Tolland Open Space and Recreation Plan
DRAFT

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Prepared by the Environmental Institute
University of Massachusetts - Amherst

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SECTION 1 – Plan Summary

Tolland possesses large amounts of forested open space that has thus far escaped the “sprawl” prevalent elsewhere in the state and region. Residents and visitors consider Tolland a hidden gem largely because of its forests, fields, ponds, historic structures and relative isolation. Residents would like to preserve these rural qualities in order to maintain the essence of Tolland.

An important means for preserving these highly valued qualities is through open space protection. Large areas of Tolland are permanently protected through state ownership. However, key areas that help define the town, such as near the Town Center and along the only state road, are not so clearly protected by ownership.

As this is the town’s first open space and recreation plan, the goals and objectives within aim at identifying important areas in town for possible conservation and/or use as recreational land, and investigating financial, regulatory and political tools and techniques for accomplishing its goals.

SECTION 2 - Introduction

Statement of Purpose

As part of the Massachusetts Executive Office of Environmental Affairs' Watershed Initiative, the Farmington River Watershed Coordinator identified the need for planning efforts to conserve and protect the natural resources in the headwaters of the Farmington River. The Farmington River Watershed provides not only drinking water to the Greater Hartford, Connecticut region, but also tremendous recreational opportunities within its boundaries. The small, wooded and rural Massachusetts towns from which the river flows are not immune from growth pressures. Indeed, Tolland experienced a dramatic rate of growth between 1990 and 2000. Several of these small towns lacked current Open Space and Recreation Plans, which can help protect their natural resources and community character. In recognition of this, the Watershed Initiative solicited proposals from several organizations to conduct the open space planning process for towns in the watershed. The Environmental Institute was selected in January of 2003 to conduct the process and write the plans for the Towns of Otis, Sandisfield and Tolland.

Tolland's Board of Selectmen chose to participate in the project and instructed a committee to work with the Environmental Institute. As this is the town's first Open Space Plan, the purpose is to compile data on the status of conservation and recreation lands in Tolland, solicit community input into where the Town would like to be, and formulate actions to help achieve these planning goals.

Planning process and public participation

Work on this plan began in the fall of 2003, when the Environmental Institute approached the Board of Selectmen. A survey by mail, described in later sections, was conducted in Otis, Sandisfield and Tolland. Poor response rates slowed the planning process.

A committee of three, consisting of Selectman and Planning Board Member James Demming, Town Clerk Susan Voudren and Zoning Bylaw Review Committee Chairperson Gloria Gery formed in early 2004 to reinvigorate the planning process. The committee determined that a new survey, specifically for Tolland, was warranted. Therefore, from May to June 2004, the Environmental Institute, with the help of the committee, conducted a second survey which met a higher rate of success.

Follow-up meetings were held with the committee to review the draft plan, which was also made available to residents through the town's website and in municipal offices. An open house session at Town Hall was held on July 14th for residents to comment and ask questions about the draft plan. The open house was publicized through the town website and a published announcement appeared in the Tolland Tattler.

Local boards and commissions, including the Board of Selectmen, Planning Board and Conservation Commission, as well as the Pioneer Valley Planning Commission reviewed the plan.

SECTION 3 - Community Setting

Regional Context
Located in the foothills of the southwestern Massachusetts Berkshires, the Town of Tolland consists of 31.64 square miles of mostly wooded terrain. Tolland is the westernmost municipality of Hampden County; however, it may share more characteristics with neighboring Berkshire County towns than with lower Pioneer Valley municipalities due to its hilly terrain, abundant forest and water resources and low population density.

The southern town limits of Tolland form the Massachusetts-Connecticut state line and the boundaries of the Connecticut towns of Colebrook and Hartland. To the north, Tolland is bordered by Otis and Blandford, to the east by Granville, and to the west by the Town of Sandisfield.

Tolland is a part of the Farmington River Watershed. From its headwaters in nearby Becket to the Connecticut border, the Farmington River runs 18 miles through Massachusetts before crossing the state line and eventually winding its way to the Connecticut River in Connecticut. It is an important shared resource between neighboring towns as well as neighboring states. The West Branch of the Farmington forms or parallels the western boundary of Tolland for the entire length of the town.

Access to Tolland is limited by a lack of state roads. Route 57 offers primary access to and around Tolland from east to west, and is the only state route running through town. Route 8 runs north-south through adjacent Otis and Sandisfield, offering access to the Massachusetts Turnpike. Routes 20 and 23, also in neighboring communities, provide access to the larger region. The most important local roads provide north-south access throughout town and include Clubhouse, Schoolhouse, Burt Hill, Hartland and Colebrook River Roads.

The population of Tolland totaled 426, according to the 2000 Census; however, like other communities in the area, populations increase in the summer due to an influx of second-home owning, part-time residents.

The Clark Family
http://www.angelfire.com/ma3/tollandclark/index.html

History of the Community
The difficult terrain of Tolland has limited its agricultural and industrial development. The land area served primarily as grounds for small-scale hunting and fishing prior to the first recorded settlement in 1750 (MA Historical Commission 2004). Tolland was the last portion of the Bedford Plantation to be settled, and was eventually incorporated from a part of neighboring Granville on June 14, 1810 (MA Department of Commerce and Development 1969).

Early settlers raised dairy cattle and livestock, taking advantage of large settlement allotments to create hillside pastures (MA Historical Commission). Agricultural products included flax, wool, and some grains, but primarily consisted of cheese and butter (Natural Resources Technical Team 1975).

Tolland's industrial development in the mid-nineteenth century consisted primarily of a clock-making factory and tannery (MA Historical Commission). In the early 1870s, construction of the Lee-New Haven Railroad promised further prosperity for Tolland and the region in general. However, the state never completed the rail line due to the financial collapse of 1873, leaving Tolland with a massive debt. As a result of the dramatic tax increases that the failed railroad project precipitated, Tolland's farms also began to fail (MA Historical Commission). Furthermore, without a rail line to provide access to markets, lumbering became unprofitable (MA Department of Commerce and Development).

By 1915, the population of Tolland had bottomed out at 101 (MA Historical Commission). Some farming, like the Clark dairy farm, persisted well beyond the first half of the twentieth century. Nevertheless, Tolland reached its zenith in population and economic activity at the end of the nineteenth century.

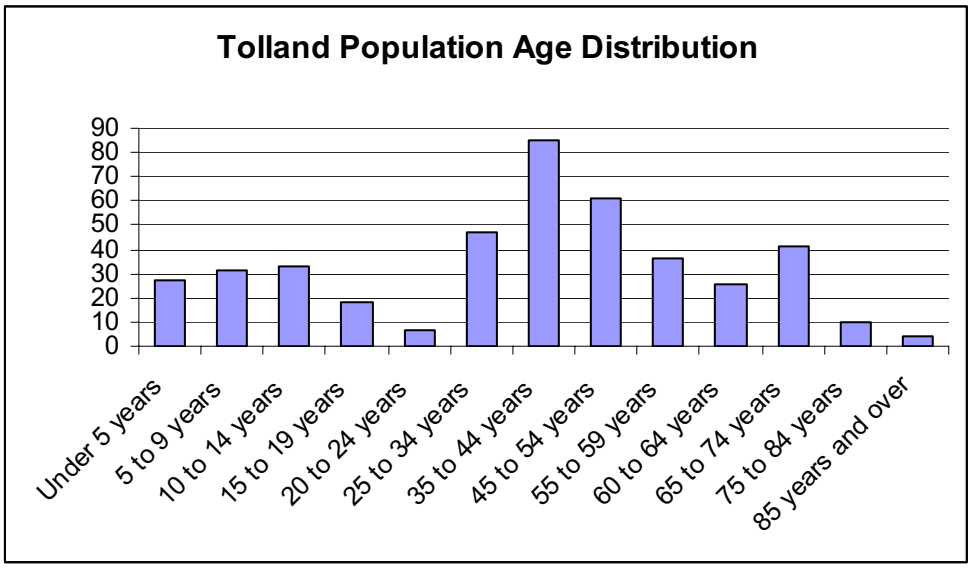
Population Characteristics

The tenth least populated town in Massachusetts, Tolland remains a sparsely settled community in an increasingly urban state. The town's growth rates, while not contributing many people or housing units in absolute numbers, are significant. Its population has steadily increased over the last three decades to reach its current level of 426 people (13 people per square mile). From 1990 to 2000, the town gained 137 people and approximately 70 housing units, representing a 47% increase in population.

Another significant characteristic of Tolland is the seasonal increase in residents. According to the 2000 Census, almost 300 housing units are for seasonal or recreational use. Summertime population counts can be double those of the Census. It is important to note, however, that growth in housing units over the last decade has consisted of primarily year-round residences (Census 1990 and 2000).

Overall, the population is rather homogenous, with 415 White, 4 Black, 1 Asian, 1 Multiracial, and 5 American Indian/Eskimo people. The distribution of ages is displayed in the following chart from 2000 Census data.

Figure 1



As is evident in the chart, the majority of the town's year-round residents are between the ages of 35 and 54. There are significantly few residents between the ages of 20 and 24.

The 2000 Census reported a per capita income of $30,126, and a median household income of $53,125, both of which are higher than statewide averages. As of 2001, the unemployment rate in Tolland was 2.2% (Pioneer Valley Planning Commission 2002).

Growth and Development Patterns

Patterns and Trends

The town reached its peak population in the early 1800s at about 800 people. From that point until the 1970s, the population steadily decreased to just over 100 people (Johnson 1990). As a result of the importance of dairy farming, development in Tolland has historically been widely dispersed throughout town. Large farms coupled with a declining population left Tolland with few concentrated development areas.

As the following land use statistics indicate, agriculture has declined in Tolland, yet the amount of open/undeveloped and natural lands have stayed steady or even slightly increased since 1971. According to the MacConnell Land Use Survey, since 1971, residential development has experienced the most growth, particularly in low-density residential types. The amount of natural and undisturbed land has remained a steady 91% of the town's land area over the last two decades.

The concentrated development that does exist in Tolland is generally located on two of the larger ponds in town: Noyes and Cranberry. The Tunxis Club and Wildwood associations are both private, lakeshore communities serving primarily seasonal second-home owners and are located on these ponds.

Figure 2

Tolland Land Use Statistics 1971-1999

	1971		1985		1999	
	Acres	% of Total Acres	Acres	% of Total Acres	Acres	% of Total Acres
Agriculture	270.3	1.29%	258.8	1.23%	188.2	0.90%
Open/ Undeveloped	192.2	0.92%	252.9	1.21%	242.4	1.15%
Commercial	10.5	0.05%	10.5	0.05%	10.5	0.05%
Industrial	22.7	0.11%	33.4	0.16%	21.7	0.10%
Higher Density Residential	3.6	0.02%	3.6	0.02%	3.6	0.02%
Medium Density Residential	29.9	0.14%	29.9	0.14%	35.0	0.17%
Low Density Residential	209.8	1.00%	381.2	1.82%	470.8	2.24%
Urban Open/ Institutional/ Recreation	82.4	0.39%	63.1	0.30%	57.5	0.27%
Natural Land/ Undisturbed Vegetation	19474.6	92.80%	19142.1	91.21%	19152.3	91.26%
Water	689.7	3.29%	810.5	3.86%	803.8	3.83%

Total acres: 20985.7

Transportation Systems

About two-thirds of Tolland's roadway miles are dirt, and often very steep (Berkshire Regional Planning Commission 1997). Limited paved and state routes make any significant development difficult. The North Central Berkshire Access Study recently suggested establishing an interchange in Becket off of Interstate 90 at Route 8, which would significantly impact nearby communities like Tolland. However, that suggestion is not strongly endorsed by the metropolitan planning organization, which is responsible for transportation planning (Berkshire Regional Planning Agency 2003). Therefore, a marked improvement in ease of access to Tolland is not likely to affect growth and development in the near future.

