unique vantage point. Loop trails and self guided interpretive trails should be considered, as well as educational walk and programs. There is ample parking on Summer Street and, Congress Street. A parking lot would have to be developed in the field, for Keene Street is narrow and

parallel parking along it would be very limited. A trail system could be used for hiking, cross-country skiing, jogging, snow shoeing, limited mountain biking (non- motorized), and wildlife observation.

This data sheet was completed in February 2000.

Conservation Land Field Data Sheet

Assessor's Lot # 020a-502-118 & 117 A total of 8.24 Acres

Location

At the intersection of West Street and Summer Street (Route 53), approximately 250 feet north of the intersection of Summer Street and Franklin Street. Parcel 019 is on the west side of Summer Street and parcel 018 is on the east side of Summer Street. On Summer Street, parcel 018 abuts parcel 020a-029-002 on the south side, and
020a-029-011 on the north side. Parcel 019 abuts the intersection of West and Summer Streets on the south side and parcel 020a-029-012 on the north side.

Description

Originally lots 018 and 019 were one lot which was bisected by the reconstruction of Summer Street, leaving 018 located on the easterly side of Summer Street and 019 on the westerly side. Parcel 018 has 545 feet of frontage on Summer Street and parcel 019 has 462 feet of frontage on Summer Street and 562 feet of frontage on West Street. The area is a ground moraine of glacial till with parcel 018 on the northern slope sloping down to a maple swamp and a water impoundment. The description of parcel 019 is much the same. Approximately 50% of the lots are upland with the other 50% as wetlands.

Soils

Much of this parcel is in the Gloucester Series consisting of well drained soils that formed in glacial till derived chiefly from granite which occurs mostly on the higher parts of rolling ground moraines. The eastern boundary of the parcel is located at the top of the moraine and slopes to a swampy area of peat. The soils in the upper portions of the moraine consist of sandy mineral material allowing for good percolation of water. As the parcel slopes to the swamp the soils are made up of peat, which consist of poorly drained soils that formed in an accumulation of partly decomposed organic material, mostly plants which can be readily identified. These soils are saturated much of the year.

Vegetation

The undulating topography allows for quite a diversity in vegetation. On the areas of well drained soils the vegetation is made up of a pine - oak climax forest, consisting of a mixture of eastern white pine (*Pinus strobus*), red oak (*Quercus rubrum*), and white oak (*Quercus alba*) with a very sparse understory of some common green brier (*Smilax rotundifolia*) and a few high bush blueberries (*Vaccinium corymbosum*). The predominate tree in this area is the white pine.

As the parcel slopes to the swamp the vegetation changes to a maple swamp consisting of red maple (*Acer rubrum*) as the predominate tree and a thick understory of common green brier (*Smilax rotundifolia*, sweet pepper bush (*Clethra alnifolia*), High bush blueberriy (*Vaccinium corymbosum*), and a few inkberry (*Ilex glabra*)

Problems and Recommendations

Basically there are no problem on the parcel except the standard roadside litter. There is parking along the road side and a cart path on lot 018 which extends in a short distance. Fortunately this cart path is not collecting rubbish at this time. Lot 019 is too small to have any cart paths or foot trails although it does have road side parking for several cars. Because neither lots abut any other conservation or town owned land constructing any hiking trails is not recommended. A private lot (020a -033-000) is located between 018 and a large parcel of conservation land. Should this parcel become conservation land the construction

of hiking trails would take high priority. A timber harvest should be considered on lot 018. There are some mature pines that should be removed to allow for forest regeneration.

This data sheet completed January 2000.

Conservation Land Field Data Sheet

Assessor's Lot #	020b-502-003	58.66 Acres
	020b-502-000	1.00 Acre
	020b-502-101	10.18 Acres
	020b-502-096	11.28 Acres
	020b-502-089	5.97 Acres
	020b-502-017	2.40 Acres
	020b-502-098	4.19 Acres
	Total	93.68 Acres

Location

All seven lots are contiguous and are located on the West side of Union Street between Lot # 020b-100-000 on the south and Lot # 020b-097-000 on the north.

General Description

These seven lots form a large parcel of forest with a mixture of hardwoods and softwoods, and undulating topography, that form a continuation of the Keene's Brook corridor or watershed. This area is separated from the area of the Keene's Brook watershed on the northeast side of Congress Street by a small piece of privately owned wetlands. There is 430 feet of frontage on Union Street which allows the only public access to the entire area with parallel parking for several cars along Union Street. About 40 percent of the area is in the wetlands which forms a corridor on either side of Keene's Brook. On the west side of Keene's Brook the area slope up gently to a hardwood forest crisscrossed with many stone walls which indicates farming or pasture land as its former use. Along the brook close to Union Street is a abandon cranberry bog. Some of the cranberry vines can still be seen, however there is much encroachment of the pines and red maple. Lot # 020b-502-098 was purchased, in part,with funds donated by the Earle Hanna Family in his memory. This particular lot is significant in that it connects the open space land ,under the jurisdiction of the Duxbury Board of Selectmen, around the Keenes Brook Lane development and these seven conservation lots, allowing residents of this area access into these lands.

Soils

The soil on this area is made up of a mixture of glacial till of pebbly quartz sand to poorly drained sandy loam, which fall into several different series. The narrow strip on either side of Keene's Brook falls in the Brockton series which consist of very poorly drained nearly level soils that formed in coarse textured stony till. These soils occur in low lying areas and along small stream. The water table is at or near the surface during much of the year. The majority of the soils moving west and east of the brook fall in the Gloucester and Scituate series which are rather similar, consisting of moderately to well drained soil formed in glacial till of granitic material. Because of the slowly permeable fragipan, which is only a few feet below the surface, the soils are wet early in spring and after heavy rains. The Gloucester series contains more and larger stones than the Scituate series. There is an area of soil that falls in the Norwell series which bisects the area east to west, and would be considered wetlands due to its high watertable. It consists of gently sloping, poorly drained sandy loams that formed in firm glacial till and contain many granitic stones and boulders. These soils have a fragipan at a depth of about 2 feet which restricts the downward percolation of water resulting in ponding. The seepage and runoff of water from the surrounding slopes will stand in depressions for short periods of time. The last area of different soil classification is the abandon cranberry bog which is in the Sanded Muck series, and consists of muck, peat, and very poorly drained mineral soils that have been developed for cranberry production.

Vegetation

There is a wide mix of forest vegetation on these parcels. Starting on Union Street and moving west the dominant tree is the red maple (*Acer rubrum)*, with some Canadian hemlock (*Tsuga canadensis*), eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*) and white oak (*Quercus alba*). The understory is made up of much sweet pepper bush (*Clethra alnifolia*) and common green brier (*Smilax rotundifolia*) and high bush blueberry (*Vaccinium corymbosum*). This understory gets thicker and more tangled as one moves towards the brook. Moving away from the brook in an easterly direction the topography slopes upward and the dominate species change to eastern white pine, and red and white oak. In the transition zone from wetland to upland there is a small population of black birch (*Betula lenta*), and yellow birch (*Betula alleghaniensis*). The understory also thins as the upland takes over. Moving west across the brook the forest situation is much the same. Moving upland the forest floor opens up and little understory is found. In the transition zone there are a few American holly trees (*Ilex opaca*) and in the upland a population of beech (*Fagus grandifolia*) can be found.

Problems and Recommendations

Other than road side trash there are no problems. There is limited access and therefore little use at this time. Acquisition of land that would connect this area with the area on the easterly side of Congress Street. Connecting these two parcels would allow access from the south west side of Duxbury to the northeast side. It would also allow complete access to the Keene's Brook corridor, and a trail system could be planned and constructed that would connect many of the land under the jurisdiction of the Duxbury Conservation Commission in this section of the town. A trail system for hiking, cross country skiing, and snowshoeing, as well as interpretive trails and exercise trails are possible. This area might be considered for limited deer hunting. There are many signs of a well established deer population and thinning makes for a healthier herd. Pulling the dead wood out of the brook might improve the aesthetics of the stream as it cascades over the many large stones and boulders on its way to join the South River.

This field data sheet was completed April 2000

Conservation Land Field Data Sheet

Assessor's Lot #	020b-502-021	53.49 Acres
	020b-502-073	4.49 Acres
	Total	57.98 Acres

Location

These two contiguous lots are located on the north side of Congress Street with over 1500 feet of frontage on Congress Street, between lot # 020b-064-000 on the east and lot # 020a-061-000 on its west.

General Description

The lots form an " L " in shape with the widest side on the street, and Keene's Brook flowing through the middle. In the back portion of the lot, Keene's Brook forms the boundary on the west side with lot # 020b-071-000, currently owned by the Fernandes family. These lots form a basin with Keene's Brook flowing through the bottom of the basin. The topography slopes up from the stream bed on either side. The wetlands on both sides of the brook forms a typical maple swamp. As the topography slopes up on either side the forest changes to more upland species. The entire area is very stony and the brook cascades over the stones as it meanders through the swamp.

Soils

The soil types vary with the elevation. In the lowest part of the basin the soils consist of very poorly drained nearly level soils that formed in coarse textured stony glacial till, which accounts for the poor percolation rate in that area. As the topography slopes up, the soils change to a better drained sandy soil made up of thick deposits of coarse, pebbly quartz sand. In this area, the water moves readily through the soil material above the fragipan. During periods of heavy rain fall, the soils above the fragipan, which is

not a very thick layer, become saturated. When this happen the water sits on the surface of the forest floor or moves laterally to the river bed.

Vegetation

In the wetland the dominate species of tree is the red maple (*Acer rubrum*), with a lesser population of yellow birch (*Betula alleghaniensis*), and black birch (*Betula lenta*). There is an occasional black tupelo (*Nyssa sylvatica*), and sassafras (*Sassafras albidum*). The understory, although quite thick in some places, was not as thick as the typical maple swamp. Common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), arrowwood (*Viburnum dentatum*), and witch hazel (*Hamamelis virginiana*) made up the understory. As the wetlands changes to upland a transition in species takes place. The dominate trees are eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak (*Quercus alba*). There is also quite a large population of American beech, (*Fagus grandifolia*), particularly on the western side, and an occasional Canadian hemlock (*Tsuga canadensis*). There is also a small population of blue beech or American hop hornbeam (*Ostrya virginiana*). The understory in this area is mostly sheep's laurel (*Kalmia angustifolia*), if there is an understory.

Problems and Recommendation

There really isn't any problems at this time except road side trash, some of which has blown quite a distance in to the area from the road. There is ample road side parallel parking on both sides of Congress Street, and a brook side interpretive trail with an observation area, or areas along the trail would lend itself well in this here. There is a diverse population of plant life on the parcels, and loop trails through the diversity would be in order. Across Congress Street there is a large parcel of land under the jurisdiction of the Duxbury Conservation Commission and a loop trail that includes both parcels would make for an interesting trail system. The fallen branches and dead wood in the brook should be removed to enhance the aesthetics of the brook.

This data sheet was completed in February 2000.

Conservation Land Field Data Sheet

Assessor's Lot # 030a-502-023 22.46 acres

Location

Parcel 023 is located in the northwest corner of Duxbury, and is boarded on two sides by the town of Pembroke. The rest of the land is boarded by assessor's lot # 030a-024-000, land presently owned by Mr. E. Koplovsky.

Description

The parcel is a "U" shaped piece of land with undulating topography. Approximately 50 percent of the area is upland, however, the wetlands are mixed throughout the area. The upland consists of a typical pine-oak forest while the wetland are a red maple swamp. There is a stream draining much of the wet areas.

Soils

About 50% of the area is made up of undulating or hummocky kames. Most of the slopes are short and irregular. The out wash deposits consist of gravely soils of granitic origin. The underlying substrate is made up of muds and peat, which are poorly drained and hold surface water much of the year. The gravely kames which constitute the uplands is forested with a typical pine-oak climax forest while the lower or wet areas are forested predominately with red maple.

Vegetation

There is a mixture of upland and wetlands. The dominate forest vegetation on the uplands is eastern white pine (*Pinus strobus)*, red oak (*Quercus rubrum*) and white oak (*Quercus alba*) In the areas with a great deal of pine there is very little understory. The wet areas are a typical red maple (*Acer rubrum*) swamp.

The understory in the wet areas consist of sweet pepper bush (*Clethra alnifolia*) and common green brier (*Smilax rotundifolia*)

Problems and Recommendations

Although there are several foot paths and cart paths on the parcel there is no public access. Unless more parcels can be added to allow public access it might best be left for open space and wildlife habitat. Should Mr.. Koplovsky do more timber harvesting on his abutting property it might be good to harvest some of the mature timber on this property at the same time.

Data sheet completed Nov. 1999.

Conservation Land Field Data Sheet

Assessor's Lot # 030b-502-051 104.65 Acres (Valley Street Bogs)
030b-502-050 1.40 Acres
030b-502-000 8.75 Acres
030b-502-056 1.32 Acres
A total of 116.12 Acres

Location

This parcel of land is located on the southern side of Valley Street between lot # 030b-051-001 (71 Valley Street) and Upper Charles Chandler's Mill Pond (also the Duxbury - Pembroke town line), with a 40' unimproved gravel way between lot # 030b-051-002 (17 Valley St.) and lot # 030b-051-003 (11 Valley St.). On the western side of Summer Street (Route 53) the parcels are located behind lot # 030b-782-001 (Fred's Duxbury Fix-It Shop), lot # 030b-782-002 (Osborn's Country Store), and Summerset Place. Lot # 030b-502 056, located on Summer Street, allows access on the western side of Summer Street. On the northern side of Birch Street there are two access points. The first is a 40' unimproved way between lot # 030b-059-002 (28 Birch Street) and lot # 030b-059-003 (42 Birch Street). The second access point is to use lot# 030-509-053, which is under the jurisdiction of the Water Department. Pine Brook, which is also the Duxbury - Pembroke town line, forms the western bound of the area.

General Description

Being a large parcel of land, made up of four separate lots, there is a mix of topographical features as well as vegetation. Access, with parking for several cars, on Valley Street is by a gravel cart path leading into the property, and is where the Bay Circuit Trail system enters the area. Much of this area to the left of the cart path is abandon cranberry bogs, work roads and mowed areas between the bogs, all of which are being overgrown with a variety of swamp vegetation. Some of the old bogs, their ditching, and cranberry vine can still be recognized. Much of the topography was altered with the construction of the cranberry bogs and the dam to form Upper Chandler's Mill Pond. Much of Upper Chandler's Mill Pond floods Lot 030b-502-050, a small lot of less than an acre and a half, and the rest of the lot is swampy wetlands. To the east side of this lot is Lot # 030b-502 000, a larger parcel topped by a delta kame, a steep sided flat topped hill of sand and gravel originating when sediments accumulated in openings in stagnant glacial ice, as its major topographical feature, and has approximately 60% upland. These two lots make up approximately 10 acres of this entire area. An earthen dam with two water control structures on the eastern side of Upper Chandler's Mill Pond holds the water level in the reservoir at its present level. Pine Brook flows through the reservoir, over the dam, and forms the southern boundary of the entire area as it flows on into Lower Chandler's Mill Pond. Behind the dam to the east is a large maple swamp with standing water in many areas. Behind the cranberry bog off Valley Street is a dike road running east, which was used to work the bogs, and forms part of the Bay Circuit Trail system. To the right of this dike road is a canal flowing from Upper Chandler's Mill Pond, behind the bog, then through the maple swamp to the abandoned bog off Birch Street. The dike cart path turns south, still part of the Bay Circuit Trail system, and runs to the bog on Birch Street. To the left of this cart path the land slopes upward to form a pine-oak forest and at this point can be considered upland. This area can be considered a kame terrace, a land form resulting from accumulation of glacio-fluvial sand and gravel along the margins of ice tongues in valleys of hilly relief

with undrained depressions or kettle holes. Several of the kettle holes have standing water in them with swamp vegetation. Much of lot # 030b-502-056, which is part of this total area, lies on the south side of Summer Street, and is another small abandon cranberry bog of less than one half acre, and is pretty much over grown with swamp vegetation. The Bay Circuit Trail crosses Summer Street at this point. According to historical documents this area of Duxbury was called Four Mile Hill and is one of the highest points in the town. On the north side of Birch Street to the west of the water tower is another abandon cranberry which has not grown over with maples and pines as severe as the Valley Street bog. Although marsh vegetation is starting to take hold, much of the cranberry vine is still visible. Maple and pine are well established along the bog edge.

Soils

All of the bog areas are classified, according to the Plymouth County Soils Survey of 1969, as sanded muck which consists of muck, peat, and very poorly drained mineral soils that have been developed for cranberry production. These areas have been leveled, sand applied over the organic material and planted.
The upland areas to the east are classified in the Carver series which consist of well drained steep sandy soils that formed in thick deposits of coarse, pebbly quartz sand. This type of soil occupies much of the pitted and dissected outwash plains. The slopes in some areas tend to be very steep. The soils in the wetland along Pine Brook in the west side of the area, fall in the Scarboro series which consist of poorly drained sandy loams that formed in thick deposits of sand and gravel. A black mucky layer of organic material up to 12" in thickness overlies the mineral layer of very dark brown sandy loam. These soils occupy large depressions in outwash plains, and are wet most of the time due to their high water table and slow percolation rate.

Vegetation

The vegetation on these parcels is mixed and varied. Along the edge of the reservoir on the west side of lot # 030b-502 050 is typical pond edge grasses and sedges along with common alder, (*Alnus populus*), button bush, (*Cephalanthus occidentalis*), right adjacent to the reservoir, and high bush blueberry, (*Vaccinium corymbosum*), sweetpepper bush, (*Clethra alnifolia*), and arrowwood, (*Viburnum dentatum*) taking over as you move away from the water's edge. Getting closer to the upland on lot# 030b-502-000 red maple, (*Acer rubrum*), and common brier, (*Smilax rotundifolia)* become established. On the top of the delta kame, on lot # 020b-502-000, which is east of the reservoir, upland vegetation takes over, with eastern white pine (*Pinus strobus*) and red oak (*Quercus rubum*), being the dominant species, with white oak (*Quercus alba*) in lesser number, and very little understory. There is a varied mixture of vegetation taking over on the abandon bog on Valley Street. The understory of blueberry bushes, (*Vaccinium corymbosum*), sweetpepper,(*Cornus alternifolia*), and arrowwood (*Viburnum dentatum*) became established with red maple, (*Acer rubrum)* and eastern white pine (*Pinus strobus*) following. The eastern white pine and the red maples, as they grow taller, are starting to dominate and crowd out the understory of shorter bushes. Behind the reservoir, south of the Valley Street bog to Pine Brook is a swamp with red maple, (*Acer rubrum*), as the dominant species. There is mature eastern white pine (*Pinus strobus*) in some of the transition zones. On the Birch Street side of the swamp a population of black birch, (*Betula lenta*) is getting established. In the southeast corner of the area on the kame terrace around the water tower is a grove of mature eastern white pine (*Pinus strobus*), and red oak, (*Quercus rubrum*), with very little understory. There are several kettle holes in this section with standing water and wetlands vegetation. The native species of wetland plants have not taken over as much on the abandon bog off Birch Street. Much of the area is still covered with cranberry vine with some marsh grasses and sedges slowly moving in. Red maple (*Acer rubrum*), and immature eastern white pine, (*Pinus strobus*), are beginning to establish themselves along the edges of the bog, and the bog roads, as is the typical wetland bushes, such as sweet pepper, (*Cornus alternifolia*), high bush blueberry,(*Vaccinium corymbosum*), and Arrowwood, (*Viburnum dentatum*).

Problems and Recommendations

There seems to be little or no problems in this area short of the typical road side litter particularly along the Summer Street access area where the Bay Circuit Trail reaches Summer Street. All of the parcels are free of rubbish and no encroachment. As for recommendations The existing trails and foot paths, which there are several besides the Bay Circuit Trail need to be brushed back. More hiking trails might be developed to give the Bay Circuit Trail a little variation. More classroom use of these areas should be encouraged. In the upland area behind Summerset Place a harvest of timber should be considered.

This data sheet was competed Feb. 2000.

Conservation Land Field Data Sheet

Assessor's Lot #	030b-502-005	122.6 Acres	(Trout Farm/Phillips Brook)
	030b-502 038	14.08 Acres	
	030b-502-049	3.4 Acres	
	A total of	140.8 Acres	

Location

This large parcel, made up of three contiguous lots, is located on the west side of Union Bridge Road, on the north side of Cross Street, the east side of Summer Street (Route 53), across from the intersection of Summer Street and Valley Street, and the south side of Franklin Street. The area has access from all four of these Streets.

General Description

The three lots are contiguous and form one large wooded lot of mixed species and a mix of upland and wetlands. On lot 030b-502-038 on Summer Street is a small abandoned cranberry bog of approximately 1 1/2 acres. Due to its size and lack of care for such a long time, bringing the bog back into production is not economically feasible. This bog and surrounding area form the watershed of Phillips Brook which flows through the northern side of the property along Franklin Street. The water quality of this brook is such that before the Town of Duxbury purchased the property in 1973, it was used as a private trout hatchery. Wooden raceways were constructed and trout were farmed. One might catch a glimpse of a small brook trout darting for cover along the undercut banking or vegetation in the brook as you walk along the path beside the brook. Most of the wooden raceways and control structures have been cleaned out and the construction material removed leaving the brook in its natural condition. The water quality is still rather pristine as is evident by the presence of a small population of brook trout. Located in the northeast corner of the lot is an old mill sight. The mill foundation and dam can still be recognized. The dam impounded water to operate the mill forming Phillips Mill Pond. Remnants of a ditch can be seen between Phillips Brook and Blackfrier's Swamp, which is located between Keene Street and Franklin Street. When Phillips Brook did not have enough water to run the mill, water was diverted from Blackfrier's Swamp to supplement the water resources. The Phillips Brook watershed occupies about 25 to 30% of the parcel and is a maple swamp which is consider wetlands. The remainder of the parcel is a climax pine - oak forest on an outwash plain, an undulating layer of glacial till deposited as the ice front retreats. The topography in this area consists of a kame terrace, a series of hills and valleys with several kame deposits, which are steep sided hills composed of sand and gravel, originating when sediment collected in openings in stagnant ice, and kettle holes, pits or depressions left by the melting of isolated blocks of ice. It appears that today's topography is just as the glaciers left it while retreating. With the exception of the small cranberry bog and the mill site there is no evidence of any alteration of the area. Timber has been harvested but that does not alter the topography. There are several cart paths and hiking trails throughout the property, all marked and color coded. A map at the kiosk on Union Bridge Road delineates the trails. The Bay Circuit Trail run through the parcel from Summer Street to Union Bridge Road on its way across Duxbury.

Soils

The majority of the soils in the upland area are classified, according to the Plymouth County Soil Survey of 1969, in the Carver Series, which consists of well drained sandy soils that formed in thick deposits of coarse pebbly quartz sand. These are in the formation of a kame field or terrace, formed generally by the collapse of sand and gravel deposited over irregular ice fields, and are the coarsest textured soils in the county. The percolation rate of these soils is rapid, but these deposits tend not to be thick. There is standing water in some of the kettle holes which tends to indicate a high water table.

In the wetland of the Phillips Brook watershed the soils are classified in the Scarboro Series and Peat. The Scarboro Series consist of very poorly drained sandy loams that formed in thick deposits of sand and gravel, which occupy large depressions on outwash plains, and have a high water table. Peat consists of

very poorly drained soil that formed in an accumulation of partly decomposed organic material. In some of the peat accumulation the plant remains can be identified. The soils are usually level and are saturated much or all of the year. This soil type dominates the northwest corner of the wetland area.
The abandon cranberry bog is classified in the sanded muck series, which consists of very poorly drained mineral soils that have been developed for cranberry production. All trees and brush has been removed and the surface has been leveled. About a foot of sand has been spread over the organic material to provide a rooting medium for cranberry vines, and ditches for water control constructed around the bog edges.

Vegetation

The abandon cranberry bog still has some cranberry vine present as well as marsh grasses and sedges with immature red maple (*Acer rubrum*) around the edge. The understory along the edge is made up of sweet pepper bush (*Cornus alternifolia*), and high bush blueberry (*Vaccinium corymbosum*). The vegetation over the peat area and the Scarboro soils constitutes a typical maple swamp made up of red maple (*Acer rubrum*) as the primary tree cover with an understory made up of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), and high bush blueberry, (*Vaccinium corymbosum*). The upland areas are a characteristic climax pine- oak forest, with the primary trees being eastern white pine (*Pinus strobus*), red oak (*Quercus rubrum*), and white oak (*Quercus alba*). In some spots the is a small population of eastern hemlock (*Tsuga canadensis*). In the pine- oak forest there is very little understory. Some of the deeper kettle holes have typical maple swamp vegetation and some standing water in them.

Problems and Recommendation

With the exception of the standard roadside litter there seems to be few problems. Since the cart paths have been blocked off, no dumping inside the property has occurred. The area seems to be respected at this time. The paths and hiking trails need to be brushed back a little. More hiking trails could be constructed. This is an area that is in need of a management plan and a selective harvest and some timber stand improvement under taken. The topography lends itself to a wonderful study of geology or earth science in glacial deposition. There is a wide variety of glacial features which appear to be just as the glacier left them as it retreated, with the exception of the mill site and the abandon bog. According to historical reports no settling or development has taken place on this parcel. On the east side of the parcel a short distance down the cart path from the kiosk on Union Bridge Road is " a charcoal pit" were charcoal was produced. According to "Settlement And Growth of Duxbury 1628-1870" by Dorothy Wentworth " One of the most interesting industries that grew out of a shipbuilding need was the production of charcoal necessary to the smelting of bog iron ore ". " Charcoal burning was a lonely and undesirable job. Two men lived at the site of the kiln, working alternately day and night, becoming sootier and grimier as the process went on, and recognized in the countryside as a breed apart. The trees were cut and piled in huge conical circles, perhaps twenty feet in diameter, and dirt was piled over the pyramid as soon as a fire got underway. Whenever a curl of smoke showed, the man on duty threw on a shovel of dirt, for any air in the kiln spoiled the slow oxidation of the wood. After the required days and nights had passed, the dirt was pulled off, the charcoal was carted to the furnace, and the men moved on to the next site. The dirt they pulled off fell into small circular mounds around the fired area and now, more than a hundred years later, bits of charcoal can be dug from them. " One of these "pits" can be seen clearly on the side of the cart path. After taking several cores from across the circle and several cores from outside the circle, and comparing these cores it was easy to determine that the circle of dirt is actually a charcoal pit. The mill site should be brushed out and brush removed to open the site for better viewing. History of the site is sketchy at best. According to the same source "A grist mill was early on a small pond south of Union Street where it crosses Franklin Street. The remains of the dam and the foundation of the mill can be seen by anyone who will brave the poison ivy. There is a rather small stream, not very swift, and often the supply of water behind the dam was depleted. When there was not enough water, arrangements were made to bring a supply from Blackfriar's Swamp to turn the wheel. The ditch that brought the water out of the swamp and across Franklin Street to Phillip's Brook can be located today". This mill was converted to a saw mill later and the remains of the foundation that are present today is that of the saw mill and not the actual grist mill. There also is a small population of brook trout in the brook. A report, entitled Trout Stream Improvement, prepared by the Soil Conservation Service in January 1978, states " Sections along the Phillips Mill Brook meander from (one) side of the stream to the opposite side. Additional aeration and fish cover is desirable. The establishment of logs at a slight angle in selected sites along the waterway would create necessary pools. In addition, boulders can be placed in strategic spots to help form deep pools and whirlpools. Edges of stream banks

provide excellent hiding spots for trout". Raising the water level behind the dam slightly, and constructing some of the improvements suggested by the Soil Conservation Service would improve the brook trout population. This field data sheet was completed in February 2000.

Conservation Land Field Data Sheet

Assessor's Lot # 040a-502-016 .93 Acres

Location

This lot is located on the south side of Hitty Tom Road, between lots 040a-500-015 and 040a-920-017 and backs up to lot 040a-502-020.

General Description

Since this lot backs up to lot 040a-502-020, the information for this data sheet will be much the same as that for lot 040a-502-020. It is in the Hall's Brook watershed, is a maple swamp, with standing water most of the year and is totally in the wetlands.

Soils

According to the Plymouth County Soils Survey of 1969 this area is classified as shallow muck, which consists of poorly drained soils that formed in an accumulation of organic material decomposed to the extent that the original plant material cannot be readily identified. The water table is near or at the surface throughout most of the year.

Vegetation

Being a maple swamp the primary tree is the red maple (*Acer rubum*), with a few mature eastern white pine (*Pinus Strobus*), and many pine seedlings. The understory is a thick tangle of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), and high bush blueberry (*Vaccinium corymbosum*).

Problems and Recommendation

This is a single lot on a dead end road, of less than an acre in the wetlands, with no real problems. It is not being used at this time, and due to its size and location has little recreational value. It might best be left as open space, wildlife habitat, and a ground water recharge area.

This data sheet completed Jan. 2000.

Conservation Land Field Data Sheet

Assessor's lot # 040a-502-020 .96 Acres

Location

A single building lot is located on the north side of Meadow Lane between lots 040a-500-021 and 040a-920-019, and backs up to 040a-502-016 and 040a-500-015. This area is in the Hall's Brook watershed and is entirely in the wetlands.

General Description

This lot and the abutting lot on the east side, which is in the 500 series and under the jurisdiction of the selectmen, are totally in the wetland with Hall's Brook flowing through each. Under normal conditions the lots will have water flowing in the brook and standing water pretty much all year long.

Soils

According to the Plymouth county Soils Survey of 1969 this area is classified as shallow muck, which consist of very poorly drained soils that formed in an accumulation of organic material decomposed to the extent that the original plant material cannot be readily identified. The water table is at or near the surface throughout much of the year.

Vegetation

Being a maple swamp the primary tree is the red maple (*Acer rubrun*), with a few mature eastern white pine (*Pinus strobus*), and many pine seedlings. The understory is a thick tangle of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), and high bush blueberry (*Vaccinium corymbosum*).

Problems and Recommendations

This is a single lot of less than an acre in the wetlands on a cul-d-sac with no real problems. It is not being used a the present time, and due to its size and location has little recreation value. It might best be left as open space and wildlife habitat, and a ground water recharge area.

This field data sheet completed Jan. 2000.

Conservation Land Field Data Sheet

Assessor's Lot # 040a-502-030 3.58 Acres

Location

Located on the north side of Clearwater Drive between Clover Circle and Greenleaf Drive, directly behind lots 040a-500-009 and 040a-500-010, which are Selectman lots.

General Description

This lot is part of the Hall's Brook watershed, and is entirely in the wetlands. It consists of a maple swamp, with a very thick understory, and standing water on the entire lot for the major part of the year.

Soils

The soils on the entire parcel, according to the Plymouth County Soils Survey, are classified as Muck, which consists of very poorly drained soils that formed in an accumulation of organic material decomposed to the extent that the original material can not be identified. The watertable is at or near the surface throughout much of the year.

Vegetation

The predominate tree is almost 100% red maple (*Acer rubrum*) with a very dense understory of common green brier (Smilax rotundifolia), sweet pepper bush (Clethra alnifolia), and high bush blueberry (Vaccinium corymbosum). This is a classic example of a red maple swamp.

Problems And Recommendation

Although there is access over town owned property, namely lots 040a-500-009 and 040a- 500-010, off Clearwater Drive, this lot is not contiguous to any other town owned property, and due to the standing water for most of the year, it does not lend itself to much recreational use. At the present time it might best be left as open space and wildlife habitat.