Water Supply Systems

The Town has three Transient Non-Community public water supply systems, each located at a local campground. No other public water supply systems are located in Tolland. (BRPC 1997).

Sewer Service

The only sewer system in town serves the Tolland State Forest campground. The system serves the needs of 90 camping sites located on a peninsula of the Otis Reservoir. At present, sparse settlement patterns in the rest of town do not warrant consideration of public sewerage systems.

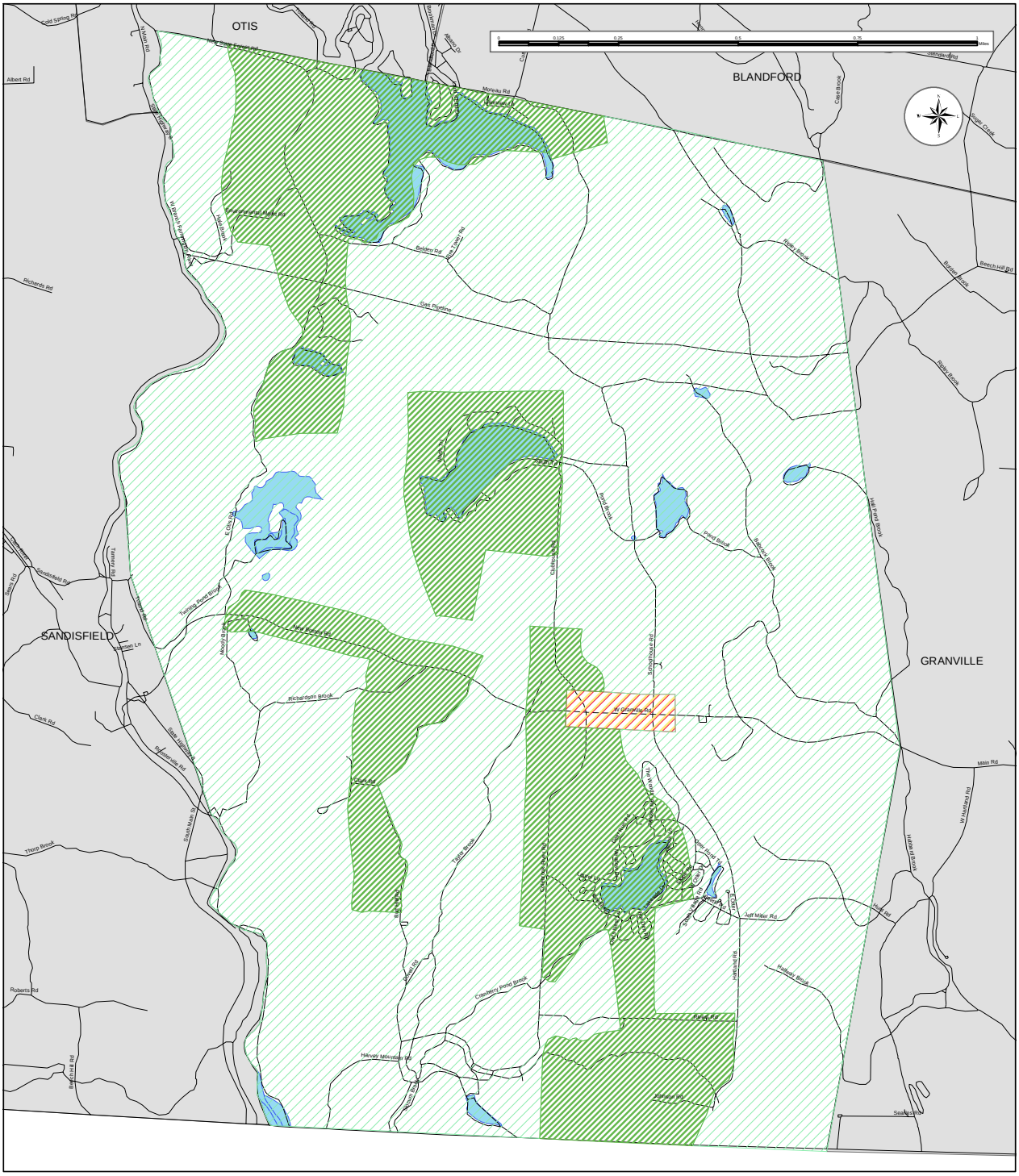
Tolland State Forest Wastewater Treatment Plant

Long-Term Trends

Tolland has three zoning districts: Town Center (TC), Agricultural-Residential I (AR I) and Agricultural-Residential II (AR II). (Please refer to the zoning map on the following page.) AR I is zoned for moderate density, while AR II is zoned for low density. The basic minimum lot size is 2 acres, with minimum frontages of 200 feet (TC and AR I) and 275 feet (AR II). The Zoning By-Law dates back to 1978, and is currently under review. Issues of importance include flag lots, which are currently prohibited.

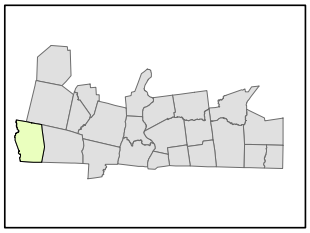
The State's build out analysis estimated that Tolland has roughly 12,600 acres of developable land that under current zoning could contain almost 4,300 additional residential units and 11,500 residents (EOEA 2001). While the Town has experienced rapid growth rates in recent decades, there are limits on growth in Tolland that did not factor into the build out analysis. The large land holdings of the Hartford Metropolitan District Commission and the State Forest, as well as areas with steep slopes and wetlands render some of these acres unlikely to be developed. Furthermore, limited access to Tolland will limit growth and development in absolute numbers for the foreseeable future.

Open Space Plan
Town of Tolland, Massachusetts
Zoning Map



Legend

- Roads
- Water Body
- TC- Town Center
- AR I - Agricultural & Residential Mixed(Moderate Density)
- AR II - Agricultural & Residential Mixed (Low Density)



Data Source: MassGIS Database

Town of Tolland, Hampden County

SECTION 4 - Environmental Inventory and Analysis

Geology, Soils and Topography

Tolland is in the transition zone between the Connecticut River Valley and the Berkshires. Elevation in town ranges from a low of 700 feet along the West Branch of the Farmington River to 1695 feet above sea level at the top of Lair Mountain, and averages 1500 feet. Glacial activity shaped the topography of the region, leaving behind many lakes, ponds, rivers and streams as well as glacial fill. (Please refer to the Soils and Geologic Features Map on the following page.)

The major soil association or group of geographically associated soil types present throughout Tolland is the Lyman-Tunbridge-Peru. The dominant features of this soil association include rolling and stony terrain. Lyman-Tunbridge-Peru soils are generally shallow, but can be deep and of medium texture. Loamy soils of this grouping, concentrated on hilltops, formed from glacial till and derived from schist, gneiss and granite. Soils within the association vary from well drained to excessively drained. Depth to bedrock is generally between 16 and 26 inches. Because of rocks, boulders and stones on the surface of the soil in addition to exposed bedrock, these soils are poorly suited to cultivated crops, hay and pasture. Furthermore, slope, shallowness to bedrock and surface stones limit building development and sanitary facilities.

The more specific soil associations that dominate in Tolland are the Lyman-Tunbridge and the Peru-Marlow. Other soils present to minor extents include Pillsbury, Marlow and Berkshire. The Natural Resources Conservation Service (NRCS) of the federal Department of Agriculture has classified both the Lyman-Tunbridge and the Peru-Marlow associations with land capabilities of VII: not suitable for cultivation of major crops including corn, hay and grass.

In its 1995 Soil Survey of Western Hampshire and Hampden Counties, the NRCS classified the various soil associations present in the region for suitability or performance across a wide spectrum of criteria. The Lyman-Tunbridge and Peru-Marlow associations rated “fair” to “good” for wild herbaceous plants, but “very poor” for grain and seed crops. These limitations on vegetation in turn impact the type of wildlife that the area can support, rendering it “poor” for openland wildlife, yet “fair” to “good” for woodland wildlife.

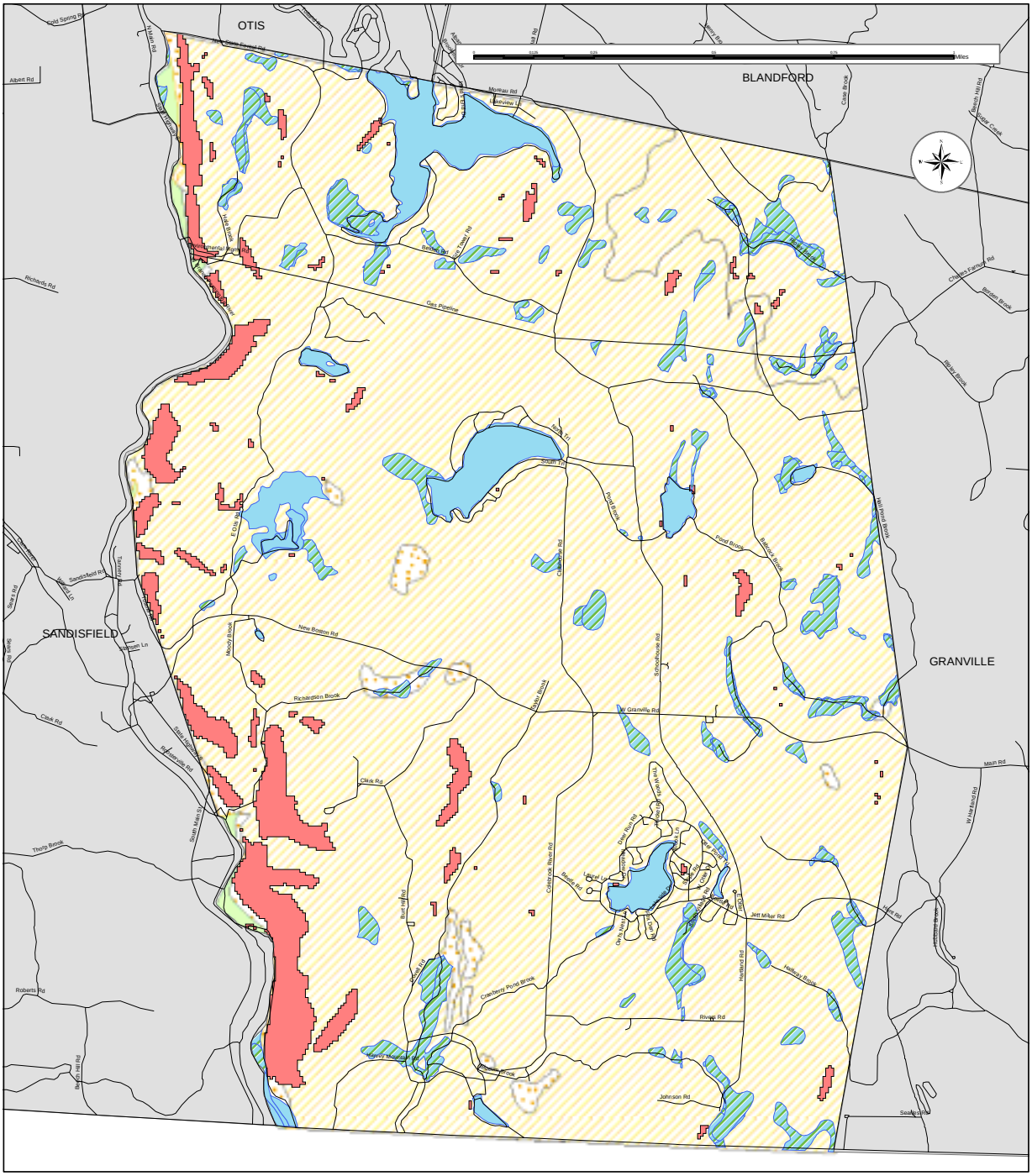
These soils were also found generally “good” for hardwood and coniferous trees, but “very poor” for wetland plants and animals.