Conservation Land Field Data Sheet

Assessor's Lot # 040a-502-032 1.1 Acres

Location

This parcel is located on the south side of Lake Shore Drive between lots 040a-914-052 & 040a-914-109, with 150 feet of frontage on the road and 265 feet of frontage on Chandler's Mill Pond.

General Description

The single lot crosses a moraine which slopes up from the road to a high point in the center of the lot then down to the lake shore, giving public access to Chandler's Mill Pond. Much of the southeast side of the area is wooded with a mix of hard and softwoods. A cleared dirt drive allows vehicular passage from Lake Shore Drive to the lake for the purpose of launching small boats and canoes. Parking for six to eight vehicles is available.

Soils

All of the soils on this lot are classified in the Carver Series, which consist of well drained sandy soils with some steep slopes, formed in thick deposits of coarse, pebbly quartz sand occupying much of the pitted and dissected glacial outwash plain in the southeastern part of Plymouth County.

Vegetation

On the wooded area of the lot is a mix of eastern white pine (Pinus strobus), red oak (Quercus rubrum), and white oak (Qurecus alba), with some gray birch (Betula populifolia), black cherry, (Prunus serotina), and bayberry (Myrica pensylvanica) in the transition zone between the wooded section and the cleared area. As the lot slopes to the lake shore the vegetation changes to wetland species, namely red maple (Acer rubrum), high bush blueberry (Vaccinium corymbosum), sweet pepper bush (Clethra alnifolia), and leather leaf (Chamaedaphne calycalculata) with a mixture of wetland grasses and sedges along the lake shore.

Problems and Recommendations

The only problem is a little erosion at the lake shore on the boat launch sight. A little gravel would take care of this. A little brushing back of the road way might be in order as the pioneer plants move out of the wooded area to keep the access open. With the limited parking and boat launch access Chandler's Mill Pond has been opened to improved recreational use.

Field data sheet completed Jan. 2000.

Conservation Land Field Data Sheet

Assessor's Lot # 040a-502-051 9.00 Acres

Location

This is a land - locked piece of property located between Lake Shore Drive, Mill Pond Lane, and Pine Street. There is no public access except a 10' travel easement which winds its way from Lake Shore Drive at the intersection of Jonathan Way. This easement would have to be surveyed and marked in order to be useful.

General Description

The majority of this lot is a maple swamp with an abandon cranberry bog at the southern end of the lot. Eighty to ninety percent of this parcel would have to be considered wetlands. A small brook flows north to south through the old bog, which has reverted back to maple and pine trees. The brook continues south under Pine Street and into Pine Brook.

Soils

This area falls into two soil types. The majority of the parcel is classified as peat which is made up of very poorly drained soils that formed in an accumulation of partly decomposed organic material and is saturated most of the year. The cranberry bog is classified as sanded muck which consist of muck, peat, and very poorly drained mineral soil constructed for the purpose of cranberry production. This cranberry bog was constructed in the area classified as peat. The second soil type is classified in the Carver series which

consist of steep sandy soil that formed in thick deposits of coarse, pebbly sand. Although the percolation rate is good, this sandy layer can be rather thin overlaying the peat substrate.

Vegetation

The dominate tree in this area is the eastern white pine (*Pinus strobus*). Red oak (*Quercus rubra*), and white oak (*Quercus alba*) populate the upper drier areas, along the west side of the parcel, with the pine. In the wet areas the dominate tree is the red maple (*Acer rubrum*) with the pine. The wet areas have a very thick tangled understory of the usual species of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), high bush blueberry (*vaccinium corymbosum*), and arrowwood, (*Viburnum dentatum*).

Problems and Recommendations

The lot at present is not being used due to the fact there is no public access. The construction of the bog left a small sand pit on the west side of the bog which has been used as a dump. Much of the rubbish remains but nothing has been added recently. It probably is best that the lot be used as open space, wildlife habitat, and ground water recharge.
This data sheet was completed in April 2000.

Conservation Land Field Data Sheet

Assessors Lot # 050b-502-007 32.48 acres Whitton Woods

Location

Whitton Woods is located on the easterly side of Temple Street between Franklin Street and Laurel Street.

General Description

This parcel is unique in that in the center of the parcel is a large outcropping of bedrock surrounded by glacial till, which is comprised of very stony sandy loam, derived mainly of granitic material. Many stonewalls crisscross the lot. The forest consists of a mix of mesic forest of well drained soils and hydric forest which occur in low lying areas that retain water.

Soils

The bedrock outcrop is surrounded by glacial till deposits of very stony sandy loam, derived mainly from granitic material. Below this layer is a fragipan of compact loamy sand, which is commonly referred to as a clay lens or hard pan.

Vegetation

The upland portion of the parcel, which constitutes the higher areas in the center, are forested predominately with eastern white pine (*Pinus strobus)*, white oak (*Querus alba*), and red oak (*Quercus rubrum*) . As the topography slopes to the fresh water swamp on either side the dominate species of tree is the red maple (*Acer rubrum*) with some eastern red cedar (*Juniperus virginiana*) and in the northern corner of the area a grove of yellow birch (*Betula alleghaniensis)*. In the wet areas there is an understory of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), and high bush blueberry (*Vaccinium corymbosum*). Without delineated boundary lines it is difficult to determine the amount of wetlands as opposed to upland, however, I feel this parcel is approximately half upland and half wetland, with all the upland in the center of the parcel.

Existing trails

There is a trail that circles the parcel. This circle trail crosses private land on the northern side. Permission will be needed for continued use. There is also foot paths that cross over the bedrock outcrop from side to side traversing some of the interesting geological formations.

Parking

There is room to park two or three cars along Temple Street at the side of the road. With a little brushing at the entrance parking could be made a little more convenient.

Problems

The sign "Whitton Woods" at the entrance of the property is missing. The existing trails need to be brushed back and remarked. The northern boundary between this parcel and parcel 050b-026-000, the privately owned parcel, should be located so a trail could be constructed to reform the continuous circle of the property, or permission to use the portion of the existing trail on the private property.

Potential Usage

Trails: The existing trails need to be cleaned and remarked for hiking and cross country skiing. Some new trails should be constructed with some interpretive signs along the trails to point out some of the significant features or vegetation.

Wildlife Habitat: This area lends it self to bird watching and wildlife viewing. I saw many signs of deer using this area.

Data sheet completed Nov. 1999

Conservation Land Field Data Sheet

Assessor's Lot # 050b-502-024 11.90 Acres

Location

This parcel is located on the easterly side of Laurel Street and abuts the Marshfield Town line.

General Description

An irregular shaped lot with no street frontage and no public access. The entire parcel is a dense maple swamp with standing surface water and does not abut any other conservation land or other town owned land.

Soils

Almost all of this area is classified as shallow muck, which consists of poorly drained soils that formed in an accumulation of organic material decomposed to the extent that the original plant material can not be readily identified. This decaying material, mostly plant life, can be from 2 to 12 feet in thickness with a substratum of fine mineral deposits similar to that of the surrounding mineral soils. This type of soil receives surface runoff water from surrounding higher lying areas, which it holds, due to the fine particle size of the underlying soils. The water table is near or at the surface throughout much of the year.

Vegetation

A very dense swamp with red maple (*Acer rubrum*) as the predominate tree. Along the easterly edge of the parcel are a few eastern white pine (*Pinus strobus*). The understory is made up of the typical bushes of a red maple swamp, namely a dense tangle of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), arrowwood (*Viburnum dentatum*), winter berry (*Ilex verticillata*), and high bush blueberry (*vaccinium Corymbosum*).

Problems and Recommendations

This area has no public access or parking. It does not connect with any other town owned property and has surface water most of the year. There are no trails or old cart paths, nor is the area being used in any way at this time. These factors limit its recreational use severely. It might simply be left as open space and wildlife habitat until such time other parcels might be added, and access acquired.

Data Sheet completed Dec. 1999.

Conservation Land Field Data Sheet

Assessor's Lot # 050b-502-025 4 acres

Location

This parcel is located on the easterly side of Laurel Street and the northeasterly side of Temple Street.

General Description

A rectangular lot with no street frontage and no public access. It is a very dense northern white cedar swamp, with a very high water table or standing water most of the year. Along with no public access it does not abut any other conservation land or town owned land. This entire lot is wetlands.

Soils

Almost all of this area is classified as shallow muck, which consists of poorly drained soils that formed in an accumulation of organic material decomposed to the extent that the original plant material cannot be readily identified. This decaying material, mostly plant life, can be from 2 to 12 feet in thickness with a substratum of fine mineral deposits similar to that of the surrounding mineral soils. This type of soil receives surface runoff water from surrounding higher lying areas. The water table is near or at the surface throughout much of the year.

Vegetation

The area is a very dense wooded swampy area with northern white cedar (*Thurja occidentalis*) as the predominate tree on the western side of the parcel. There is also red maple (*Acer rubrum*) which becomes more predominate on the eastern side of the parcel. Also on the eastern edge of the lot there is eastern white pine (*Pinus strobus*). These three species of trees make up the canopy over the region.

The understory is made up of a very thick tangle of Common green brier (*Smilax rotundifolia*) , sweet pepper bush (*Clethra alnifolia*), winterberry (*Ilex*), and high bush blueberry (*Vaccinium corymbosum*). Due to the surface water and the dense understory walking through this area is very difficult.

Problems and Recommendations

No bounds were located nor is there any record of any having been set. I did not find any existing trails. At the present time the parcel has no public access, is quite small, 4 acres, and is not being used , therefore, should probably be left as open space and wildlife habitat.

Submitted Dec. 1999

Conservation Land Field Data Sheet

Assessor's Lot # 060b-502 018 and 014 A total of 11.27 Acres

Location

Both parcels are located on the northeasterly side of Route 3, south of Templewood Drive, and west of Franklin Street. From Franklin Street these lots are behind Lots 060b-018-010 and 060b-031-002.

General Description

Being a very dense maple swamp these parcels are part of the upper reaches of the South River watershed, and are entirely in the wetlands. A river running through the area and under Route 3 joins the South River draining this property of its surface water. The lots are contiguous to each other but have no public access. There is an electrical transmission line easement over this parcel which runs along Route 3.

Soils

The soils in this area consist of mud and peat and very poorly drained glacial till in the Brockton and Sanded Muck Series of the Plymouth County Soils Survey. There is standing water on the area most of the

year. Some of the soils along Route 3 and under the transmission easement have been altered and do not conform to the Soils Survey, however, due to vegetation and standing water this area falls in the wetland district.

Vegetation

Being a maple swamp the predominate tree is the red maple (*Acer rubrum*) with eastern white pine (*Pinus strobus*) and a few red oak (*Quercus rubrum*) and white oak (*Quercus alba*) scattered mostly along the transition zones. The understory consist of a tangle of common green brier (*Smilax rotundifolia*), sweetpepper bush (*Clethra alnifolia*), high bush blueberry (*Vaccinuim corymbosum*), and arrowwood (*Viburnum dentatum*). Along Route 3, where the soils have been altered, and under the electric transmission easement, the vegetation is quite different. There are some aspen (*Populus tremuloides*), black cherry (*Prunus serotina*), and gray birch (*Betula populifolia*) with some alders (*Alnus serrulata*) in the real low areas.

Recommendation and Problems

At the present time these parcels are not being used for any purpose basically because of inaccessibility and wetness. There is no public access, nor do they abut any other town owned land, and therefore do not lend themselves to any recreational use. Left for open space and wildlife habitat seems to be there best use at the present time. (There are many signs of a population of deer inhabiting the area). As for problems there is none except lack of accessibility and wetness.

Data sheet completed Dec. 1999

Conservation Land Field Data Sheet

Assessor's Lot # 070a-502-000 61 Acres

Location

This parcel is located on the north side of Congress Street with 40 feet of frontage on Congress Street opposite the intersection of Congress Street and King Phillip Path, and 40 feet of frontage on the south side of Franklin Street where the South River flows under Franklin Street. There is also access off South River Lane East across lot # 070a-500- 020, which is under the jurisdiction of Duxbury's Board of Selectmen.

General Description

A large very irregular shaped parcel made up entirely of abandon cranberry bogs. All of this area is considered wetlands. Little of the cranberry vine is left at this time. Most of the area has been taken over by fresh water marsh grasses with swamp vegetation moving in from the edges. The South River flows through the area and floods over most of the marsh or remnants of the bog areas. The bog dikes are still visible but are overgrown, and many of the control structures have washed out, undermined, or caved in.

Soils

The soils are classified by the Plymouth County Soil Survey of 1969 as sanded muck, which is a classification for cranberry bogs. It consists of muck, peat, and very poorly drained mineral soils that have been developed for cranberry production. All the trees and bushes have been removed, and the surface has been leveled. About a foot of coarse sand has been spread over organic material to provide a rooting medium for cranberry vine. A network of ditches and canals to control the level and quantity of water so necessary for the production of cranberries. All of the area around this parcel that can support houses has been developed.

Vegetation

The edges around the old bog areas are populated with red maple (Acer rubrum), and common alder (Alnus serrulata). Some of the transition zones and dikes support eastern white pine (Pinus strobus), mostly immature, red oak (Quercus rubrum), and white oak (Quercus alba). The understory is made up of sweet pepper bush (Clethra alnifolia), high bush blueberry (Vaccinium corymbosum), arrowwood (Viburnum

dentatum), inkberry (Ilex glabra), and winterberry (Ilex verticillata). Most of the open marsh areas are covered principally with cat-tail (Tyla latifolia), bur-reed (Sparganium eurysarpum), common reed (Phragmites communis), wool-grass (Scirpus cyperinus), and other common marsh vegetation in lesser amounts.

Problems and Recommendations

Although there is ample parking and access from South River Drive East there is not much area dry enough to develop a system of hiking trails. For now the best use of the area might be for wildlife habitat, and open space. Bringing the bogs back into production is not economically feasible due to the amount of time that these bogs have been out of production, and to the extent of the disrepair of the control structures and dikes between the bogs.

This data sheet was completed February 2000

Conservation Land Field Data Sheet

Assessor's Lot # 070a-502-008 8.78 Acres

Location

This lot is located on the north side of Congress Street (Route 14) between lot # 070a-035-001 on its west and lot # 070a-500-021 on its east. The boundary on the north side of the lot is what is believed to be the original "King Phillip's Path".

General Description

With 206 feet of frontage on Congress Street this parcel lies entirely in the wetland. It consists of a red maple swamp, and slopes gently down to a reservoir on the east side. The reservoir and surrounding land is under the jurisdiction of the Duxbury Selectmen.

Soils

The majority of the area is classified In the Deerfield series, which consist of gently sloping moderately drained soils which were formed in thick deposits of glaciofluvial sand occupying the low-lying parts of sandy out wash plains. Due to its very high water table the area is saturated most of the time.

Vegetation

Being a maple swamp the primary tree is the red maple (*Acer rubrum*), with a mixture of eastern white pine (*Pinus strobus*) and red oak (*Quercus rubrum*) and white oak (*Quercus alba*). There is also, but in lesser population, sassafras (*Sassafras albidum*) and black tupelo (*Nyssa sylvatica*). The understory consist of a thick tangle of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), high bush blueberry (*Vaccinium corymbosum*), particularly close to the edge of the reservoir, arrowwood (*Viburnum dentatum*), and a rather dense population of inkberry (*Ilex glabra*).

Problems and Recommendations

The only problem that comes to mind is that parking is limited at best. Parallel parking along Congress Street, a narrow busy street with close proximity to Route 3, is not a wise idea. Access through South River Lane in the back of the lot would be more desirable. It might serve the town best just left as open space and wild life habitat, as well as a water recharge area.

Conservation Land Field Data Sheet

Assessor's Lot # 080a-502-026 65.93 Acres

Location

This parcel is located on the east side of Union Bridge Road and the northwesterly side of King Phillips Path ending at the intersection of King Phillip's Path and Union Bridge Road.