Neither Lyman-Tunbridge, nor Peru-Marlow soils provide quality construction materials, such as roadfill, sand, gravel or topsoil.

Slopes and rocks are the primary limiting factors to recreational developments such as camping areas, playgrounds and golf courses.

Shallow depth to bedrock and steep slopes also pose “severe” to “moderate” restrictions on building development, i.e. these soils are unfavorable for development. Therefore, buildings may require special planning, design and/or maintenance, and construction costs may increase as a result. Moreover, these soils have a “moderate” to “high” potential for frost action (frost heaves) and a “moderate” to “high” risk for corrosion to concrete.

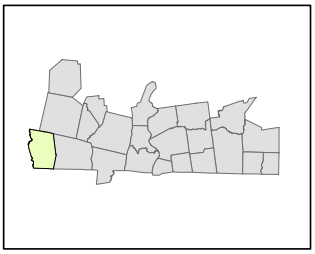
Open Space Plan
Town of Tolland, Massachusetts
Soils and Geological Features Map



Legend

- Roads
- Slope > 25%
- NWI Wetlands
- Sand and Gravel Deposits
- Till or Bedrock
- Floodplain Alluvium
- Water Body

Data Source: MassGIS Database



Town of Tolland, Hampden County

Similarly, for sanitary facilities, these soils pose “moderate” to “severe” restrictions on septic tank absorption fields. Again, slopes and shallow depth to bedrock make Lyman-Tunbridge and Peru-Marlow are the primary impediments to septic absorption.

Finally, the soil survey classified these two associations as Class C hydrologic groups. Such soils have slow rates of water transmission either because of moderately fine to finely textured soil or the existence of a layer that impedes downward water movement. These soils are slow to infiltrate when thoroughly wet.

Landscape Character

The Town of Tolland sits atop a wooded hill, the western edge of which drops off steeply to the banks of the Farmington River. The rugged and steep western area, banking the West Branch, is undeveloped and forested. The rest of Tolland is best described as a plateau with several small hills providing vantage points for taking in the scenic views of forest, hills, ponds and pastures that are scattered throughout town. (Please refer to the Unique Features Map on the following page.)

The town’s remote location, abundant forests and scattered water bodies have enabled it to maintain its rural characteristics while simultaneously developing its tourism/seasonal-home base. A 1975 natural resources inventory identified the two most important resources in Tolland as 1) its forests, and 2) its recreational homes and developments, which depend upon maintaining the environment sought by summer residents (Natural Resources Technical Team 1975).

The limitations on development imposed by rocks and slopes and public ownership of land have helped to maintain the rural character and natural environment. Tolland is predominantly forested and free from industrial, commercial and residential activity. Housing has generally been dispersed throughout town, except for two significant residential, generally seasonal, developments, Wildwood and the Tunxis Club, located on Cranberry and Noyes Ponds, respectively.

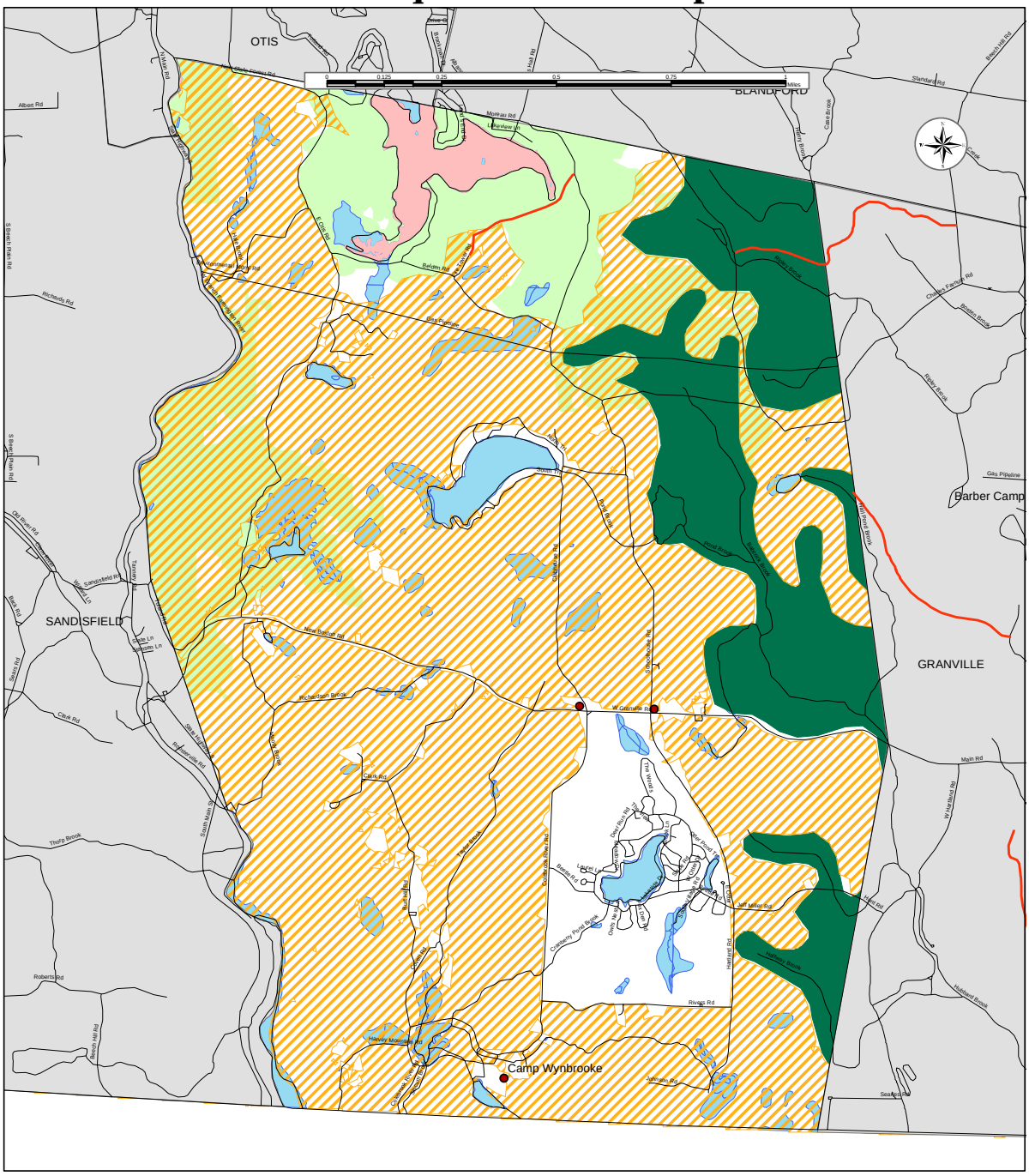
Recreational opportunities abound in Tolland. Activities such as hiking, fishing, camping and boating are plentiful on both public and private lands.

Water Resources

Watershed

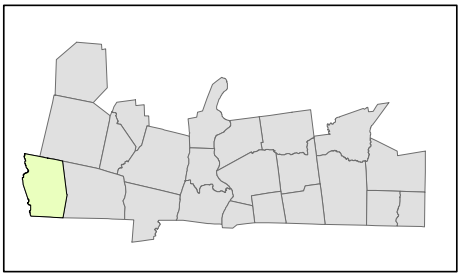
The vast majority of Tolland (94.5%) is in the Farmington River Watershed, with the remainder located in the Westfield River Watershed (BRPC 1997). (Please refer to the Water Resources Map on page 12.) An active Farmington River Watershed Association in Connecticut works for natural resource protection in and along the banks of the Farmington River, which serves the drinking needs of the greater Hartford region. The Massachusetts section of the watershed covers roughly one-third of the total watershed area. The Berkshire Regional Planning Commission developed an Action Plan for the Massachusetts section of the watershed in 1995 to address non-point source pollution. Concerns with runoff and other pollutants stemming from septic systems, erosion caused by logging and development and other pollutants are still a high priority in the Farmington Watershed, according to the Executive Office of Environmental Affairs (EOEA 2004).

Open Space Plan
Town of Tolland, Massachusetts
Unique Features Map



Legend

- Landmark
- Tracks and Trails
- Roads
- Supporting Naturall Landscape
- Water Body
- NHESP Living Waters Critical Supporting Watershed
- NHESP BioMap Core Habitat
- NHESP Living Waters Core Habitat



Town of Tolland, Hampden County

This project is funded by the Executive Office of Environmental Affairs

Map produced by the Office of Geographic Information and Analysis, University of Massachusetts, Amherst.

All datalayers provided by MassGIS.

Tolland borders the Farmington River for approximately 4.7 miles; about half of that frontage is publicly owned. The very steep and forested slopes leading to the River in Tolland represent some of the most pristine land in the watershed (BRPC 1997).

Surface Waters

Tolland has numerous acres of ponds, lakes and streams within its borders, including 370 acres of the Otis Reservoir. There are nine prominent ponds that total about 700 acres (Natural Resources Technical Team 1975). There is a public boat launch at Otis Reservoir and on Noyes Pond, which is a great pond. Cranberry and Noyes are the two largest ponds, and as described earlier, are fully developed for residential use along their shores. Other significant ponds include Hall, Trout, Twining, Wards, and Victory Lake. The southwestern corner of Tolland encompasses a section of the Colebrook Reservoir of Connecticut. These ponds provide significant opportunities for water-based recreation, such as boating, swimming and fishing. However, several are on posted private lands and therefore are not open to the public.

Important streams within Tolland include Babcock Brook, Cranberry Pond Brook, Halfway Brook, Hall Pond Brook, Hubbard Brook, Moody Brook, Pond Brook, Richardson Brook, and Slocumb Brook (BRPC 1997). Again, some of these brooks are large enough to support fishing. However, private land ownership can limit public access (Natural Resources Technical Team 1975). In addition, the 1997 Farmington River Watershed Action Plan identified several potential pollution sources within the sub-watersheds formed by these brooks and streams. Several areas of concern in Tolland revolved around abandoned farm equipment and/or vehicles. Cranberry Pond Brook had the most potential pollution sources within its sub-watershed, primarily because of the location of the Department of Public Works garage within its boundaries (BRPC).

Aquifer Recharge Areas

Tolland does not have any public supply wells.

Floodplain

Flood hazard zones are primarily concentrated around the Otis Reservoir, Noyes Pond, Twining Pond, Babcock and Taylor Brooks, and the West Branch of the Farmington River. Owing to its hilltop location, the vast majority of Tolland is not within a floodplain. Zoning in accordance with the Rivers Protection Act helps to protect these floodplain areas.

Wetlands

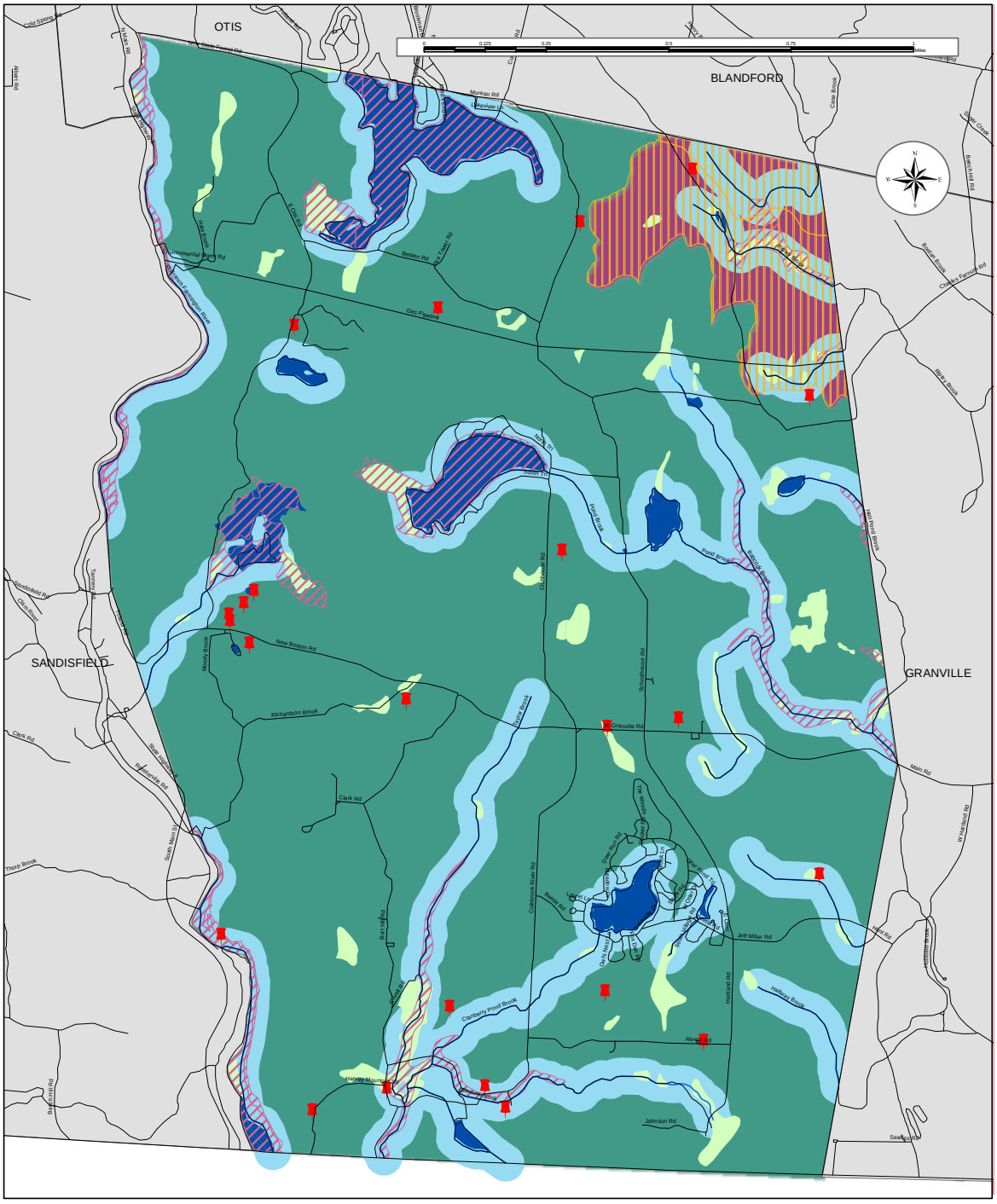
As is evident in the Water Resources Map, Tolland has several small wetlands sites scattered throughout town. Several potential vernal pool sites have also been identified. These are intermittent wetlands that the town may consider certifying for protection.

Vegetation

General Inventory

Tolland is located in the “Lower Berkshire Hills” eco-region defined by the Massachusetts Natural Heritage and Endangered Species Program (NHESP). The NHESP has mapped rare and endangered species, as well as exemplary natural communities in Massachusetts in order to “to promote strategic land protection by… showing areas, that if protected, would provide suitable habitat over the long term for the maximum number of Massachusetts' terrestrial and wetland plant and animal species and natural communities” (NHESP 2004). No additional regulations or

Open Space Plan
Town of Tolland, Massachusetts
Water Resources Map



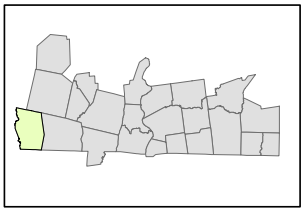
Legend

- Potential Vernal Pools
- Roads
- Major Streams
- Outstanding Resource Water
- FEMA Q3 Flood Zones
- Water Body
- National Wetland Inventory Wetlands
- 200 Feet Buffer from River Banks

Watershed

- FARMINGTON
- WESTFIELD

Data Source: MassGIS Database



Town of Tolland, Hampden County

restrictions accompany the designation of an area as “core habitat” and/or “supporting natural landscape” by the NHESP. Rather, the BioMap simply highlights areas that may be especially worthy of conservation due to the unique plant and/or animal life found on them.

The NHESP BioMap project revealed areas of core habitat for rare plant and wildlife species in eastern Tolland; mostly in Granville State Forest, and on MDC land. The project also identified large swaths of town as “supporting natural landscape” (NHESP 2001). Supporting natural landscape is land that is naturally vegetated and minimally impacted by roads and other development. It provides habitat for species that support core species. These areas can provide significant recreational opportunities, including hiking, mountain biking, hunting and more. The Unique Features Map in this plan shows the extent of land area classified as both core habitat and supporting natural landscape.

Forests

Tolland lies in the Northern Hardwoods-Hemlock-White Pine forest zone that covers the hilltowns of western Hampden, Hampshire and Franklin Counties and Berkshire County (Massachusetts Forestry Association 2004). Second growth forests dominate the vegetative landscape with a mix of hard and soft woods. Beech, sugar and red maples, and yellow birch are the dominant hardwoods, though ash, cherry, paper and black birch, elm, basswood, and red oak also occur in this forest zone. Hemlock and white pine are the primary softwoods. White pine, an abundant species in Massachusetts, is important for commercial activities. The Hemlock Wooly Adelgid, an insect that sucks nutrient rich sap from trees, threatens hemlocks across the region. Sugar Maples are another important species for commercial activities, both for lumber and syrup, not to mention their tourism value for fall foliage (Massachusetts Forestry Association).

Agricultural Lands

There are few farms left in Tolland. One of the oldest and last working farms, the Clark Farm on Burt Hill Road, currently hosts the Green Mountain Rangers for military-type games.

Rare, Threatened and Endangered Species

An inventory of rare, threatened and endangered species by the NHESP indicated no plant communities of concern are located in Tolland.

Fisheries and Wildlife

General Inventory

As a largely undeveloped town, Tolland is home to abundant populations of wildlife. Following are the bird, reptile, amphibian and other animal species commonly found in forested areas in Tolland:

- Birds: wood thrush, vecry, ovenbird, yellow-bellied sapsucker, blue jay and warbler;
- Amphibians and reptiles: red eft, American toad, spring peeper, wood frog, northern brown snake, northern red-bellied snake, and eastern milk snake;
- Animals: the white-tailed deer, squirrels, chipmunk, porcupine, black bear, snowshoe hare, eastern cottontail rabbit, skunk, raccoon and coyote (NRCS 1995).

In open areas, the following species are commonly present:

- Birds: sparrow, crow, swallow, kestrel, bobolink, and bluebird;
- Amphibians and reptiles: green snake, eastern garter snake, leopard frog, and pickerel frog;
- Animals: red fox, woodchuck, meadow-vale, shrew, and mouse (NRCS).

Finally, common aquatic species found in Tolland include the following:

- Birds: Canada goose, wood duck, merganser, red-winged blackbird, and sparrow;
- Amphibians and reptiles: snapping turtle, painted turtle, northern watersnake, bull frog, and green frog;
- Fish: pumpkinseed, yellow perch, largemouth bass, and brown bullhead.

Rare, Threatened and Endangered Species

Only two wildlife species on the state's endangered species list and one on the Massachusetts list of Species of Special Concern have been observed in Tolland. (Please refer to Figure 3.)

Figure 3

Tolland Rare Species

Taxonomic Group	Scientific Name	Common Name	State Rank	Federal Rank	Most Recent Observation
Bird	Podilymbus podiceps	Pied-Billed Grebe	Endangered		1934
Mussel	Alasmidonta undulata	Triangle Floater	Special Concern		1996
Mussel	Alasmidonta varicosa	Brook Floater (Swollen Wedgemussel)	Endangered		1996

Source: MA Natural Heritage and Endangered Species Program 2004

The Pied-Billed Grebe has only a small population in Massachusetts and lives in wetland habitats, which are not abundant in Tolland. Moreover, the last recorded observation of this species in Tolland was in 1934.

Brook Floater

Triangle and Brook Floaters live in small to mid-sized streams with moderate to slow flows. Once widespread throughout New England, Brook Floater populations have declined across Massachusetts in the last two decades (Division of Fisheries and Wildlife 2004). Pollution and alteration of stream habitats are the primary causes of endangerment. Triangle Floaters seem less sensitive to habitat pollution and change and are listed as a species of special concern (CT Department of Environmental Protection 2004).