General Description

The area is a heavily wooded typical pine-oak climax forest, and triangular in shape. Approximately 85% of the parcel is upland with 15% a wet maple swamp. With undulating topography and two recessional moraines which traverse the area east to west with a maple swamp between, makes this an example of a kame terrace. There is standing water in the easterly end of the swamp. This parcel shows no signs of having been altered in any way, except tree harvest and wood roads, since the glacial period. There are no stone walls, sand pit remnant, or past farming activity.

Soils

The soils in this area are a mixed classification, all having relatively the same description : namely, consisting of well drained, steeply sloped sand and gravel that formed in glacial till derived chiefly of granite. Between the two moraines is an area classified as muck, which consist of very poorly drained soils that formed in an accumulation of organic material decomposed to the extent that the original plant material can not be identified. In this area the water table is at or near the surface throughout much of the year.

Vegetation

The predominate tree in the upland area is the eastern white pine (*Pinus strobus*), with some red oak (*Quercus rubrum*), and white oak, (*Quercus alba*). There is little to no understory in this area. In the maple swamp the predominate tree is the red maple (*Acer rubrum*), and a small population of black birch (*Betula lenta*) in the transition area between the upland and the wetlands, with a thick understory of common green brier (*Smilax* rotundifolia), sweet pepper bush, (*Clethra alnifolia*), and high bush blueberry, (*Vaccinium corymbosum*).

Problems and Recommendations

There are no problems except the accumulation of road side rubbish which has to be collected and removed periodically.
This parcel is unique in that it appears to be unaltered from its original form short of the harvest of timber over the years. There is no evidence of any change what so ever. This could be its greatest value and should be maintained in the form. As for the pine on the lot, it might be time to harvest this on a selective basis, and open up the area letting in some sun to promote an understory to improve wildlife habitat.

The Bay Circuit Trail crosses the lot between Union Bridge Road and King Phillip Path, and a short cart path crosses between the same two roads. There is room for another trail or two to be constructed on the lot possibly an interpretive trail.

This field data sheet competed Jan. 2000

Conservation Land Field Data Sheet

Assessor's Lot # 080a-502-027 0.80 Acres (On the shore of Peterson's Saw Mill Pond)

Location

This small lot is located on the west side of Peterson's Saw Mill Pond and on the east side of Union Bridge Road, between lots 080a-067-000 to its north, and 080a-066-001 to its south.

General Description

It is a small rectangular wooded lot, of less than an acre, with 410 feet of frontage on the west side of Peterson's Saw Mill Pond. There is 406 feet of frontage on Union Bridge Road, between Congress Street and Franklin Street. The topography rises up from the road to a ridge running along the center of the lot

then drops down to the edge of the pond. The width of the lot averages a little over 100 feet from the road to the shore of the pond.

Soils

The majority of the lot is upland. The hill that is parallel to the shore line is made up of excessively drained sandy soils that formed in thick deposits of coarse, pebbly quartz sand. Due to the size of the lot there is no diversity in the soils.

Vegetation

The vegetation on the hill is a mix of eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak (*Quercus alba*). There is an understory of sweet pepper bush (*Clethra alnifolia*), common green brier (*Smilax rotundifolia*), and high bush blueberry (*Vaccinium corymbosum*) along the shore. There are a few red maple (*Acer rubrum*), and black tupelo (*Nyssa sylvatica*) as the hill gets close to the shore line.

Problems and Recommendations

The lot is problem free at this time. Due to the size of the lot there is not much that can be done with it except to use it for parallel parking for a few cars for the lots across the street. There is approximately 140 acres of land across Union Bridge Road, under the jurisdiction of the Duxbury Conservation Commission, with several hiking trails already developed, and parking on this side of the road would be safer and easier.

This Field Data Sheet was completed April 2000.

Conservation Land Field Data Sheet

Assessors Lot # 080a-502-028 9.62 Acres

Location

This parcel of land is located on the north side of King Phillips Path between parcel 080a-017-000 and 080a-013-001.

Description

The majority of this area is upland with a bowl shaped depression in the center. The depression will contain surface seasonal water during the rainy periods of the year. The back of the parcel slopes down to a wetlands. The upland is a typical pine-oak climax forest, while the wet area contains mostly red maple.

Soils

This area is a ground moraine of glacial till. The till consists of loamy sands with many rock fragments of all sizes scattered throughout the soil material. This soil material is derived chiefly from granite. The substratum is a firm layer of fine particulate at a depth of 2 1/2 to 5 feet allowing for poor water percolation. Approximately 75 % of this parcel is upland.

Vegetation

The majority of the vegetation in the upland is eastern white pine (*Pinus strobus*) , red oak (*Quercus rubrum*) and white oak (Quercus alba) with little understory. Several species of ferns are present during the growing season. The wet areas are predominately vegetated with red maple (*acer rubrum*) and an understory of sweet pepper bush (*Clethra alnifolia*), common green brier (*Smilax rotundifolia*) and some high bush blueberry (*Vaccinium corymbosum*). On the slopes near the wetlands there is a few eastern hemlock (*Truga canadensis*).

Problems and Recommendations

There are no problems on this parcel with the exception of some minor road trash, and no parking. Roadside parking is very limited due to the narrowness of the road and a curve in the road at this area. The use of the area is rather limited, even though there is street frontage, due to its size and that it abuts no other

public or open space land. Its best use is probably for wildlife habitat and open space. A timber harvest might be considered.

Data sheet completed Nov. 1999.

Conservation Land Field Data Sheet

Assessor' s lot # 080b-502-010 The Crocker Bogs, Part of the East Street Bogs

6.34 acres of cranberry bog
14.31 acres of upland
3.00 acres of reservoir/wetlands
A total of 23.65 acres

Location

This parcel is located on the north side of Mayflower Street, west of Otter Rock Road, and on the south side of Chandler Street, opposite Ledgewood Drive.

General Description

Part of this area is a working cranberry bog (approximately 6.34 acres), which is leased to a grower to continue the production of cranberries. Each year cranberries are harvested from this bog and return revenue to the town. Approximately 20% of the area is upland which consists of an esker and several kame deposits (glacial hills of sand and gravel), between which lies some abandoned bogs and an abandoned reservoir. The upland areas are not contiguous. Much of this reservoir and wetlands is actually the abandoned cranberry bog which has been left to revert back to a maple swamp. Sand has been mined form one of the moraines to be used in the culture of the cranberries. The reservoir and the surrounding wetland as well as this bog are part of the upper reaches of the South River watershed. The river that flows through this parcel is the beginning of the South River. Round Pond, Pine Lake, Cranberry Factory Pond, this reservoir, and the surrounding wetlands for these ponds make up the head waters of the South River.

Soils

The soils in this area are of three series: The Hinckley series, the Raynham series, and the Sanded Muck series according to the Plymouth County Soils Survey of 1969. The Sanded Muck series consist of muck, peat and very poorly drained mineral soils that have been developed for cranberry production. It is the type of soils used in the construction of cranberry bogs and has an impervious substratum. The Hinckley series, which occur on eskers and kames, consists of gravely soils that formed in thick deposits of water- sorted sands and gravels. These soils are low in water retention capacity, and organic content. They also have many cobblestones which is evident when one views the sand pit excavated for sand to be used on the bogs. The slopes of the eskers and the kame are rather steep, 15 to 25 %, and wooded.
The Raynham series consists of poorly drained silt loams that formed on marine or glacial lake sediments. These areas have a very high water table and are saturated 7 to 9 months of the year.

Vegetation

There are three cranberry bogs on the parcel, (The Crocker Bogs), that are still in production and cranberry vine covers these areas while various grasses cover the bog borders, access roads and dikes.

There are two abandoned bogs on the parcel. The upper reaches of the South River flows through these bogs. The first is presently classified as a fresh water marsh which consists of continuously flooded areas with some open water. These areas support a dense growth of cattails (*Typha latifolia*), sphagnum moss (*Sphagnum palustre*), various rushes, and other aquatic vegetation. The second bog has less standing water on it and is reverting to a typical red maple swamp, with immature red maples (*Acer rubrum*), sweet pepper bush (*Clethra alnifolia*), common green brier (*Smilax rotundifolia*), and high bush blueberry (*Vaccinium corymbosum*). Remnants of the cranberry vine are still evident on both bogs.

Beyond the northern end of the working bog is a mature red maple swamp, with red maple (*Acer rubrum*) as the primary tree and an understory of a dense tangle of sweet pepper bush (*Cornus alternifolia*), common green brier (*Smilax rotundifolia*), arrowwood (*Viburnum dentatum*), high bush blueberry (*Vaccinium corymbosum*) and common alder (*Alnus serrulata*).

The transition zone between the bog roads and the wet areas have some pioneer species such as gray birch (*Betula populifolia*) black cherry (*Prunus serotina*) aspen (*populus tremuloided*), and staghorn sumac (*Rhus typhina*), species which are common in altered sandy areas such as sand pits and along the edges of gravel roads.

The upland areas on the esker and the kames have eastern white pine (*Pinus strobus*), red oak (*Quercus rubrum*), and white oak (*Quercus alba*).

Problems and Recommendations

There seems to be no problems on this parcel. The production of cranberries is the main concern at this time. The bog road around the bog is used as a hiking trail. The area does not lend it self for much else at the present time.

Conservation Land Field Data Sheet

Assessor's Lot # 080b-502-032 72.42 ac. (Formerly the Bush Property)

Location

This parcel of land is located on the southerly side of King Phillips Path at the end of an approximately 1000' gravel road. This road, located between lots 080b-026-001 and 080b-027-001, gives access to the lot and to parcel 080b-032-001 presently owned by the John Tarsa family. On the northerly side, the lot has a 20 foot way to Vine Street between lots 080b-833-001 and 080b-833-002.

General Description

The lot is an irregular shaped parcel of wooded land, and slopes from its high area on the southwesterly side coming to a point in the Garside Reservoir (South River Reservoir) on its northeasterly side. Approximately one third of the area is in the wetlands with the remaining two thirds as upland. There is a deep trough running east- west with a small intermitting brook flowing easterly towards the reservoir. The sides of the trough slope steeply from a moraine on each side. This parcel completely surrounds the Tarsa property, and was used as farm land and a wood lot by the previous owners. The cart path on the property is probably a remnant of the path from the meeting house of yesteryear, in the Hall's Corner area, to the western side of town.

Soils

The majority of this parcel falls in the Gloucester Series which consist of well drained soils that formed in glacial till derived mostly from granite. As the topography slopes towards the Garside Reservoir the surface soils become thinner and thinner until they change to a muck classification at the reservoir. The substratum is made up of a firm layer of fine sand and silt with a very poor percolation rate. These Gloucester soils are extremely stony with many large boulders in evidence.

Vegetation

The vegetation in the upland area consists of a pine-oak climax forest with eastern white pine (*Pinus strobus*) being the predominant tree and a mix of red oak (*Quercus rubra*) and white oak (*Quercus alba*). There is little understory in this area. The wetland area consists of a maple swamp, however it is not a very dense tangle of species, but relatively open. The predominant tree is the red maple (*Acer rubrum*), with a few black tupelo (*Nyssa sylvatica*), and black birch (*Betula lanta*). The under story is made up of sweet pepper bush (*Clethra alnifolia*), arrowwood (*Viburnum dentatum*), high bush bluberry (*Vaccinium corymbosum*), and swamp azalea (*Rhododendron viscosum*), and common green brier (*Smilax rotundifolia*).

Problems and Recommendations

The major problem with the area is the lack of off street parking. King Phillips Path is much too narrow and busy for parking to be developed, and Vine street is too congested with a very limited access. The Bay Circuit Trail is located on the south western end of the parcel off King Philip's Path and exits on Vine Street. This parcel is not connected to any other public property and does not lend itself to much recreational use at present. It might be better left as open space and wildlife habitat. Much of the pine in the area is mature and a selective thinning should be considered.

This field data sheet was completed in May of 2000.

Conservation Land Field Data Sheet

Assessor's Lot # 090a-502-917 8.57 Acres

Location

This lot has no public access. It is located on the northeast side of Fordville Road behind Lots # 090a-917-006, 007 and 008.

General Description

The entire lot is a maple swamp and completely in the wetlands. There is a small brook flowing easterly towards Chandler Street.

Soils

The soils classification for this area is Muck, which consists of very poorly drained soils that formed in a acumulation of organic material decomposed to the that the original plant material cannot be readily identified. The water table is at or near the surface throughout much of the year.

Vegetation

Being a red maple swamp the dominate tree is the red maple (*Acer rubrum*). The understory is a very dense tangle common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), high bush blueberry (*Vaccinium corymbosum*), and arrowwood, (*Viburnum dentatum*) .

Problems and Recommendations

Since there is no public access and the area is a wetlands it has little recreational use and no traffic. This parcel should be left as it is for wildlife habitat, open space and a water recharge area at this time.

This data sheet was completed in April, 2000.

Conservation Land Field Data Sheet

Assessor's Lot # 090b-502- 033 173.85 Acres East Street Bog

35.03 Acres of Bog
35.07 Acres of Reservoir
103.75 Acres of Upland
Total 173.85 Acres

Location

This large diverse parcel is located on the west side of Mayflower Street, the northwest side of route three, and the north side of East Street. To its west it abuts Chandler Street School property under the jurisdiction of the Duxbury School Department.

General Description

Thirty five acres of this parcel are working cranberry bogs under the jurisdiction of the Duxbury Conservation Commission. Another thirty five acres are made up of reservoirs for water retention for the production of cranberries. The remaining 100 acres plus consists of mostly uplands with undulating topography, and small pockets of wetlands and transition zones. There are many sand pits from which sand was taken for use in cranberry culture. Some of the material from the esker between the "old bog" and bogs 1,2, and 3 has been removed for this purpose.

Soils

The soils that make up the cranberry bogs are classified as sanded muck, which consists of muck, peat, and very poorly drained mineral soils that have been developed for cranberry production. All trees and brush has been removed, and the surface has been leveled. About a foot of sand has been spread over the organic material to provide a rooting medium for cranberry vines. Provisions have been made, in the form of water retention ponds, reservoirs and ditching, to quickly flood and drain these areas. A network of lateral and perimeter ditches lower the water level a foot and a half below the cranberry vines. Water for frost protection, harvesting, and over winter flooding is pumped from the reservoirs or retention ponds. The upland areas are classified in two categories: the first is the Carver series which consist of excessively drained soils that formed in thick deposits of coarse, pebbly quartz sand. Water moves rapidly down through the solum and the underlying substratum. The second type is the Hinckley series, which consists of gravelly soils that formed in thick deposits of water sorted sands and gravels. They occur mainly on plains and terraces and hummocky kames and esker ridges. The slopes of these kames and eskers are steep. These soils are low in moisture holding capacity. The low wet pockets are classified in the Muck series which consist of poorly drained soils that formed in an accumulation of organic material decomposed to the extent that the original plant material cannot be identified. The watertable is at or near the surface throughout much of the year.

Vegetation

The vegetation is very diverse. A great deal of alteration to the area due to cranberry production has caused a great deal of diversity in the vegetation. The upland areas that have not been altered are made up of the typical pine oak forest, which consist of eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak (*Quercus alba*). The understory is made up of several species of blueberry and immature pine and oak. The wetland pockets contain red maple (*Acer rubrum*) with an understory of sweet pepper bush (*Clethra alnifolia*), high bush blueberry (*Vaccinium corymbosum*), and arrowwood (*Viburnum dentatum*). The transition zones between the bogs and the upland contain a diverse number of mostly wetland plants, such as sweet pepper bush (*Clethra alnifolia*), high bush blueberry (*Vaccinium corymbosum*), arrowwood (*Viburnum dentatum*), wild raisin (*Viburnum cassinoides*), common elder (*Sambucus canadensis*), winterberry (*Ilex verticillata*), bayberry (*Myrica pensylvanica*), and staghorn sumac (*Rhus typhina*) for the bushes. The trees in this transition zone consist of large tooth aspen (*Populus grandidentata*), quaking aspen (*Populus tremuloides*), gray birch (*Betula populifolia*), black cherry (*Prunus serotina*), sassafras (*Sassafras albidum*), and black tupelo (*Nyssa sylvatica*).