Scenic Resources and Unique Environments

The Unique Features Map on page 10 shows that a large percentage of land area in Tolland is considered supporting natural landscape for the numerous plant and animal

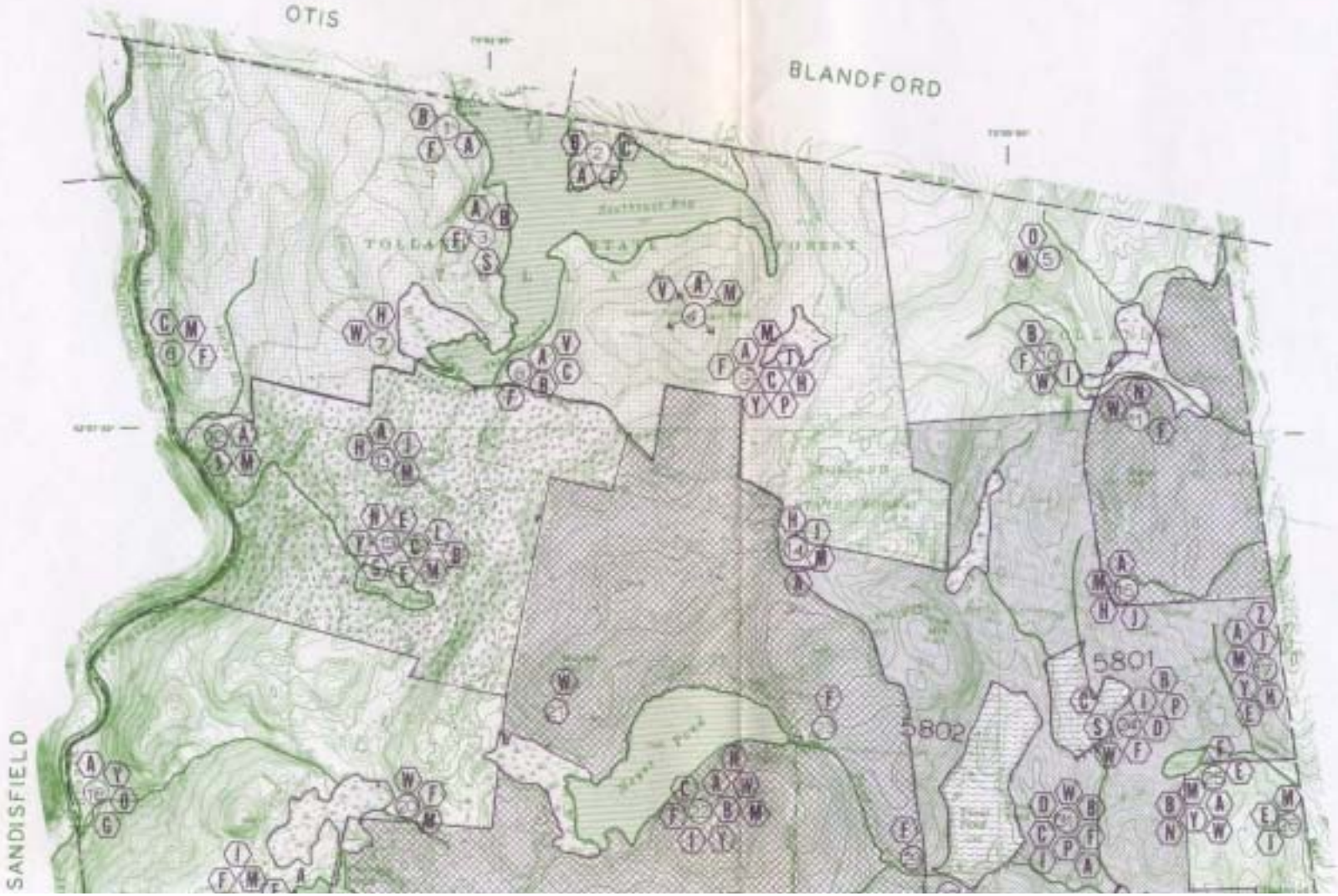
communities present. The map also locates important landmarks in town, including the village center and the historic church located there.

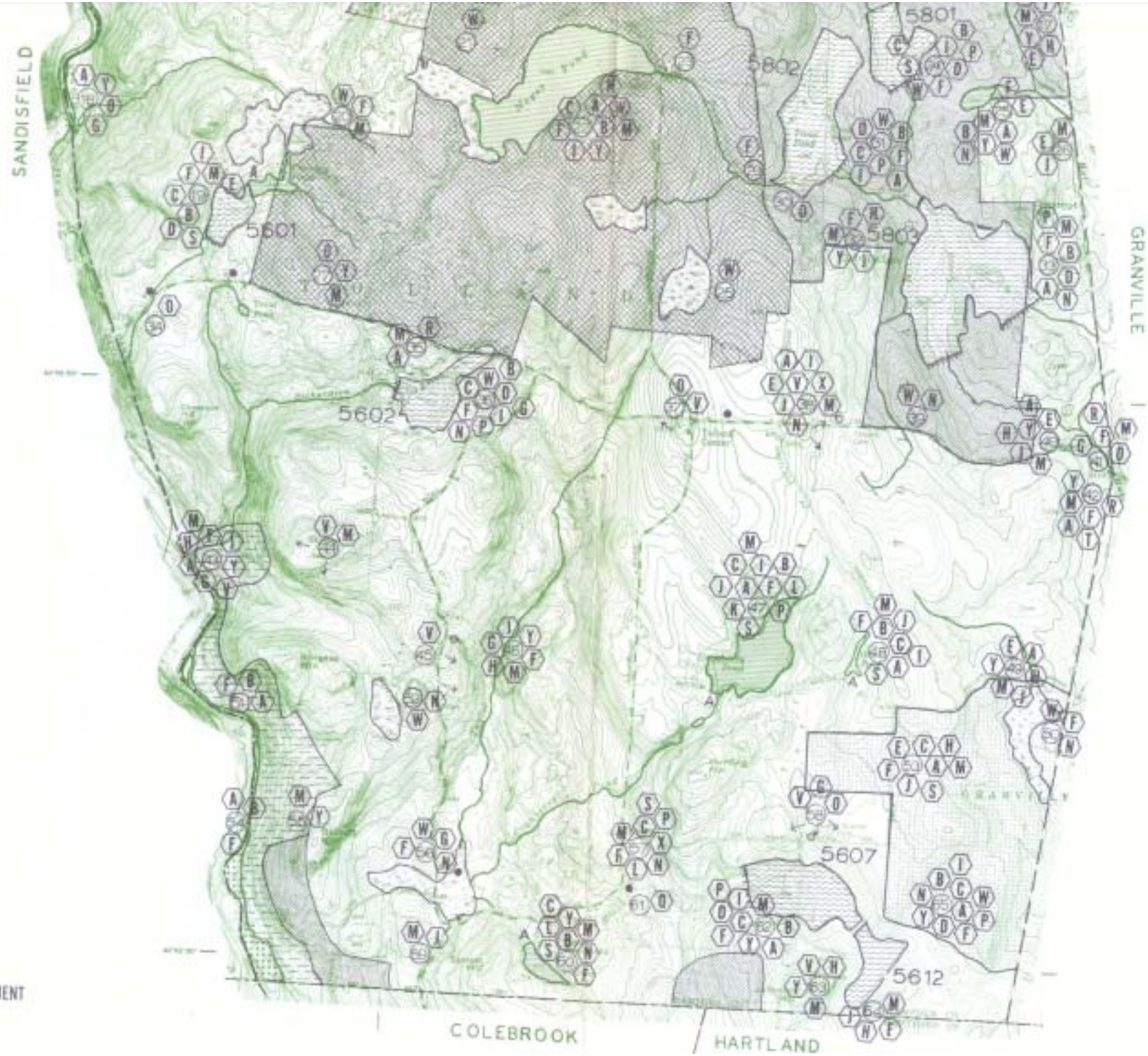
The 1975 Natural Resources Inventory Report for Tolland identified 65 sites of “natural resource potential” in Tolland. These sites included recreational, scenic and natural resources that already existed or could be developed, such as boat ramps, campsites, cemeteries, lookout towers and other existing features. The following pages contain the map that identifies those sites along with a list of the resources at each site.

NATURAL RESOURCE INVENTORY

TOWN OF TOLLAND

HAMPDEN COUNTY, MASSACHUSETTS





LEGEND

- ACCESS
- BOATING
- CAMPING
- IMPOUNDMENT
- BRIDLE TRAIL
- FISHING
- GREENBELT
- HUNTING
- SKATING
- SNOWMOBILING
- SKIING
- FIELD SPORTS
- HIKING
- NATURE STUDY
- HISTORICAL
- PICNICKING
- RECREATION AREA
- ROADSIDE REST
- SWIMMING
- TOWN FOREST
- VISTA OR →
- WILDLIFE
- PLAYGROUND
- WOODLAND MANAGEMENT
- GEOLOGY STUDY
- INVENTORY SITE

MAP PREPARED BY

1975 Natural Resources Inventory Map Legend

Site #	Description	Existing Resources	Potential Resources
1	Otis Reservoir Boat Access	A, F, B	
2	Driftwood Shores (cottages)	C, A, B, F	
3	Otis Reservoir	A, B, F, S	
4	Lair Mountain Lookout Tower	A, M, V (360°)	
5	Amos Case Road Cemetery	M, O	
6	Trail and Tent Site along West Branch Farmington River	M, C, F	
7	Dismal Bay Swamp		W, H
8	The Narrows at Otis Reservoir	V, A, F, B	
9	Tolland State Forest	M, A, J, Y, C, P, H, F	
10	Old Pond Site	W, F	F, B, I
11	Marsh on Ripley Rock	W, F	W, N
12	Access to pipeline right-of-way	A	M, J, A
13	Access to pipeline right-of-way	A	M, J, A, H
14	Access to pipeline right-of-way	A	M, J, A, H
15	Timber Trails – CT Valley Girl Scouts	C, L, M, F, S, E, B, N	Y
16	Access to pipeline right-of-way	A	M, J, A, H
17	Blandford Road Extension	M, J, E, H, A	Z, Y
18	Hulls Tannery	O	A, G, Y
19	Twining Pond and Potential Impoundment Site	B, F, E	B, F, I, S, C, M, D
20	Twining Brook Swamp	W	W. F, M
21	Noyes Pond Swamp	W	W
22	Noyes Pond and Tunxis Club	A, B, F, I, C, M, H	Y, W
23	Tunxis Clubhouse and Trout Pond	F	
24	Potential Impoundment	W	B, F, C, I, P, S, D
25	Hall Pond	A, F, B, M	W, Y, N
26	Potter Road	M	J, E
27	Twining Cemetery	O, M, Y	
28	Hardwood Swamp	W	W
29	Small Trout Pond	F	
30	Old Canal and Mill Remains	O	
31	Potential Impoundment	F, B, I, W, A	P, C, D
32	Hartford MDC Land	F, H, M, J, Y	
33	Potential Impoundment	F, M	A, B, F, N, P, D
34	Twining Brook Mill Foundation & Rock	O	
35	Potential Road Side Rest Area		R, A, M
36	Potential Impoundment	F, W, N	D, I, B, F, P, C, G
37	Tolland Center and Monument	O, V	
38	Old School Playground View & Access	A, M, E, J, V, X	I, N
39	Marsh and Swamp off Rt. 57	W	W, N
40	Access to Woods Trail	A	M, J, E, Y, H