Problems and Recommendations

The area gets a great deal of use in the form of walking and jogging on the bog service roads. With all this use there seems to be very little abuse. The access and parking areas on Mayflower Street and East Street seem to be clean and respected. Driving through the area is restricted by chains and gates at the access points. Due to the active production of cranberries, restriction is necessary. There is an abandoned pumphouse off Mayflower Street that should be removed due to its condition of severe disrepair. A liability problem in the making. With the number of bog roads and the fact that the bogs are in active production, more trails are not necessary at this time. Since this parcel abuts the Chandler School property a hiking trail to the bog might be of interest to the school population. An outdoor classroom could easily be developed using the bogs as a learning experience. There are areas of mature eastern white pine that should

be harvested. In many cases the quality is poor, however, removing these poor quality trees would help young higher quality trees to mature.

This data sheet was completed in June 2000.

Conservation Land Field Data Sheet

Assessor's Lot #	100a-502-043	40.43 Acres
	100a-502-041	0.05 Acres

Location

Lot # 100a-502-041 is a very small triangular piece of property surrounded by lot # 100a-502-043 on two of its three sides and Route 3 on the third side. The larger lot, lot #100a-502-043, has approximately 1300 feet of frontage, with on access, on the west side of Route 3, and is on the east side of Elm Street with no access. There is a old cart path off Wendall Pond Road between lot # 100a-087-000 and lot # 100a- 801-001 that proceeds easterly to route 3 which gives access to this property. This cart path actually forms the easterly boundary line between lot # 100a- 021-000 and lot # 100a-502-043.

General Description

The majority of this property is a dense maple swamp having a thick tangled brushy undergrowth with the exception of the northeast corner which is a pine - oak forest sloping into the swamp. The only access to the area is the cart path which is on private property. The majority of the swamp has standing water on it 7 to 9 months of the year. Boarding Route 3 is an abandon cranberry bog of several acres. The bog has reverted to a maple swamp with red maple (*Acer rubrum)*, and immature eastern white pine (*Pinus strobus*) as the major plant life. The only indication that it is an old bog is some of the bog ditches are still visible and there is little thick, bushy undergrowth. Between the bog ditches, the surface is very level. The boundary between this property and the privately owned bog to the north, which is the cart path, is on a moraine, which forms the divide between two watersheds. Water on the north side of this moraine flows north and forms part of the head waters of the South River. Water on the south side of this moraine tends to flow south into Dead Swamp and form the head waters for Miles Brook and Tussock Brook, eventually finding its way to The Jones River in Kingston.

Soils

The northeastern corner of the property, which is part of an outwash plain, is classified, according to the Plymouth County Soil Survey of 1969, in the Carver series, consisting of well drained sandy soils formed in thick deposits of coarse pebbly quartz sand. This area gently slopes to the swamp and is classified as peat, which consists of very poorly drained soils that formed in an accumulation of partly decomposed organic material. Plant remains can be readily identified. These soils are generally level and saturated much of the year. The old bog is classified as sanded muck, which consist of muck, peat, and very poorly drained mineral soils that have been developed for cranberry production.

Vegetation

The north east corner where there is a little upland, and on the transition zones the vegetative cover is made up of a pine - oak forest, which consist of eastern white pine (*Pinus strobus*), red oak (*Quercus rubrum*), and white oak (*Quercus alba*). There is very little understory in this area. In the maple swamp the major tree is the red maple (*Acer rubrum*). There is a very sparse population of eastern white pine. The understory in this area is a very thick tangle of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), and some high bush blueberry (*Vaccinium corymbosum*). The vegetative cover on the abandon bog area is immature red maple and white pine, with very little understory.

Problems and Recommendations

The major problem with this property is there is no public access. It also appears that in the construction of the privately owned bogs to the north, encroachment on to this property may have occurred. At this time I did not locate any bounds, however, alterations over the cart path, which appear to be the boundary line according to the assessor's maps between the two properties, shows some encroachment.
Bringing the abandon bog back into production does not seem to be economically feasible. Due to its proximity to Route 3, lack of access, lack of proper water supply, and the amount of time it has been out of production, all add up to not a wise move.
Until such time public access is secured by the additional land purchase, the best use of this area would be open space, wildlife habitat, and water table recharge.

This field data sheet was completed February 2000.

Conservation Land Field Data Sheet

Assessor's Lot #	100b-502-011	30.66 Acres
	100b-502-074	3.10 Acres
	Total	33.76 Acres

Location

These two lots are located on the west side of Mayflower Street with 2011.42 feet of frontage on the street. They are separated by a fifty foot strip of land which is under the jurisdiction of the Duxbury Water Department and leads to a well site on the west of Mayflower Street.

General Description

Heavily wooded with very little topographic relief, both lots are all upland. From Mayflower Street the lots are flat and dry. Lot 100b-502-011 slopes upward in the form of a kame as you move west away from Mayflower Street. Surrounding property is under the jurisdiction of the Duxbury Water Dept. and the Duxbury Rural and Historical Society.

Soils

The soils on these parcels fall mostly in the Hinckley Series which consist of well drained gravelly soils that formed in thick deposits of water sorted quartz sand and gravel. Water percolates rapidly down through the solum and the underlying substratum, which makes their moisture holding capacity poor.

Vegetation

The vegetation on both of these parcels, is that of a typical pine- oak climax forest, which consist of eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak, (*Quercus alba*). The majority of the trees are mature and there is very little understory. Much of the understory consists of immature pine and oak trees.

Problems and Recommendations

There is no real problems on these lots. Cart paths and hiking trails have been closed to vehicular traffic and there is no sign of rubbish disposal. The area have many cart paths and hiking trails which are well used. There is room for the construction of more trails as well as some interpretive trails. The existing trails should be marked and some trail maintenance done. These two lots are just part of a large area of public land between Mayflower and Elm Streets, and Island Creek Pond, under the jurisdiction of several town boards. All of the groups might be better served if one all encompassing management plan was to be developed for the entire area.

Conservation Land Field Data Sheet

Assessor's Lot # 100b-502-062 6.75 Acres

100b-502-063	10.66 Acres
100b-502-064	2.18 Acres
Total	19.59 Acres

Location

These three contiguous lots are located on the west side of Island Creek Pond, with lot # 100b-065-000 to the north and lot # 100b-060-000 to the south. The west side abuts lot # 100b-500-065, which is under the jurisdiction of the Duxbury Board of Selectmen, and lot # 100b-502-066, is under the jurisdiction of the Duxbury Conservation Commission.

General Description

All three lots are contiguous and form a near square of forested land with 850 feet of frontage on Island Creek Pond. Approximately eighty percent of the area is upland with a knob and kettle topography. The wetland is located on the shore frontage, with lot # 100b-502-064 having wetland extending farther way from the shoreline than the others. A steep slope grades upwards a short distance from the lake frontage.

Soils

The upland area of this parcel is classified in the Hinckley series, which consists of gravelly soils that formed in thick deposits of water sorted sand and gravel. This soil type occurs mainly on plains or terraces or hummocky kames. Due to the sand and gravel the water retention is very poor, and the percolation rate is very high with a very low organic material content. At the bottom of the steep slope there is a soil type change. This soil type is peat, which has a very high percentage of clay and fine silt which holds surface water and has a very poor percolation rate. Much of this area has standing water most of the year. These wetlands occur along the shore frontage.

Vegetation

In the upland areas the vegetation consists of a pine- oak climax forest. The dominate tree is the eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak (*Quercus alba*). A very thin understory consist of immature pine and oak. The wet areas consist of a maple swamp with the dominate tree being the red maple (*Acer rubrum*). On the waters edge there are a few black tupelo (*Nyssa sylvatica*), and atlantic white cedar (*Chamaecyparis thyroides*). The understory of the maple swamp is a thick tangle of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), high bush blueberry (*Vaccinium corymbosum*), and arrowwood (*Viburnum dentatum*).

Problems and Recommendations

There appears to be no problems in this area. The hiking trails show a lot of use with very little abuse. There is a little horseback riding through the area. One of the cart paths crosses over the corner of lot # 100b-065-000 and should be rerouted to public property. Some of the trails need some maintenance and marking. This parcel is part of a large area of public property between Mayflower, East, and Elm Streets, Route 3, and Island Creek Pond under the jurisdiction of The Duxbury Board of Selectman, Duxbury Conservation Commission, The Duxbury Water Department, and The Duxbury Rural and Historical Society. All of these groups might be better served if one all encompassing management plan was developed for the entire area. This would allow all involved to communicate possible uses, intentions, ideas, and concerns. It would offer a document that would serve as a common framework for uses and considerations as options present themselves.

This data sheet was completed in April, 2000

Conservation Land Field Data Sheet

Assessor's Lot # 100b-502-066 54.9 Acres Cherry Street Bog

Location

Access to this lot is over Cherry Lane off Elm Street. There is also 920 feet of shore frontage on the west side of Island Creek Pond.

General Description

Approximately fifteen acres of this parcel is a cranberry bog and a reservoir owned and operated by the Town of Duxbury. There is wetland just to the west of the back side of the bog and the reservoir. The rest of the parcel is upland. Approximately forty percent of the entire parcel is wetland, this includes the bog, the reservoir, and the brook from Pine Lake. The upland portion of the parcel is made up of glacial till formed in an irregular, rubbly heap with knob like hills and basin like hollows. This formation is known as knob and kettle topography.

Soils

Much of the upland is classified in the Plymouth Carver series, which consists of undulating topography of thick deposits of water sorted sand and gravel. This soil type occurs on plains and terraces with hummocky kames and kettle depressions. Due to the sand and gravel, the water retention is low, and the percolation rate is high. The cranberry bog is classified in the Sanded Muck series which consists of muck, peat, and very poorly drained mineral soils that have been developed for the production of cranberries. The rest of the wetland are classified as peat which consists of very poorly drained soils that formed in an accumulation of partly decomposed organic material. Most of the year these soils are saturated.

Vegetation

The vegetation in the upland areas consists of a typical pine - oak climax forest made up of eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak (*Quercus alba*). There is very little understory with the exception of immature pines and oaks, a few blueberry bushes (*Vaccinium corymbosum*) in the transition areas, and sheeps laurel (*Kalmia angustifolia*). In the wet areas the vegetation consists of a typical red maple swamp with the dominate tree being the red maple (*Acer rubum*), and a thick understory of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), high bush blueberry (*Vaccinium corymbosum*), and arrowwood (*Viburnum dentatum*).

Problems and Recommendations

The problems seem to be little. There is little rubbish and respect for the area seemed to be good. There are signs of past dumping, however, that problem seems to have come to a stop. The area has a lot of cart paths and hiking trails which connect with trails from abutting parcels and continue on to Mayflower Street. All of the trails are well used, a very popular area. Some trail maintenance and marking is needed. There is a small amount of horse back riding on the trails. A selective harvest of the pine should be a consideration. This parcel is part of a large area of public land under the jurisdiction of the Duxbury Board of Selectmen, Duxbury Conservation Commission, Duxbury Water Department, and the Duxbury Rural and Historical Society. All of these groups might be best served if one all encompassing management plan was developed for the entire area. This would allow all groups involved to communicate possible uses, intentions, ideas, and concerns. It would offer a document that would serve as a common framework for uses and considerations as options present themselves.

This data sheet was completed in April 2000.

Conservation Land Field Data Sheet

Assessors Lot # 110b-502-042 and 053 A total of 37.58 acres Dead Swamp

Location

Parcel 042 is located on the west side of route 3 and 053 is located on the east side of route 3; the two parcels being bisected by the highway.

Description

Both parcels make up a large red maple and white cedar swamp known as Dead Swamp. The construction of Route 3 separated the swamp into two individual parcels, one on either side of the highway. Both parcels have standing water on them for most of the year.

Soils

The soils underlying these parcels is listed as peat, a very poorly drained type of soil formed by an accumulation partly decomposed organic material. These soils are usually saturated much of the year with ponding of surface water very common. This type of soil has severe limitations as to its uses.

Vegetation

The majority of both parcels is covered with red maple (*Acer rubrum*) and northern white cedar (*Thuja occidentalis*) with an under story of sweet pepper bush (*Clethra alnifolia*) common green brier (*Smilax rotundifolia*) and high bush blueberry (*Vaccinium corymbosum*). This type of understory makes for a very thick undergrowth and very difficult to traverse.

Problems and Recommendations

At the present time there is no public access to these areas, nor is there any parking available. No trails have been constructed, nor does this area lend itself to the construction of trails since most of these two parcels are under water much of the year as well as no access. Both parcels are presently being used as open space, water retention areas, and wildlife habitat. This field data sheet was completed Dec. 1999.

Conservation Land Field Data Sheet

Assessor's Lot # 120b-502-104 2.69 Acres

Location

This parcel is located on the southeast side of Cordwood Path, a private way, between Lot # 120b-018-102 and Lot # 120b-981-022, with 200 feet of frontage on Cordwood Path, 134 feet west of Enterprise Street.

General Description

The topography of this lot is relatively flat with a 0 to 3% slope. On the northeast side of the lot there is standing water flowing towards the west. There is a mix of trees on this wooded lot with a thick understory on most of the area. The majority of the lot would fall in the wetland with the entire lot having a high water table. An old cart path bisects the lot north to south.

Soils

The soils on the parcel fall mostly in the carver series which consist of very deep, excessively drained soils on outwash plains, deltas, and moraines. Typically, these soils have a dark gray or black coarse sand surface layer 7 inches thick. The subsoil from 7 to 25 inches are strong brown and yellowish-brown coarse sands. The substratum is made up of yellowish-brown coarse sand.

Vegetation

This wooded lot is covered with a mixed forest of eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), white oak (*Quercus alba*) on the higher areas, and red maple (*Acer rubrum*), and a few black tupelo (*Nyssa sylvatica*) on the lower areas. The understory, particularly on the wet areas, is made up of sweet pepper bush (*Clethra alnifolia*), Common green brier (*Smilax rotundifolia*), and high bush blueberry (*Vaccinium corymbosum*).

Problems and Recommendation

There are no real problems on the lot itself, however the road into the lot is a private road and is heavily posted. The lot is surrounded by private homes and is not contiguous with any other conservation or public land, and might best be served as open space, wildlife habitat and a water recharge area.

Conservation Land Field Data Sheet

Assessor's Lot #	130a-502-018	8.52 Acres	Waiting Hill
	130a-502-017	5.17 Acres	
	130a-502-016	4.79 Acres	
	130a-502-028	3.00 Acres	
	130a-502-029	3.42 Acres	
	130a-502-024	4.78 Acres	
	130a-502-025	2.35 Acres	
	130a-502-026	11.51 Acres	
	130a-502-027	2.36 Acres	
	130a-502-022	7.34 Acres	
	130a-502-023	12.92 Acres	
	130a-502-009	7.64 Acres	
	Total	73.80 Acres	

Location

All twelve lots are contiguous and form one large parcel on the west side of Modoc Street. Modoc Street is a dirt cart path running between West Street and Lincoln Street.

General Description

These twelve forested lots form a large lot of woodland and swamp with knob and kettle topography. Modoc Street follows the crest of a moraine or high ridge separating two watersheds. To the west, surface and ground water move westerly toward Lincoln Street and into the cranberry bogs at the intersection of Congress Street and Lincoln Street, presently owned by the Crowell Cranberry Corporation. Eventually the water flows through the Wright Reservoir and into the Green Harbor River. This undulating topography, called knob and kettle, on the west side of Modoc Street, made up of kames and kettle holes, is approximately sixty percent upland and forty percent wetlands. The upland is forested with pine and oak, with little understory, and the wetlands is made up of typical maple swamps. Many of the kames have very steep sides and the kettle holes resemble inverted cones.