Resources Codes	
A	Access
B	Boating
C	Camping
D	Impoundment
E	Bridle Trail
F	Fishing
G	Greenbelt
H	Hunting
I	Skating
J	Snowmobiling
K	Skiing
L	Field Sports
M	Hiking
N	Nature Study
O	Historical
P	Picnicking
Q	Recreation Area
R	Roadside Rest Area
S	Swimming
T	Town Forest
V	Vista
W	Wildlife
X	Playground
Y	Woodland Management
Z	Geology

41	Hubbard River and Raceway and Old Mill Foundation	O, F	G, O, M, R
42	Town Owned Land off Rt. 57 and Access	F, T	R, A, M, Y
43	West Branch of Farmington River	F, M, V, A	G, H, Y, J
44	Skyland View off Burt Hill Rd.	M, V	
45	Burt Hill Road View	V	
46	Taylor Brook Greenbelt	F	G, M, Y, J, H
47	Wildwood at Cranberry Lake	S, J, P, L, C, I, F, M, K, B, A	
48	Otter Lake and Development	A, C, B, F, S, I, J, M	
49	Jeff Miller Road Access	A	M, J, E, Y, H
50	Swamp and Marsh off Miller Road	W, F	W, N
51	Old Route 8 Fishing Area	A, F, B	
52	Swamp and Beaver Flowage	W	W, N
53	Access to Granville State Forest	A, M, F, C, S, E, H, J	
54	Colebrook River Lake	A, B, F	
55	Hartford MDC Land		Y, M
56	Hardwood Swamp, Cranberry Pond Brook	F, W, N	W, N, G
57	Twin Brook Camping Area	C, P, L, M, X, S, F, N	
58	Old Mill Site and River Road View	V, O	G
59	Abandoned Section of Colebrook River Road		M, J
60	Camp Spruce Hill	L, B, C, S, M, F	N, Y
61	Old Gravel Pit		Q
62	Potential Impoundment	F, M	A, B, D, C, F, P, I, Y
63	Johnson Hill	M	Y, V, H
64	Lower Hartland Road	M, J, E, H, A	
65	Potential Impoundment	F, W	A, B, C, D, I, F, P, W, N, Y

More recent community surveys have shown that the Town Center, cemeteries and the many scenic views throughout town, particularly those associated with open fields, are still highly valued community resources.

Environmental Challenges

In general, a lack of detailed environmental and land use data makes it difficult to assess environmental challenges. This is concerning given that the greatest threats to the numerous natural resources in town are those stemming from development. The town is currently in the process of revising its zoning laws, an important step in protecting its scenic and undeveloped qualities. The Zoning Bylaw Review Committee is aware of the community's interest in backlot development, which can be a helpful means for preserving scenic resources.

In the 1997 Farmington River Watershed Action Plan, the land along the river in Tolland was lauded as the "most pristine" and "best protected" of the entire Massachusetts section of the watershed. However, concerns over water pollution from road salt use within the watershed prompted a study in 2002. There is little available data to indicate whether road salt poses a major challenge for Tolland.

Finally, given the outstanding forest and water resources in Tolland, threats from invasive species, insects and diseases constantly pose a challenge. Monitoring forest and water quality and encouraging proactive resource management by landowners are of the utmost importance in maintaining these resources.

SECTION 5 - Inventory of Lands of Conservation and Recreation Interest

Introduction

This section describes open space parcels in Tolland that are important for their recreational and aesthetic values. Undeveloped, or open lands help maintain the rural and remote qualities that are treasured by residents and visitors. This section is divided between publicly and privately owned lands. Information on ownership, management, recreation potential, degree of protection, public access and zoning for each parcel identified as open space is presented. An Open Space Inventory Map is provided on the following page. Protected lands are lands that have been committed through legal restrictions to conservation purposes. Such restrictions may be permanent or "in perpetuity," or they may expire. Generally, lands owned by water departments, conservation commissions, agencies of the Massachusetts Executive Office of Environmental Affairs (EOEA), the National Park Service and the Forest Service are legally protected. Not all publicly held lands are protected, though.

Privately owned land may also be protected, as with lands held by non-profit conservation organizations that have restrictions placed on them. Chapter 61, 61A and 61B parcels, also privately held lands, benefit from special tax assessments in return for management as open space and/or recreational resources. This incentive-based protection is not permanent, as owners of these forested, agricultural or recreational properties can withdraw from the program. However, if a Chapter 61 property is put on the market, the town has the right of first refusal or can designate this right to a non-profit. Therefore, it is important to maintain an accurate inventory of these properties.

About 30% of Tolland's land area is owned by the Commonwealth of Massachusetts (Tolland and Granville State Forests) and the Metropolitan District Commission (MDC) of Connecticut (watershed protection area). These sizable public lands have a significant impact on Tolland's tax base, as the Payments In Lieu of Taxes (PILOT) program does not offer payments comparable to fair market value real estate taxes for these lands.

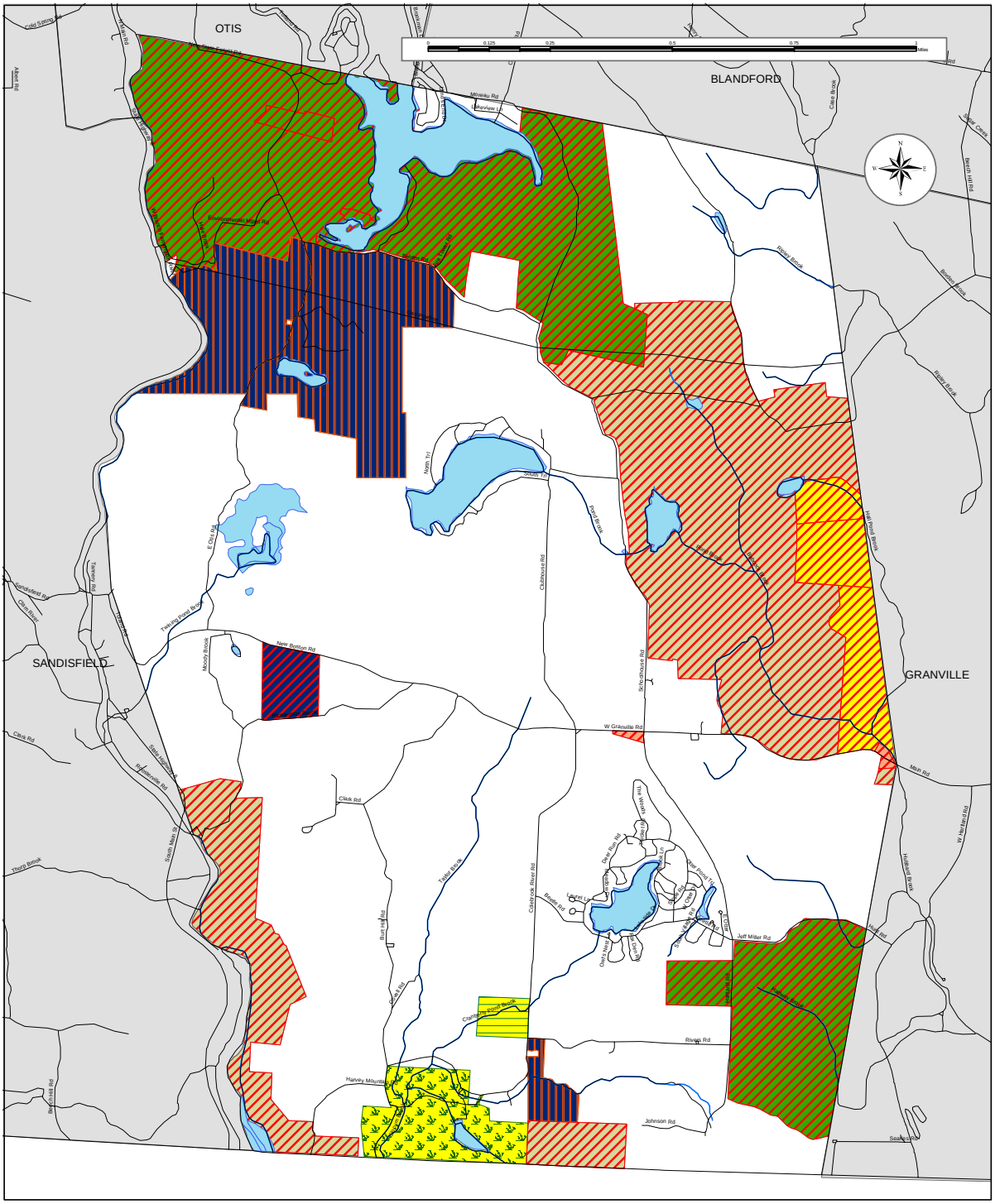
Tolland Assessors data from April 2003 and MassGIS were the sources for the following parcel information and maps:

Private Parcels

According to 1995 MassGIS data, there are approximately 810 acres of protected open lands owned by private interests. This represents only about 10% of the classified open space lands, and includes about 330 acres of recreational campground that as far as is known, is not permanently protected. Privately held open space lands in Tolland also include about 478 acres of Chapter 61 forested parcels of various sizes. More than 80% of the Chapter 61 land area is also permanently protected.

It is important to note that a private association in Tolland, the Tunxis Club, owns about 2,700 acres of predominantly open land. Most of this property is located around Noyes Pond, the shores of which are fully developed with 41 lots. Though not permanently protected, current association members are committed to maintaining the undeveloped portion of the Club's property as open space.

Open Space Plan
Town of Tolland, Massachusetts
Open Space Map


OTIS
BLANDFORD
SANDISFIELD
GRANVILLE
Miraway Rd
Clubhouse Rd
Schoolhouse Rd
W Granville Rd
Clark Rd
Jeff Miller Rd
Rivers Rd
Johnson Rd
Seal Rd
Harvey Mountain Rd
Twelfth Brook
Moody Brook
New Boston Rd
Twelfth Brook Rd
Celebrate River Rd
Beach Rd
Ring Brook
Bear Brook
Rivers Brook
Cable Brook
Bailey Brook
Beech Hill Rd
Mill Pond Brook
Hubbard Brook
W Hartland Rd
Mill Rd
Cold Spring Rd
Abbott Rd
Kilburn Rd
Sandfield Rd
Clark Rd
Fidelia Brook
Fidelia Rd
South Main St
Third Brook
Bartholomew Rd
Tolland Brook
Bear Hole Rd
Cobble Rd
Claytonville Brook
Cedar Rd
Cedar Hill Rd
Cedar Hill Ln
Cedar Hill Cir
Cedar Hill Pond
Cedar Hill Brook
Cedar Hill Trail

Public and Non-Profit Parcels

As was previously mentioned and is evident in the following chart, the MDC of Hartford, Connecticut and the Commonwealth of Massachusetts own significant portions of the conservation and recreation lands of Tolland.

Figure 4

Public and Non-Profit Protected Conservation and Recreation Lands

Site	Owner/ Manager	Ownership Type	Acres	Primary Purpose	Accessible to Public?	Degree of Protection
FARMINGTON RIVER WATERSHED	Metropolitan District Commission (Hartford)	Connecticut Quasi-Public Agency	2910.92	Water Supply Protection	Unknown	In perpetuity
TOLLAND STATE FOREST	DEM	State	2611.78	Recreation and Conservation	Public	In perpetuity
TIMBER TRAILS CAMP	CT Valley Girl Scouts of America	Private Non-profit	1152.04	Recreation (facilities based)	Private (members only)	None
GRANVILLE STATE FOREST	DEM	State	729.75	Recreation and Conservation	Public	In perpetuity
CLARK PROPERTY	MA Audubon Society	Private Non-profit	113.22	Conservation (non-facilities based activities)	None	In perpetuity
TWIN BROOK CAMPING AREA	Unknown	Private Non-profit	73.50	Recreation (facilities based)	Unknown	None
MUNICIPAL PROPERTY	Town of Tolland	Municipal	15.25	Conservation (non-facilities based activities)	Public	In perpetuity

The Tolland State Forest surrounds the Otis Reservoir and extends north into Otis. Recreational opportunities abound in this forest, from walking, mountain biking, skiing and picnicking to boating, fishing, camping and hunting. Campgrounds are located on a peninsula in the Reservoir near the border between Tolland and Otis, and have accessible restrooms (MA Division of State Parks and Recreation (DSPR) 2004). State forests are considered permanently protected.

The Granville Forest extends east into neighboring Granville. Recreational activities allowed in Granville State Forest include hiking, mountain biking, skiing, walking, fishing and hunting (DSPR). Additionally, there are campgrounds with shower facilities located on the Granville portion of the forest.

The MDC of Hartford is a quasi-public agency serving the water supply and water pollution control needs of Greater Hartford. It owns land in southwestern Tolland around its Colebrook Reservoir, and land on the eastern border with Granville. Some of the MDC lands are publicly accessible for walking, hiking, jogging and even hunting (MDC 2004).

Of particular note in the chart of protected public and non-profit lands is the small amount of municipally owned conservation and recreation lands: only 15 acres. While Tolland benefits from the recreational opportunities afforded by the large state-owned forests, it lacks any sizable locally controlled recreation and/or conservation areas.

SECTION 6 - Community Vision

Process

A team from The Environmental Institute developed a survey instrument, for use in the three towns designated in the contract that funded this project, based upon previous open space planning surveys and with input from the Town of Otis, in particular. The initial survey sought community opinions on important features in town, recreational opportunities and participation patterns, and directions for future open space and recreation needs. It was mailed to approximately half the households of Otis, Sandisfield and Tolland in the fall of 2003. However, a poor mailing list resulted in many undeliverable surveys that were subsequently returned. The Environmental Institute received a total of 54 responses from the initial survey, with only nine from Tolland.

After a meeting with the Open Space Planning Committee, a second survey, geared specifically to Tolland, was drafted in May 2004. The second survey was posted on the town's website, delivered to seasonal residents of all private associations in town, and made available at the Black Fly Festival and at the annual town meeting in June. The results of both surveys follow:

First Survey

9 respondents: 5 year-round, 2 seasonal, 2 unknown

Some of the features and issues that this small pool of respondents agreed are very important included: the small town, rural character of Tolland, scenic views, the quiet atmosphere, forested lands, and water quality. The issues that the majority of these residents considered not important included water-based recreational activities, children's play areas, sports fields, and skiing and ice-skating areas. Finally, certain recreational activities (aerobics, in-line skating, and hunting) showed very low to no participation by this survey sample.

Second Survey

Please refer to Appendix A for a blank questionnaire, and the complete results and analysis. As of June 23rd, 48 responses were received, 24 of which came from year-round residents, 21 from seasonal and 3 unknown. With 183 households, according to the 2000 Census, 48 responses represent approximately 26% of Tolland's households.

Half of the respondents are between the ages of 50 and 65, with about another 23% over 65, and 25% under 50.

Question 1. Important features in Tolland

The most important items among all respondents included forests, natural resource protection, and wildlife. However, among year-round residents who responded, scenic views and wildlife ranked as the most important, along with forests. Seasonal residents more strongly identified forests and natural resource protection as very important items.

Ninety-two percent of all respondents rated "rural, small town" as "important" or "very important," though seasonal residents tended to identify rural character as more important than did year-round residents.

Both groups indicated that organized recreation such as sports leagues or programs is relatively unimportant. Slightly more than half of all respondents, representing more seasonal than year-round residents, marked organized recreation as “not important.”

Year-round residents found municipal recreation land more important than seasonal residents, with 72% indicating that it was at least “important,” whereas 45% of seasonal residents marked it “not important.”

Overall, there was general consensus that Tolland’s small town character, forests, wildlife and other natural resources are important to its residents.

Question 2. Participation in various recreational activities
Almost all respondents indicated that they hike, walk, or run and swim at least occasionally. Seasonal residents swim more regularly than year-round residents, likely as a result of the location of most second homes on water bodies in town.

Among write-in responses, water-based activities such as fishing and some form of boating appeared several times.

In general, respondents appeared to favor individual-type recreational activities, as opposed to organized team or group activities.

Questions 3. & 4. Municipal recreational programs and facilities
A majority of seasonal-resident respondents did not answer these questions, so that the overall response rate was only about 50%.

However, a majority of year-round resident responses indicated that municipal facilities and programs are inadequate for all age groups. Several people wrote in that there are no programs or facilities, and that some are needed.

Question 5. Support for town actions
Year-round and seasonal residents uniformly support the pursuit of outside funding for the purchase of open space (96% of all respondents, 81% strongly so).

While there was general support for the purchase of conservation and recreation lands, year-round residents favored recreation lands over conservation lands. This was not the case with seasonal residents. Also, seasonal residents much more strongly supported the purchase of conservation lands than did year-round residents (71% vs. 46%).

Seasonal residents were also much more supportive of revising the town’s zoning by-laws; 67% “strongly support” that action, while 33% “support” it. Only 46% of year-round residents “strongly support” and 25% “support” changing the zoning bylaws. Nonetheless, a majority of both groups support zoning by-law revision. The Zoning By-Law Review Committee may want to gauge more specifically what changes residents would like.

None of the actions listed in the survey received a majority of responses indicating that respondents would not support it. This was true for overall, year-round and seasonal residents. Since all of the actions listed involved protecting open space either by municipal or private purchase or through restrictions and regulations, this signifies a general willingness to protect open space.

Question 6. Resources in need of protection
Almost a quarter of all respondents listed some aspect of the Town Center, whether the common, library, carriage houses, church or adjacent property, as a resource in need of protection.

Other features listed by several respondents included farmlands or open fields, forest land, water resources, and historic features such as old farmhouses and cemeteries.

Question 7. Most important issues in Tolland
Some form of concern over residential development, increases in population and the loss of rural character, resources and habitat constituted the most common response to this question.

Another important issue pointed out by at least seven respondents related to minimal or unequal zoning enforcement and property maintenance issues. Several answers indicated that inoperable vehicles and junk on some properties along Route 57 were of particular concern. This is an issue best addressed by the town through other forums than an open space plan. Nonetheless, the survey highlighted the importance of the issue.

Statement of Open Space and Recreation Goals
Based on a review of the draft open space plan and the preliminary results of the second survey, the committee discussed open space and recreation goals during a meeting on June 11, 2004. The committee was then sent a compilation and analysis of the second survey, and asked to consider whether any changes should be made to the list of objectives that resulted from the earlier meeting. The following goals were agreed upon. They aim to preserve the characteristics and sense of place that Tolland residents, both year-round and seasonal, cherish.

- Preserve the rural, small-town character of Tolland.
- Preserve the forests, waters, wildlife and other scenic and natural resources abundant in town.
- Pursue the protection of open space.
- Expand recreational opportunities.
- Identify parcels and property owners relevant to other open space and recreation goals.

Thus, the open space planning process should develop an agenda for exploring and determining appropriate mechanisms the town can employ in protecting its rural, scenic and natural resources.

SECTION 7 - Analysis of Needs

Summary of Resource Protection Needs

The forests, ponds, streams and wildlife of Tolland are outstanding resources that not only lend the town its scenic and rural character, but also provide ample recreational opportunities to residents and visitors alike. Some of the greatest threats to these resources include fragmentation of habitat. Regardless of whether forests are divided for immediate development, the break-up of large tracts of forested land is cause for concern over the future protection of core habitat areas and supporting natural landscapes. Fragmentation also limits potential greenway, or wildlife corridor development. Connections between the large blocks of state or quasi-publicly owned and protected land in Tolland that facilitate wildlife movement and recreational opportunities can be hampered by fragmentation and development.

Moreover, loss of large open fields and large tracts of forest threatens the scenic resources of Tolland. This is particularly true as the population of Tolland ages, and properties change hands. Next generation owners may or may not have an interest in maintaining properties as they currently stand. The large amount of open land owned by the Tunxis Club, while generally accepted to be protected, has no legal protections on it. Therefore, the town must remain aware of any potential changes with those properties.

Non-point source pollution poses further threats to the resources of Tolland. Pollution from runoff can carry toxic materials and sediments that impact aquatic life. Eutrophication of Tolland's ponds, especially those flanked by developed cottages and seasonal homes, as well as pollution from road salt and erosion around construction sites are of particular concern.

Finally, insects, diseases, and invasive species can pose significant danger to the town's vegetative and wildlife resources. For example, the Hemlock Woolly Adelgid and Beech Scale Fungus can dramatically alter the landscape by changing the composition of Tolland's abundant forestland.

Summary of Community's Needs

The community needs to guide future development carefully. In order to do this, further studies may be warranted. For example, a comprehensive land use plan could help the Zoning Bylaw Review Committee make recommendations for amendments to direct and control future development in accordance with well-defined community objectives. Certain forms of development could negatively impact the community's rural character; e.g. any exits off of Interstate 90 in the general region could bring unwanted commercial and residential development as the Springfield metropolitan area expands.

Steps to protect the town from these impacts should be taken.

A dearth of municipal land severely limits the potential for recreational field development, parks and playgrounds. Even holding a town gathering, such as the annual Black Fly Festival, requires use of private land. The open space survey showed that year-round residents feel a need for recreational areas and programming. This is challenging for a small community, where it can be difficult to obtain a critical mass of participants. A community gathering place, small park, field or playground area could facilitate more community involvement in recreational activities. While there is much open land, there is limited access to it for recreational purposes. Access is particularly important in a town that owns so little land of its own - only about 15 acres.

Another important community need is access to Tolland's ponds, streams, forests and scenic area. Noyes Pond is a Great Pond with public boating access to the water; however, its beach area is open only to members of the Tunxis Club. Private ownership of other boat ramps and access points to fishable and swimmable waterways prevents some from taking advantage of the full range of opportunities available in town. Ensuring access for the disabled is another need that can be challenging for a small community to meet. Please refer to Appendix C of this plan for an evaluation of the town's compliance with the Americans with Disabilities Act.

Surveys have also revealed community concerns over zoning enforcement and clean up of properties containing inoperable cars and junk, as well as pollution concerns. Finally, concerns over increasing taxes were also expressed.