Soils

The classification of the soils in this area fall mainly in two soil series. The upland are classified in the Hinckley series which consist of thick deposits of water sorted sand and gravel, covered with hummocky kames with short steep irregular slopes. Many of the kettle holes that pock mark the outwash plain of the upland area have perched water due to the accumulation of organic matter decomposing at the bottom which restricts the percolation rate, and a high water table. The second series in the area is peat, which consists of very poorly drained soils that formed in an accumulation of organic matter. These areas are saturated much or all of the year and is the substrate under the majority of the wetlands in the area.

Vegetation

The upland areas are vegetated with a pine/ oak climax forest which consist of eastern white pine (*Pinus strobus)*, red oak (*Quercus rubra*), and white oak (*Quercus alba*). There is very little understory and not a great deal of diversity in the species. Scattered through out the transition zones are some high bush blueberries (*Vaccinium corymbosum*) and sheep's laurel (*Kalmia angustifolia*). In many areas through out the upland a second generation of eastern white pine seedlings are well established. In some of the areas the seedlings are so thick competition will cause poorly formed and stunted growth, and many will not survive. The wet areas are made up of red maple (*Acer rubrum*) as the predominate tree with an understory of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), and high bush blueberry (*Vaccinium corymbosum*).

Problems and Recommendations

The only access point to this parcel is Modoc Street off West Street. With this limited access the area gets little use generating very few problems. There is little to no abuse at this time. The area does lend itself to a diversity of uses. Modoc is a fine walking cart path, however, more loop trails and interpretive trails

could be developed. Wildlife photography and birding are other excellent options. This area is just a small part of public and quasi-public land between Tremont, West, Congress, Lincoln and Mayflower Streets. These lands are under the jurisdiction of several different town boards as well as the Audubon Society and others. All of the groups involved might be well served to have one all encompassing management plan for the entire area. This would allow all involved to communicate possible uses, intentions, ideas, and concerns. It would offer a document that would serve as a common framework for future uses and considerations as options present themselves.

This data sheet was completed in March 2000.

Conservation Land Field Data Sheet

Assessor's Lot #	140a-502-001	30.00 Acres
	140a-502-020	16.69 Acres
	140a-502-023	8.75 Acres
	140a-502-039	13.55 Acres
	Total	69.99 Acres

Location

These four contiguous lots are located on the east side of Modoc Street with 294 feet of frontage on the west side of West Street where Modoc and West Streets intersect. Access to the parcel is at this point. Access can also be gained over Hatches Bar Road off Mayflower Street.

General Description

The four lots form a long irregularly shaped parcel of heavily forested property boarded on the west by Modoc Street, a dirt cart path, and on the east by the Audubon Society property, and a cranberry bog owned by the Merry Cranberry Corporation. Modoc Street runs along the top of a moraine or ridge forming a watershed divide. The surface and ground water of this area moves east towards West Brook which is dammed forming The North Hill Marsh, a reservoir used for cranberry production. The westerly end of the parcel is located across Hatch's Bar Road from Lot # 140a-502-038 and access can be gained from Mayflower Street at this point also. There is a cranberry bog on lot 140a-502-039 leased by the Merry Cranberry Corp. Approximately eighty to eighty-five percent of this parcel is in the upland. The boundary line between the town property and the Merry Cranberry Corp. and The Audubon Society property is a very irregular line, which is not marked, making a wetland determination quite difficult.

Soils

The Glacial till that makes up this knob and kettle topography consists of gravely soils that formed in thick deposits of water sorted sand and gravel. In the bottoms of the low kettles the soils consist of peat which is very poorly drained soils. Percolation of water through this peat is very slow and standing water is present most of the year.

Vegetation

The vegetation on the uplands consists of a classic pine - oak climax forest which in made up of eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak (*Quercus alba*). There is very little understory particularly in the pine groves. The wet areas consist of a red maple swamp with the dominate tree being the red maple (*Acer rubrum*), with an understory of sweet pepper bush (*Clethra alnifolia*), common green brier (*Smilax rotundifolia*), high bush blueberry (*Vaccinium corymbosum*).

Problems and Recommendation

Since the cart paths have been gated, the accumulation of trash is no longer a problem. The area does lend itself to passive recreation in the form of hiking, jogging, cross-country skiing, snowshoeing, wildlife photography, and birdwatching. There is room for the development of more trails particularly interpretive trails. An observation platform on the top of "Waiting Hill" would a very useful added feature. This area is part of public and quasi-public land between Mayflower, Tremont, West, Congress, and Lincoln Streets.

These lands are under the jurisdiction of several different town boards as well as The Audubon Society. All of the groups might best be served if one all encompassing management plan was developed for the entire area. This would allow all involved to communicate possible uses, intentions, ideas, and concerns. It would offer a document that would serve as a common framework for uses and considerations as options present themselves.

This data sheet was completed in March 2000.

Conservation Land Field Data Sheet

Assessor's Lot # 140a-502-013 34.59 Acres

Location

This lot is located on the east side of Mayflower Street abutting the west side of the Knapp Town Forest with 2195 feet of frontage on Mayflower Street. The north side of the lot abuts the Duxbury Water Dept. property and the Audubon Society property.

General Description

The entire area is a heavily wooded lot of upland. There is no evidence of any wetlands on this lot. The knob and kettle topography is typical of this moraine type; very undulating surface topography. Some of the kames have rather steep sides. None of the kettle holes have standing water in them. It does appear that this topography is just as the receding glaciers left it many thousands of years ago.

Soils

These soils consist of gravelly soils that formed in thick deposits of water sorted sand and gravel, with hummocky kames and esker ridges. This type of soil has a low moisture carrying capacity due to soil porosity and high percolation rate.

Vegetation

The vegetation is typical of a pine - oak climax forest. The dominate trees are eastern white pine (*Pinus strobus)*, red oak (*Quercus rubra*), and white oak (*Quercus alba*). The understory consists of immature pine and oak. There is no unusual species types. The area has been logged, but probably seventy-five to one hundred years ago.

Problems and Recommendations

There is a forty foot easement at the northwest boundary between this lot and lot 140a-064-106, which the Duxbury Water Dept. uses to access their property in the back. A great deal of logs and brush have been dumped on the east side of this easement. Other than this problem and road side trash there does not seem to be any other problems. There are several walking trails and a cart path which lends the area to hiking and jogging. This is just a small part of public and quasi-public land between Tremont, West, Congress, Lincoln, and Mayflower Streets. These lands are under the jurisdiction of several different town boards, as well as the Audubon Society. All of these groups might well be served to have one all encompassing management plan for the entire area. This would offer a document that would serve as a common framework for future uses and considerations as options present themselves.

This data sheet was completed in March 2000.

Conservation Land Field Data Sheet

Assessor's Lot #	140a-502-001	30.00 Acres
	140a-502-020	16.69 Acres
	140a-502-023	8.75 Acres
	140a-502-039	13.55 Acres

Total 69.99 Acres

Location

These four contiguous lots are located on the east side of Modoc Street with 294 feet of frontage on the west side of West Street where Modoc and West Streets intersect. Access to the parcel is at this point. Access can also be gained over Hatches Bar Road off Mayflower Street.

General Description

The four lots form a long irregularly shaped parcel of heavily forested property boarded on the west by Modoc Street, a dirt cart path, and on the east by the Audubon Society property, and a cranberry bog owned by the Merry Cranberry Corporation. Modoc Street runs along the top of a moraine or ridge forming a watershed divide. The surface and ground water of this area moves east towards West Brook which is dammed forming The North Hill Marsh, a reservoir used for cranberry production. The westerly end of the parcel is located across Hatch's Bar Road from Lot # 140a-502-038 and access can be gained from Mayflower Street at this point also. There is a cranberry bog on lot 140a-502-039 leased by the Merry Cranberry Corp. Approximately eighty to eighty-five percent of this parcel is in the upland. The boundary line between the town property and the Merry Cranberry Corp. and The Audubon Society property is a very irregular line, which is not marked, making a wetland determination quite difficult.

Soils

The Glacial till that makes up this knob and kettle topography consists of gravely soils that formed in thick deposits of water sorted sand and gravel. In the bottoms of the low kettles the soils consist of peat which is very poorly drained soils. Percolation of water through this peat is very slow and standing water is present most of the year.

Vegetation

The vegetation on the uplands consists of a classic pine - oak climax forest which in made up of eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak (*Quercus alba*). There is very little understory particularly in the pine groves. The wet areas consist of a red maple swamp with the dominate tree being the red maple (*Acer rubrum*), with an understory of sweet pepper bush (*Clethra alnifolia*), common green brier (*Smilax rotundifolia*), high bush blueberry (*Vaccinium corymbosum*).

Problems and Recommendation

Since the cart paths have been gated, the accumulation of trash is no longer a problem. The area does lend itself to passive recreation in the form of hiking, jogging, cross-country skiing, snowshoeing, wildlife photography, and birdwatching. There is room for the development of more trails particularly interpretive trails. An observation platform on the top of "Waiting Hill" would a very useful added feature. This area is part of public and quasi-public land between Mayflower, Tremont, West, Congress, and Lincoln Streets. These lands are under the jurisdiction of several different town boards as well as The Audubon Society. All of the groups might best be served if one all encompassing management plan was developed for the entire area. This would allow all involved to communicate possible uses, intentions, ideas, and concerns. It would offer a document that would serve as a common framework for uses and considerations as options present themselves.

This data sheet was completed in March 2000

Conservation Land Field Data Sheet

Assessor's Lot #	140a-502-038	4.93 Acres
	140a-502-100	0.97 Acres
	Total	5.90 Acres

Location

These two lots are contiguous and have a combined 200.44 feet of frontage on the east side of Mayflower Street, between lot # 140a-100-001 and lot # 140a-038-001. Lot # 140a-502-038 also has 403.92 feet of frontage on the west side of Hatches Bars Road, a dirt cart path between Modoc Street and Mayflower Street.

General Description

The area is a forested woodland with standing water in the northeast corner. Approximately fifty percent is wetland and fifty percent is upland. The undulating topography contains typical upland vegetation with an understory of juvenile oak and pine. The wet areas are typical maple swamp.

Soils

These two parcels fall in two different soils types. The upland is classified in the Hinckley series which consist of gravelly soils that formed in thick deposits of water sorted sand and gravel. The second soil type is peat which consist of very poorly drained soils that form in an accumulation of partly decomposed organic matter. The percolation rates in this soil type is extremely slow and ponding of water is common much of the year causing the swampy conditions. The Hinckley Series gradually grades into the Peat Series. In this area the Hinckley soil are rather thin.

Vegetation

The upland areas are forested with a mix of eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak (*Quercus alba*). The understory consists of immature pine and oak. The dominate tree in the wet areas is the red maple (*Acer rubrum*). The understory consists of a thick tangle of common green brier (*Smilax rotundifolia*), sweet pepper bush (*Clethra alnifolia*), and high bush blueberry (*Vaccinium corymbosum*). A mix of all these species can be found in the transition zone.

Problems and Recommendations

This is a small area of approximately six acres with residences along both sides of the street and private undeveloped land to the east behind the lots. Taking into consideration the size and wetness of the area, as well as its location, it might be best served to leave this as open space, wildlife habitat, and a water recharge area. There is parking for several vehicles off the off Mayflower Street, and a cart path that leads into other land under the jurisdiction of the Duxbury Conservation Commission. A small parking lot could be outlined with timbers, although the Mayflower Street area is well served with parking.

Conservation Land Field Data Sheet

Assessor's Lot # 140a-502-073 4.99 Acres

Location

This parcel is located in the North Hill Marsh reservoir and is under water twelve months of the year.

General Description

The lot is flooded all year as part of the reservoir. The reservoir is used in the production of cranberries by the Merry Cranberry Corp. which has bogs adjacent to the reservoir at the northern end. Some of the dead trees which populated the area before the reservoir was constructed are still visible. Access to the parcel is by boat only. This reservoir makes up the West Brook watershed.

Soils

The soil classification at the bottom of the reservoir is muck and peat which consist of very poorly drained organic material. The percolation rate is very slow allowing for the ponding of the water.

Vegetation

The vegetation consists of aquatic species of plant life that can tolerate being submerged during the entire growing season.

Problems and Recommendations

At the present time the area is not being used. Little can be done with this lot except to leave it to aquatic wildlife habitat.

Conservation Land Field Data Sheet

Assessor's Lot # 140b-502-012 20.75 Acres

Location

This lot is located on the northeast side of Mayflower Street between lot # 140b-500-082 , which is the Knapp Town Forest, and lot 140b-500-080, which are both of these lots are under the jurisdiction of the Duxbury Board of Selectmen. The parcel has over 1400 feet of frontage on Mayflower Street.

General Description

The parcel is a ground moraine with knob and kettle topography; a very undulating surface. The entire area in upland except for a few kettle holes with standing water. It is completely forested with a mix of pine and oak. Some of the kames are steep sided. This is part of the upland that outlines the North Hill Marsh watershed.

Soils

The majority of the soil falls in the Carver series which consist of very deep, excessively drained soils on moraines. Typically, these soils have a dark gray or black coarse sand surface layer 7 inches thick and have a high infiltration rate even when thoroughly wetted and consisting chiefly of deep, well drained sands and gravels. The kettle holes have deep sides and standing water on the bottom. There are 2 such kettle holes on the lot.

Vegetation

This area consists of a pine - oak climax forest. In such a wood lot the dominate trees are eastern white pine (Pinus strobus), red oak (Quercus rubra), and white oak (Quercus alba). There is very little understory, particularly in the dense pines. There is sheeps laurel (Kalmia Angustifolia) and a few high bush blueberry (Vaccinium corymbosum) in the transition zones. In the kettle holes which are wet the typical wetland species can be found, such as red maple (Acer rubrum) and an understory of common green brier (Simlax rotundifolia), sweet pepper bush (Clethra alnifolia), and high bush blueberry (vaccinium corymbosum). There was no evidence of any unusual species.

Problems and Recommendations

All of the access roads have been limited to walking trails, with parallel parking along Mayflower Street, limiting the deposition of trash. Some of the trails need to be cleaned and remarked. This might be a good place to develop a canoe and kayak launch area opening the North Hill Marsh to canoeing and kayaking to residents. This area is just a small part of public and quasi-public land between Tremont, West, Congress, Lincoln, and Mayflower Streets, which are under the jurisdiction of several different town boards, as well as the Audubon Society. All of these groups involved might be better served to have an all encompassing management plan for the entire area. It would offer a document that would serve as a common framework for future use and considerations as options present themselves.

This data sheet was completed in March 2000.

Conservation Land Field Data Sheet

Assessor's Lot # 150a-502-014 0.42 Acres

Location

This is a small piece of shore front property off Tremont Street that fronts on Island Creek Mill Pond.

General Description

This cleared half acre allows small boat and canoe access to Mill Pond. There is parallel parking for several cars along Tremont Street. The edge of the pond is over grown with cattails and bushes as the entire pond goes through the eutrophication process. Access to the water is getting more difficult.

Soils

The soils in this area are classified as Shallow Muck according to the Plymouth County Soil Survey of 1969. This series, found in low lying areas, consists of poorly drained soils that formed in an accumulation of organic material decomposed to the extent that the original plant material cannot be readily identified. The water table is at or near the surface all year long.

Vegetation

The cleared area is grassed. The edge of the pond has common cattails (*Typha latifolia*), and common alder (*Alnus serrulata*). There is some sweet pepper (*Clethra alnifolia*), and Arrowwood (*Viburnum dentatum*) in the back of the lot. Located along the back edge are red maple trees (*Acer rubrum*) and eastern white pine (*Pinus strobus*).

Problems and Recommendations

Although this is a small area it would make a great small boat and canoe launch or fishing sight, but some work would have to be done. The edge of the shore is very muddy due to eutrophication of the pond, and is being over run with cattails. These would have to be removed and some mineral soil put in. The grass might also be mowed to improve the lot aesthetically and also to keep the shrubs from encroaching. At the present time the area is getting very little use even though there is parking.

Conservation Land Field Data Sheet

Assessor's Lot # 160-502-004 2.15 acres

Location

This lot is located on the northwest side of Bay Road with frontage on Island Creek.

General Description

Almost entirely salt marsh subject to tidal flooding with no public access. The far west side slopes up to a maple swamp, however, where the line between this lot and the private abutting property is located is unclear.

Soils

The soils in this area are considered tidal marsh and consist of poorly drained organic and mineral deposits that are flooded regularly by tidal action. Soils of this type occupy low lying tracts of land along salt water bays and streams. The mineral deposits are predominantly silt. The organic deposits are mainly accumulation of herbaceous vegetation. There may be some glacial till deposits on the extreme side depending where the property line is located.

Vegetation

The area is vegetated with typical salt marsh plants. The predominant grass is the salt meadow grass (*Spartina patens*) on the flat plains. The ditches and stream bank are lined with cord grass (*Spartina alterniflora*) and marsh elder (*Iva frutescens*). As the lot slopes up at the western side red maple (*Acer rubrum*) are well established.

Problems and Recommendations

With no parking and no public access the use of this area is limited at best. Added to this problem it is subject to tidal flooding twice a day. With this said , its best use is wildlife habitat, and should be left just as it is.

This report was completed June 2000.

Conservation Land Field Data Sheet

Assessor's Lot # 160a-502-027 0.98 Acres

Location

This parcel is located on the south side of Bay Road with frontage along Island Creek, which flows from Mill Pond.

General Description

Although this parcel has 260 feet of frontage on Bay Road, and approximately 100 feet of frontage on Island Creek it is considered tidal marsh and is flooded at high tide.

Soils

The soils in this area are considered tidal marsh and consist of poorly drained organic and mineral deposits that are flooded regularly by tidal action. Soils of this type occupy low lying tracts of land along salt water bays and streams. The mineral deposits are predominantly silt. The organic deposits are mainly accumulation of herbaceous vegetation.

Vegetation

The area is vegetated with typical salt marsh plants. The predominant grass is the salt meadow grass (Spartina patens on the flat plains. The ditches are lined with cord grass (Spartina alterniflora), and marsh elder (Iva frutescens).

Problems and Recommendations

There is no parking even with 260 feet of frontage on Bay Road, and the parcel is subject to tidal action leaving it under water twice a day. The area will best serve as wildlife habitat and best be left just as it is.

This report was completed in June 2000

Conservation Land Field Data Sheet

Assessor's Lot #'s	170a-502-031	3.53 Acres
	170a-502-056	2.00 Acres
	170a-502-050	7.40 Acres
	170a-502-042	4.71 Acres
	170a-502-012	1.65 Acres
	170a-502-025	3.68 Acres
	170a-502-003	6.48 Acres
	Total	29.45 Acres

Location

All of these lots are located in the salt marsh to the north of Back River Way off St. George Street and to the north of Onion Hill Road.

General Description

This area is in the upper reaches of Duxbury Bay and is considered tidal salt marsh. The only public access is from Pine Hill Ave, off St. George St. Access can be gained by walking over Wildlands Trust property off Tremont St. following Mill Brook. The majority of these lands would be under water during the high tide periods. There are two small islands which can be reached from the cart path extending from Pine Hill Ave.

Soils

The soil in this area is classified as tidal marsh and consist of very poorly drained organic and mineral deposits that are flooded regularly by tidal action. It occupies low lying tracts of land along salt water bays and streams. The mineral deposits are predominantly silt. The organic deposits are mainly accumulations of herbaceous vegetation.

Vegetation

The area is vegetated with typical salt marsh plants. The predominant grass is the salt meadow grass (*Spartina patens*) on the flat plains, along with black grass (*Juncus gerardi*) and spike grass (*Distichlis spicata*). The ditches are lined with cord grass (*Spartina alterniflora*). Marsh elder (*Iva frutescens*) is located along the cart path and transition zones, particularly around the two small islands. These two islands do have a few red cedar (*Juniperis virginiana*), and a couple of red oak (*Quercus rubra*) and white oak (*Quercus alba*).

Problems and Recommendation

The only problem is the lack of parking. The high school parking lot is available when school is not in session, other wise the lot is full. The salt marsh is an excellent habitat for shore and marine birds, making this area a popular birding area. One must always check the tide before entering these parcels. Duck Hill River is a wonderful area to canoe. Canoes can be launched from the town landing off Cove Street. The areas best use is probably wildlife habitat and open space and should be left just as it is. With the exception of the cart path no other trails should be constructed .

This Data report was completed in April 2000.

Conservation Land Field Data Sheet

Assessor's Lot #	170a-502-076	6.44 Acres
	170a-502-077	2.55 Acres
	Total	8.99 Acres

Location

These two contiguous parcels of land are located in Duxbury Bay on the town line between The Town of Duxbury and the Town of Marshfield.

General Description

This area is a salt marsh subject to tidal action. The only access is by small boat.

Soils

The soil in this area is classified as tidal marsh and consist of very poorly drained organic and mineral deposits that are flooded regularly by tidal action. It occupies low lying tracts along salt water bays and streams. The mineral deposits are predominantly silt. The organic deposits are mainly accumulations of herbaceous vegetation.

Vegetation

The area is vegetated with typical salt marsh plants. The predominant grass is the salt meadow grass(*Spartina patens*) on the flat plains, along with black grass (*Juncus gerardi*) and spike grass (*Distichlis spicata*). The ditches are lined with cord grass (*Spartina alterniflora*).

Problems and Recommendations

There is no public access to this area or parking. The only way to reach the area is by small boat and being subject to tidal action they are flooded during high tide periods. The area is ideal shore and marine organism habitat, and its best use at the present time is wild life habitat and open space.

This field data sheet was completed April 2000.

Conservation Land Field Data Sheet

Assessor's Lot # 190a-502-015 1.16 Acres

Location

This small parcel is located on the east side of Depot Street, between lot # 190a-015-002 and Lot # 190a-500-015, which is under the jurisdiction of the Duxbury Board of Selectmen.

General Description

Standing water covers most of the parcel which will remain covered most of the year. This condition would place the entire lot in the wetlands. A control structure regulates the water level in the small pond. This lot

Soils

Although this area is classified by the Plymouth County Soil Survey of 1969, in the Carver Series, which consists of well drained soils, the standing water on this lot would indicate that there is a drainage problem. It would appear that some sub-surface soil deposit, too small to be indicated on the Soil Survey, might be the reason, or alteration of the area in the past. There is a control structure on the property which would indicate previous alteration.

Vegetation

The area has standing water but no pond vegetation which would indicate that the area does not have standing water at some part of the year. Much of the vegetation has been altered, however, the dominant tree is the red maple (*Acer rubrum*) With a sparse understory of sweet pepper (*Clethra alnifolia*), arrowwood (*Viburnum dentatum*) and high bush blueberry (*Vaccinium corymbosum*).

Problems and Recommendations

There is no real problems with the parcel at this time, but due to its size and wetland conditions it does not lend itself to a lot of uses. It does abut land under the jurisdiction of the Duxbury Board of Selectmen, however, the total area of both parcels is less than three acres not really increasing its usage significantly. It might best be left as open space, wildlife habitat and a watertable recharge area.

This data report was completed in May 2000.

Conservation Land Field Data Sheet

Assessor's Lot #	200a-502-014	6.70 Acres
	200a-502-114	1.79 Acres
	Total	8.49 Acres

Location

Both parcels are located on the south side of Tremont Street between Lot # 200a-014-102 and Lot # 200a-001-000, with 166 feet of frontage on Tremont Street. Much of this lot is back land.

General Description

On lot 200a-502-014 the frontage on Tremont Street enters into a dense pine forest with little other vegetative growth. Many of these trees are small (6 to 8 inches in diameter) and over crowded. As one proceeds east into the lot the pines thin somewhat, become more mature, and more oaks are present. All of this lot can be classified as upland with undulating topography. The back of the lot slopes steeply forming a trough. The bed of former railroad tracks separates these two lots. Too level the bed for the tracks a path across the trough was filled leaving a cart path from Pinewood Lane to Arrowhead Road. Commonwealth Electric Co. owns a quarter of an acre in the center of this area for a sub-station. This area also abuts a 1.82 acre lot under the jurisdiction of the Duxbury Board of Selectmen, and another 3.31 acre playground under the jurisdiction of the Duxbury Recreation Department. The back lot, (lot # 200a-502-114), is 40 percent wetland and 60 percent upland with the bottom of the trough as the wetland. Parking off Arrowhead Road serves as ample parking for this area.

Soils

The soils in the upland area of these parcels is classified in the Carver series of the Plymouth County Soil Survey of 1969, which consists of excessively drained sandy soils formed in thick deposits of coarse, pebbly quartz sand. Water moves rapidly down through the solum and the underlying substratum. Dissecting this out wash plain is a deep trough with steep sides running southeast towards Duxbury Bay. The soil at the bottom of this trough is classified as peat, which consists of very poorly drained soil that formed in an accumulation of partly decomposed organic material, and is saturated much of the year. Plant remains, in these soils, can be readily identified.

Vegetation

The vegetation in the upland area consists of eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), and white oak (*Quercus alba*). There is little understory in this area. Where the pine is thick there is no understory. On the wetland area of the back lot the vegetation is that of a typical maple swamp, namely red maple (*Acer rubrum*) as the predominant tree. The understory is made up of sweet pepper bush (*Clethra alnifolia*), high bush blueberry (*Vaccinium corymbosum*), and arrowwood (*Viburnum dentatum*).

Problems and Recommendations

Although the area abuts a playground and other public land under the jurisdiction of the Duxbury Board of Selectmen it is not heavily used at the present time. There are a few short walking trails in the pine grove and along the railroad grade. Due to the size of the area the construction of more walking trails would be quite limited. A short exercise trail from the playground might be considered, as well as a picnic area with tables next to the playground. There is ample parking off Arrowhead Road. As for problems, the area seems to be respected. There is little road side trash. The only problem seems to be in the trough in the back. In the past old car parts were dumped here, however that was done quite a while ago, and nothing has been added recently. The frontage on Tremont Street enters into a very dense pine forest. These trees are not developing well and a thinning might be considered. That would decrease the competition and improve the growth of the trees.

This report was completed in May, 2000.

Conservation Land Field Data Sheet

Assessor's Lot #'s			
	210a-502-030	4.00 Acres	
	210a-502-052	9.05 Acres	
	210a-502-061	4.00 Acres	(Scat Island)
	210a-502-062	4.25 Acres	(Long Island)
	210a-502-068	2.80 Acres	
	Total	24.10 Acres	

Location

All of these lots are located in Duxbury Bay north of the Powder Point Bridge, and to the east of Great Wood Island.

General Description

These lots are all in the upper reaches of Duxbury Bay and are considered tidal salt marsh. All parcels are subject to tidal flooding and access can be gained by boat only. These land would be under water during high tide periods.

Soils

The soils in this area are considered tidal marsh and consist of poorly drained organic and mineral deposits that are flooded regularly by tidal action. It occupies low lying tracts of land along salt water bays and streams. The mineral deposits are predominantly silt. The organic deposits are mainly accumulations of herbaceous vegetation.

Vegetation

The area is vegetated with typical salt marsh plants. The predominant grass is the salt meadow grass (*Spartina patens*) on the flat plains, along with black grass (*Juncus gerardi*) and spike grass (*Distichlis spicata*). The ditches are lined with cord grass (*Spartina alterniflora*).

Problems and Recommendations

The property is not accessible and underwater during high tide periods. The area is a nursery for many species of finfish and shellfish, as well as a feeding area for many species of shore birds and song birds. The entire bay serves as protection from storms to the upland behind it. These lots should be left as they are, basically as wildlife habitat and storm protection.

This data report was completed June 2000.

Conservation Land Field Data Sheet

Assessor's Lot #'s		
	210b-502-001	1.50 Acres
	210b-502-002	1.04 Acres
	210b-502-011	4.44 Acres
	210b-502-012	3.06 Acres
	210b-502-017	3.06 Acres
	Total	13.10 Acres

Location

All five lots are located in the salt marsh on the northeast side of the Powder Point Bridge.

General Description

These lots are located in the upper reaches of Duxbury Bay which is considered tidal marsh and is subjected to daily tidal action. The only access is by small boat along Canal River in the Bay.

Soils

The soils in this area are classified as tidal marsh and consist of very poorly drained organic and mineral deposits that are flooded regularly by tidal action. These soils occupies low lying tracts of land along salt water bays and streams. The mineral deposits are predominantly silt. The organic deposits are mainly accumulations of herbaceous vegetation.

Vegetation

The area is vegetated with typical salt marsh vegetation. The predominant grass is the salt meadow grass (*Spartina patens*) on the flat plains, along with black grass (*Juncus gerardi*) and spike grass (*Distichlis spicata*). The ditches are lined with cord grass (*Spartina alterniflora*).

Problems and Recommendations

The area is a great place for small boating and canoeing. Access by boat would have to be from the boat launch sight off Cove Street. The marsh is a wonderful place to observe shore and marine bird life. Some duck hunting is done during the hunting season.

This Data report was completed in May 2000.

Conservation Land Field Data Sheet

Assessor's Lot #	211-502-048	0.66 Acres
	211-502-050	0.50 Acres
	Total	1.16 Acres

Location

These two lots are contiguous and are located off the west side of Grunt Road between Marginal Road and Pine Point Road.

General Description

Both lots are vegetated sand dunes and only a few feet above mean high tide.

Soils

The entire area is classified as Dune Land and Coastal Beach, according to the Plymouth County Soil Survey of 1969, and consist of highly quartzitic sand adjacent to the seashore. The individual sand particles has been rounded by the action of waves and wind. These areas are continuing to change in shape and size depending on vegetative cover. A thick vegetative cover tends to hold the sands from shifting. The water table is generally very close to the surface.

Vegetation

The vegetation on this area is quite typical for the dune land and coastal beaches. It consists of beach rose (*Rosa rugosa*), beach plum (*Prunus maritima*), american beach grass (*Ammophila breviligulata*), and eastern red cedar (*Juniperus virginiana*). The lots are thickly covered with poison ivy (Rhus radicans). As the dune area meets the water cordgrass or salt marsh grass (*Spartina alterniflora*) becomes established.

Problems and Recommendation

The major problem with the area is the amount of poison ivy. Also being a dune area it is very fragile and can not handle a lot of traffic. There is no parking in the area. All and all it might be best just left as open space, wildlife habitat, and a buffer zone for storm tide surges.

This data sheet was completed June 2000

1. In the 1970s, the Duxbury Conservation Commission, under Chairman Dr. Lansing Bennett, created the Duxbury Greenbelt Land Protection Plan. The plan was intended to protect surface water, groundwater and wildlife corridors that generally follow streams and rivers.

	Yes	No	N/A	Response Total
Were you familiar with this land protection plan before this survey?	**55% (723)**	45% (585)	0% (4)	**1312**
Have you seen a map of the Greenbelt Plan?	32% (410)	**68% (874)**	1% (8)	**1292**
This plan continues to guide today's land protection program. Do you agree with this strategy?	**74% (913)**	5% (56)	21% (260)	**1229**
			Total Respondents	**1315**
			(skipped this question)	**14**

2. As Duxbury continues to protect open space, please rank the importance of land you think should be preserved.

	High	Medium	Low	Response Total
Properties that protect groundwater and municipal wells	**93% (1202)**	7% (85)	1% (11)	**1298**
Properties that connect conservation land	**63% (815)**	29% (369)	8% (102)	**1286**
Properties for ball fields	26% (334)	**37% (474)**	37% (466)	**1274**
Properties for community housing	21% (267)	**40% (507)**	39% (499)	**1273**
Forests	**74% (958)**	21% (277)	4% (58)	**1293**
Farms	**52% (666)**	33% (424)	15% (197)	**1287**
Historic landscapes	**68% (868)**	25% (317)	7% (95)	**1280**
Wildlife corridors and habitat	**74% (951)**	21% (267)	5% (60)	**1278**
Buildable land (upland)	24% (294)	**45% (553)**	32% (394)	**1241**
Buildable land (upland) that buffers wetlands and supports wildlife habitat	**50% (626)**	33% (422)	17% (215)	**1263**
Open fields	**54% (697)**	35% (442)	11% (141)	**1280**
Cranberry bogs	**52% (664)**	34% (434)	15% (189)	**1287**
Wetlands and floodplains	**72% (928)**	23% (294)	5% (71)	**1293**

Salt marshes	**77% (981)**	18% (231)	5% (60)	**1272**
Other: (please specify)	**70% (49)**	10% (7)	20% (14)	**70**
			Total Respondents	**1314**
			(skipped this question)	**15**

3. If other, please specify:

Total Respondents	**63**
(skipped this question)	**1266**

4. Categorize your familyâ€™s current use of public open space and recreation areas in the town.

		Frequently	**Occasionally**	**Never**	**Response Total**
Natural open space areas	0% (1)	40% (511)	**52% (661)**	8% (97)	**1270**
Trails	0% (3)	36% (465)	**49% (630)**	14% (180)	**1278**
Duxbury Bay and its flats	1% (10)	**63% (815)**	29% (376)	7% (87)	**1288**
Freshwater ponds	0% (2)	16% (197)	**44% (554)**	40% (495)	**1248**
Town landings	0% (3)	32% (399)	**42% (528)**	26% (329)	**1259**
Duxbury Beach	2% (20)	**74% (968)**	22% (291)	2% (32)	**1311**
Percy Walker pool	1% (7)	13% (167)	27% (342)	**59% (757)**	**1273**
North Hill golf course	1% (8)	16% (202)	30% (376)	**54% (682)**	**1268**
Tennis courts	0% (2)	12% (155)	33% (424)	**54% (695)**	**1276**
Basketball courts	0% (3)	6% (82)	22% (274)	**72% (903)**	**1262**
Bicycle paths	0% (5)	14% (173)	40% (494)	**46% (571)**	**1243**
Athletic fields	2% (20)	27% (347)	29% (371)	**42% (528)**	**1266**
Playgrounds	1% (18)	23% (291)	31% (386)	**44% (556)**	**1251**
			Total Respondents		**1315**
			(skipped this question)		**14**

5. Comments please:

Total Respondents	**193**
(skipped this question)	**1136**

6. Categorize your family’s experience with the availability of current public recreational resources in the town.

	Too Many	**Enough**	**Not Enough**	**Don’t Know**	**Response Total**

Natural open spaces	2% (19)	**54% (678)**	35% (439)	9% (110)	**1246**
Trails	2% (19)	**58% (730)**	31% (393)	9% (116)	**1258**
Freshwater fishing areas	1% (10)	**42% (523)**	16% (204)	41% (511)	**1248**
Hunting areas	15% (192)	27% (339)	10% (118)	**48% (593)**	**1242**
Ice skating areas	1% (16)	**50% (626)**	25% (316)	23% (290)	**1248**
Boat/town landings	2% (19)	**60% (752)**	23% (284)	16% (202)	**1257**
Percy Walker pool	2% (25)	**62% (772)**	14% (174)	22% (273)	**1244**
North Hill golf course	3% (43)	**59% (729)**	16% (193)	22% (279)	**1244**
Tennis courts	3% (35)	**61% (763)**	14% (170)	22% (278)	**1246**
Basketball courts	2% (29)	**50% (615)**	13% (157)	36% (441)	**1242**
Bicycle paths	2% (23)	29% (365)	**49% (612)**	20% (244)	**1244**
Athletic fields	4% (47)	**56% (702)**	20% (255)	19% (243)	**1247**
Playgrounds	2% (26)	**65% (806)**	16% (195)	17% (215)	**1242**
				Total Respondents	**1290**
				(skipped this question)	**39**

7. Please indicate the importance of the following actions to you. Open Space

	High	**Medium**	**Low**	**Response Total**
Protect open space to provide for balanced growth and town character	**78% (993)**	18% (225)	5% (61)	**1279**
Protect open space to control taxes and reduce demand on town infrastructure	**62% (775)**	29% (360)	10% (123)	**1258**
Protect open space for water protection	**85% (1090)**	13% (171)	1% (19)	**1280**
Protect open space for environmental and wildlife protection	**75% (955)**	21% (264)	4% (55)	**1274**
Protect open space for passive recreation (walking, hiking, bird watching)	**63% (802)**	30% (384)	7% (94)	**1280**
Protect farm land	**42% (521)**	38% (467)	21% (257)	**1245**
			Total Respondents	**1294**
			(skipped this question)	**35**

8. Historic Preservation

	High	Medium	Low	Response Total
Preserve town character and historical resources	**73% (937)**	22% (284)	5% (66)	**1287**
Preserve historic landscapes	**65% (833)**	26% (332)	9% (113)	**1278**
Create a local Historic District	**35% (448)**	35% (444)	30% (381)	**1273**
			Total Respondents	**1289**
			(skipped this question)	**40**

9. Community Housing

	High	Medium	Low	Response Total
Convert existing housing stock to affordable housing	31% (398)	33% (415)	**36% (461)**	**1274**
Acquire land for building affordable housing	23% (286)	29% (367)	**49% (617)**	**1270**
Build new affordable housing	24% (305)	29% (371)	**46% (587)**	**1263**
			Total Respondents	**1284**
			(skipped this question)	**45**

10. Recreation

	High	Medium	Low	Response Total
Create additional athletic fields	17% (221)	29% (371)	**53% (672)**	**1264**
Create additional playgrounds	9% (113)	31% (388)	**60% (761)**	**1262**
Create additional trails	25% (314)	**42% (528)**	34% (428)	**1270**
Create additional bike paths	35% (446)	**36% (460)**	29% (366)	**1272**
Create an additional nine holes at North Hill golf course	19% (235)	19% (244)	**62% (789)**	**1268**
			Total Respondents	**1282**
			(skipped this question)	**47**

11. Please indicate the importance of the following action items to you.

	High	Medium	Low	Response Total
Develop additional municipal well sites	41% (501)	**48% (592)**	11% (142)	**1235**

Purchase land to protect groundwater	**68% (856)**	26% (331)	6% (78)	**1265**
Purchase additional land for open space	**47% (601)**	35% (448)	17% (217)	**1266**
Maintain the aesthetic character of town roads	**56% (710)**	32% (410)	12% (152)	**1272**
Designate or purchase land for alternative energy sources	**42% (520)**	37% (466)	21% (262)	**1248**
			Total Respondents	**1288**
			(skipped this question)	**41**

12. Actively managed land allows for species diversity, open vistas, farming, and recreation. Please indicate the degree of importance of the following active land management techniques to you.

	High	**Medium**	**Low**	**No**	**Response Total**
Selective cutting of trees for forest management	37% (469)	**48% (604)**	11% (142)	4% (53)	**1268**
Controlled burning	25% (317)	**44% (553)**	23% (296)	7% (94)	**1260**
Build woodland trails	31% (390)	**43% (550)**	19% (244)	6% (82)	**1266**
Hay field management	16% (193)	**39% (479)**	35% (430)	10% (125)	**1227**
Plant crops such as cranberries, Christmas trees, etc.	25% (309)	**37% (471)**	27% (342)	11% (135)	**1257**
Control invasive plants	**57% (718)**	32% (403)	9% (118)	2% (26)	**1265**
Create community gardens	22% (273)	**38% (477)**	27% (345)	13% (160)	**1255**
Other: (please specify)	**42% (33)**	23% (18)	11% (9)	24% (19)	**79**
				Total Respondents	**1283**
				(skipped this question)	**46**

13. If other, please specify:

Total Respondents	**84**
(skipped this question)	**1245**

14. Duxbury residents supported a 3% Community Preservation Act surcharge in 2001 based on prior Duxbury land protection practices and on the recommendation of the Land Acquisition Task Force. The strategy calls for protecting 3 acres of every 10 as the town continues to grow.

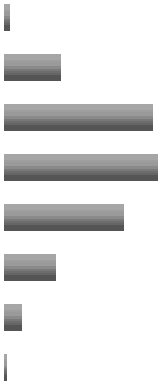
	High	**Medium**	**Low**	**Response Total**

Are you still in favor of this strategy?	**68% (861)**	22% (279)	10% (133)	**1273**
Would you support a more aggressive land acquisition strategy?	**36% (443)**	34% (420)	31% (380)	**1243**
Would you support a less aggressive land acquisition strategy?	15% (181)	33% (405)	**52% (627)**	**1213**
			Total Respondents	**1283**
			(skipped this question)	**46**

15. Are you?

	Response Percent	Response Total
Female	**50.6%**	**642**
Male	49.4%	628
Total Respondents		**1270**
(skipped this question)		**59**

16. Please indicate your age:



	Response Percent	Response Total
18-29	1%	13
30-39	10.8%	135
40-49	26%	326
50-59	**27.6%**	**346**
60-69	21.9%	275
70-79	9.2%	115
80-89	3%	38
90+	0.4%	5
Total Respondents		**1253**
(skipped this question)		**76**

17. Do you have children under the age of 18 living in town?

	Response Percent	Response Total
Yes	44.9%	479

No	**55.1%**	**587**
	Total Respondents	**1066**
	(skipped this question)	**263**

18. How long have you lived in Duxbury?

	Response Percent	Response Total
0-4 years	10.7%	121
5-9 years	14.2%	160
10-19 years	**23.7%**	**267**
20-29 years	21.2%	239
30-39 years	16.6%	187
40-49 years	5.9%	67
50+ years	7.6%	86
	Total Respondents	**1127**
	(skipped this question)	**202**

19. Other comments:

Total Respondents	**303**
(skipped this question)	**1026**

B. 2007 Open Space Survey Executive Summary

In 2007, the seven members of the Open Space and Recreation Plan Committee developed, distributed, and tabulated an open space and recreation survey in order to gauge town residents' opinions regarding current and future town goals for these areas. Feedback from this survey was used to help determine appropriate goals for the *2007 Open Space and Recreation Plan*.

The primary intention of the *2007 Duxbury Community Survey* was to assess residents' knowledge, use, feelings, and beliefs regarding relevant aspects of the Open Space and Recreation Plan. This survey addressed open space, recreation, historic preservation, and affordable housing questions. They were mailed to residents in January of 2007, and residents were encouraged to either mail back the forms, drop them off at any one of several locations around town, or fill out the survey through an online form accessed through the town's website. The response rate indicated a high amount of local interest in open space and recreation planning; of 7,366 surveys sent out, 1300 responses were received.

The survey was divided into two parts: the first addressed residents' usage of and opinions about the town's open space and recreation resources, and the other addressed residents' feelings about the Community Preservation Act and the various topics under the Community Preservation Committee's purview.

The results of the survey showed very interesting patterns, and overall the majority of respondents indicated strong feelings about protecting open space in Duxbury. When asked to rank various types of land in relation to preservation importance, the majority of respondents ranked the preservation of open land to protect groundwater and municipal wells as a high priority (96%). Also ranking high was the protection of forestland (74%), wetlands (72%), and historic landscapes (68%). Preserving land that connected either other conservation land or wildlife habitats were also ranked as a high priority by the majority of respondents (63% and 74%, respectively), even when land connecting wildlife habitat was buildable upland (50%). The majority of respondents ranked lands such as ball fields, community housing, and buildable uplands as lower priorities for preservation (37%, 40%, and 45% ranked medium, respectively). None of the categories of land in this question were ranked as low preservation priority by a majority of respondents.

The importance respondents assigned to open space preservation was reflected in how often respondents used the town's open space and recreation resources. The most commonly used resources are, of course, Duxbury Beach (used frequently by 74% of respondents) and Duxbury Bay and the flats (used frequently by 63%). The various marked trails throughout the town are used at least occasionally by 85% of respondents. Other recreational resources of the town receive less use; more than half of the respondents had never used the basketball courts (72%), Percy Walker pool (59%), tennis courts (54%), or North Hill golf course (54%). Many people commented that they were not aware that bike paths existed within the town, and that they would be interested in using some if they were located at convenient points throughout town. Of the 193 comments provided for this question, a little less than one-third (55) were directly related to the desire for separate bike paths. Other common comments related to the poor condition of both the school playing fields and Percy Walker Pool. In the next question, relating to respondents'

feelings about availability of open space and recreational resources, bike paths were the only category in which a majority of respondents indicated there were not enough (49%).

Particularly key questions were those relating to the Community Preservation Act. These questions asked respondents to indicate the importance of specific items under the topics of open space, historic preservation, community housing, and recreation – four enumerated purposes of the CPA. Most items under Open Space and Historic Preservation were ranked "highest" by the majority of respondents, with varying but wide margins. With respect to each item under Community Housing, the majority of responses fell into the "lowest" category of importance, although some margins were very tight. Responses in the Recreation category indicated that the creation of more playgrounds, athletic fields, or golf course holes was generally of "low" importance (60%, 53%, 62%, respectively).

The final question sought input on the current CPA strategy to protect three acres for every ten in Duxbury. Sixty-eight percent of respondents ranked the current strategy as "high" priority and only 10% ranked it low. Whether or not to pursue a more aggressive strategy, however, was almost a three-way tie for high (36%), medium (34%) and low (31%). Many comments relating to this question indicated that the 3% tax associated with the CPA felt like a burden in light of other high taxes in town.

Many questions in the survey gave respondents space to include their own comments. Such comments ranged from clarifying answers to requesting additional information. Most of the respondents who chose to provide extra comments highlighted the areas that most concerned them; the items that respondents promoted ranged from weekly farmer's markets on the town green, to a dog park, to burying power line wires to improve scenic views along roads. Some common comments related to the beach, specifically the desire to see fewer vehicles driving on the beach and less trash on the beach and in the parking lot, and other water resources in town. Many respondents felt that invasive species control was very important, especially aquatic species that affect water quality in local ponds.

Respondents also noted the need for better maintenance of current athletic facilities, especially Percy Walker Pool and athletic fields, before new facilities are considered. Several respondents cited the need for a more comprehensive handicap accessibility plan for facilities and playgrounds. Others noted that there are few outdoor resources available to those with impaired mobility, especially the elderly. Due to the survey's release at the same time as the proposed turf field project was proposed, many comments related to the turf fields and the use of CPA funds to build the fields – comments were mixed fairly evenly between support and opposition.

Other responses related to energy conservation, regarding the need for increased energy efficiency and for alternate sources of energy for the town, such as wind turbines and solar panels on school building roofs.

While the creation of affordable housing was ranked as low priority under the CPA questions, many comments in later sections were related to problems with high housing costs in town, especially for those retiring or already retired. Several respondents noted that they would like to see more housing that would make living in Duxbury more affordable for elderly people who

would like to stay in town after they retire, as well as for young people without families who would like to move back to the town in which they grew up.

Demographically, the gender of respondents was almost exactly even between males and females. Most respondents fell within the 40-59 age range (53%), with 31% of respondents between 60 and 79, and 10% between the ages of 30 and 39. Only 1% of respondents were 18-29 and 3% were over 80. Forty-five percent of respondents have children under the age of 18 living in Duxbury. A vast majority of respondents have lived in town for at least ten years; less than 11% have lived in town for less then five years. Over 30% of respondents have lived in town for at least 30 years.

The Open Space and Recreation Plan Committee is pleased with the results of this community survey. The community's support for preservation of open space has often been demonstrated at town meetings, with the approval of many land purchases for open space. The results of this survey is another example of the level to which residents value land conservation.