Management Needs, Potential Change of Use

As Tolland strives to maintain its rural character while providing ample opportunity to its citizens and visitors to participate in a variety of outdoor activities, it needs to consider adding to its municipal lands. Whether municipal property is used for recreational developments, such as fields or parks, or simply protected from development and maintained in a natural state, it can guarantee access to important scenic and natural resources and recreational opportunities. The Marie Whitney property in the Town Center has been identified by the Open Space Committee as valuable for its scenic quality, as well as for town events and gatherings. Furthermore, both surveys and the committee have made clear that improvements and active maintenance of the landscape along Route 57 is a need that should be addressed.

While the private camps located in Tolland are more or less protected from development, it is important for the town to build relationships with owners and managers. The town should adopt a system, whether formal or informal, for tracking private lands of significant size and value in order to be able to act quickly to preserve or protect resources that may face a change in ownership or use.

The Town should also consider building relations with regional land trusts and conservancy agencies, or fostering the creation of a local land trust. A strong relationship with a local land trust could allow the town to protect resources without having to acquire them outright.

SECTION 8 - Goals and Objectives

The committee narrowed its goals and objectives to the following list of three primary objectives. As this is Tolland's first open space plan, the objectives are broad; however, they are founded upon the community's desire to protect the resources that make it unique. Committee discussions regarding the results of the Tolland Open Space Survey, and reviews of drafts of this plan generated these objectives.

- Preserve and maintain the Town Center.
  - Designate an existing or establish a new board, commission or committee to oversee implementation of this objective and others.
  - Explore funding mechanisms to assist in historic property maintenance and preservation.
  - Approach relevant property owners to determine appropriate means of preservation.

- Preserve the town's rural character.
  - Protect the character of the landscape along primary roads in town.
  - Approach owners of large parcels to determine their long-term objectives.
  - Investigate acquisition funding and grants, conservation restrictions, land trusts, and other conservation mechanisms.

- Develop and expand recreational areas and programs.
  - Monitor and pursue opportunities to acquire open space for recreational purposes, as they arise.
  - Support recreational programming in town, through existing or new boards and commissions.
  - Ensure recreational programming and areas are accessible to the disabled.

SECTION 9 - Five-Year Action Plan

The five-year action plan provides a schedule for the actions that stem from this plan's goals and objectives. Because the committee largely responsible for this plan was an ad hoc committee, and it was unclear which board, commission or committee would become responsible for its implementation, the action plan does not list responsible parties. Therefore, the first action to be taken as a result of this plan is to designate an existing, or establish a new, board, commission or committee to oversee implementation of this plan. Once a commission is officially designated, it will be responsible for coordinating relevant bodies and interested citizens in taking the following actions.

Goal: Preserve and maintain the Town Center

Objectives	Actions	Schedule
Explore funding mechanisms to assist in historic property maintenance and preservation.	Identify relevant properties.	Begin in 2004, but ongoing
	Approach owners to determine needs.	
	Research and apply for grants, loans and other funding programs for historic preservation.	
	Disseminate information to private property owners and assist in their pursuit of funding.	
	Pursue any relevant municipal grant opportunities that may be identified.	

Goal: Preserve the town's rural character

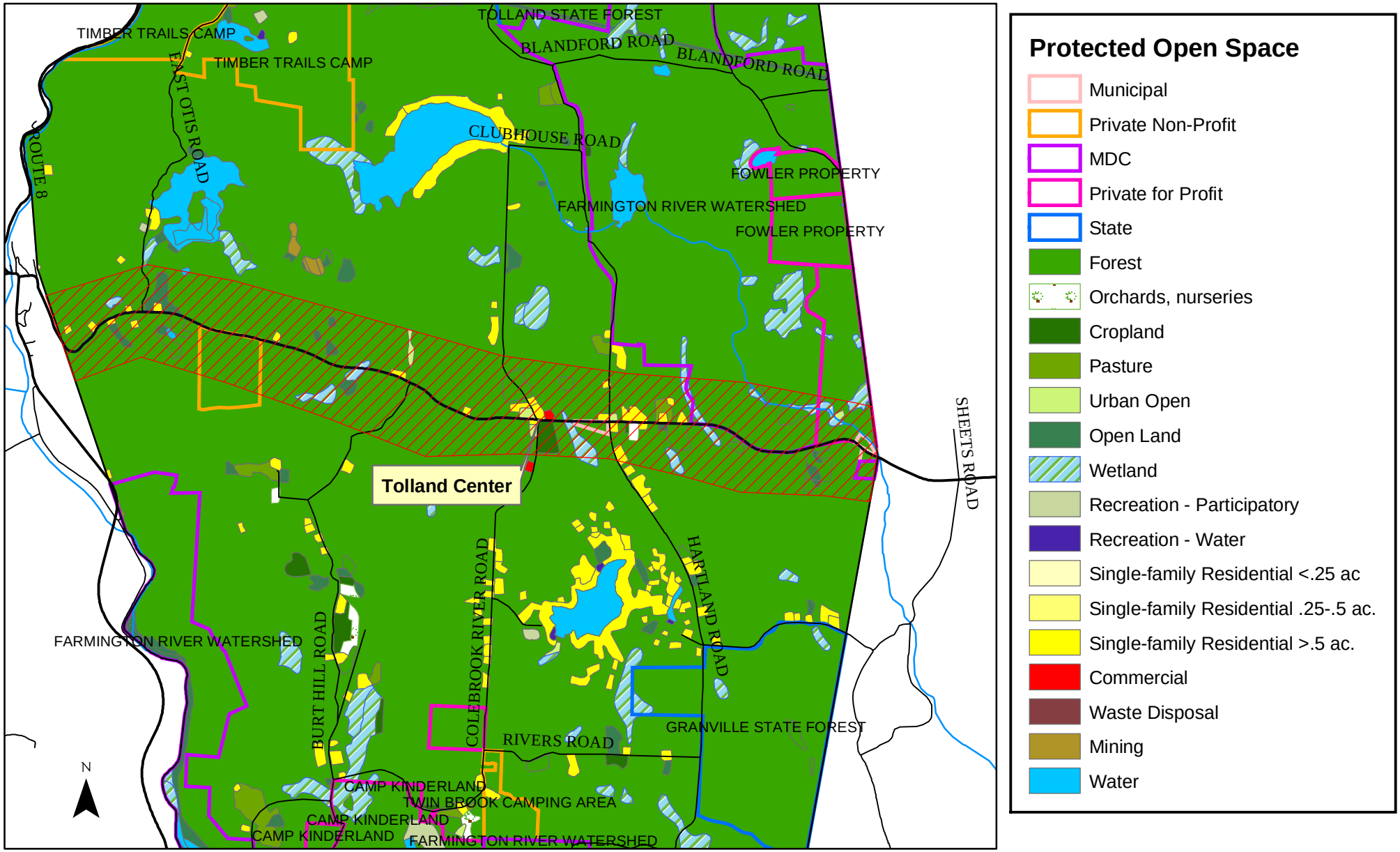
Objectives	Actions	Schedule
Protect the character of the landscape along primary roads in town.	Identify specific threats along Route 57.	2004-05
	Identify and pursue relevant regulatory and enforcement changes to protect Route 57.	2004-05
	Identify priority areas in addition to Route 57.	2005-06
	Identify specific threats in other priority areas.	2005-06
	Identify and pursue relevant regulatory and enforcement changes to protect other priority areas.	2005-06
Approach owners of large parcels to determine their long-term objectives.	Outreach to priority area property owners to explain purposes of inquiries and open space goals.	Ongoing
	Contact identified property owners along Route 57.	2004-05
	Contact identified owners in other priority areas.	2005, ongoing
Investigate acquisition funding and grants, conservation restrictions, land trusts, and other conservation mechanisms.	Identify and contact regional land trusts.	Ongoing
	Enlist the aid of relevant agencies, such as the EOEA, the Pioneer Valley Planning Commission, and land trusts in researching grant opportunities.	Ongoing

Goal: Develop and expand recreational areas and programs

Objectives	Actions	Schedule
Monitor and pursue opportunities to acquire open space for recreational purposes, as they arise.	Develop an inventory of lands of interest.	2005, ongoing
	Establish a process for periodic review.	
	Approach relevant property owners.	
Support recreational programming in town, through existing or new boards and commissions.	Identify agencies such as Council on Aging, a recreation commission, parents groups, clubs and associations to facilitate recreational programming.	2005-06
	Prioritize recreational needs: for which age groups, what types of activities, etc.	2006-07
	Pursue establishment of high priority programs.	2007-08

Appendices C and D of this plan are included to assist in achieving these goals. Appendix C provides a list of land trusts and nonprofit organizations that should be investigated and contacted for further information on grants and other funding opportunities. Appendix D provides valuable information from the MA Division of Conservation Services on legal and regulatory means of protecting lands, how to approach current landowners, and state programs that can help protect resources. These resources can serve as guide for when the designated committee begins the work of implementing this plan.

Tolland Five-Year Action Plan Map



Source: MassGIS

Land along Route 57, marked in red hatch, indicates the priority area in which the open space committee will focus attention over the next five years. Significant parcels will be identified and owners approached for possible conservation and acquisition measures.

SECTION 10 – Public Comments

Letters of review to be added here.

SECTION 11 – References

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APPENDIX A – Survey Results

Town of Tolland Open Space and Recreation Survey

The Tolland Board of Selectmen and the Environmental Institute at the University of Massachusetts are surveying residents to identify community concerns with open space and recreational opportunities. The results of this survey will help the town draft its first Open Space and Recreation Plan. A locally adopted Open Space Plan helps guide decisions regarding natural resources protection and recreation needs. An adopted plan also makes the town eligible for certain grants and funding opportunities.

Because citizen participation is a key component of open space planning, we have revised a previously mailed survey to obtain further responses. Your input is needed to ensure that an adequate Open Space and Recreation Plan is developed and adopted. Please take a few minutes to complete the following form, and return it in the self-addressed stamped envelope provided, *by June 20th*. If you have any questions, please contact Rebecca Augur at 413-545-0930, or via e-mail at raugur@larp.umass.edu. Thank you for your assistance.
****

1. How important are the following items to you? (Please check one for each item.)

	Very Important	Important	Not Important
Rural, small town character			
Sense of community			
Scenic views and/or land			
Agricultural lands/pastures			
Forests			
Wildlife			
Natural resources protection (ponds, streams, air, habitat, etc.)			
Farmington River			
Town-owned recreation areas (sports fields, playgrounds, parks, trails, swimming areas, skating areas, etc.)			
State-owned recreation areas			
Privately owned recreation areas			
Water-based recreational activities (boating, fishing, swimming, etc.)			
Hiking, biking, walking trails			
Organized recreational/athletic activities (sports leagues, programs, etc.)			
Cultural/art events			
Other (please specify):			
Other (please specify):			

2. How often do you or members of your household participate in the following activities in or near Tolland? (Please check one for each item.)

	Regularly	Occasionally	Never
Hiking, walking, running			
Swimming			
Biking			
In-line skating/skateboarding			
Skiing/snowboarding			
Ice-skating			
Hunting			
Athletic team activities			
Organized recreational activities (aerobics, yoga, other)			
Other (please specify):			

- Over -

3. Do current municipal recreational programs and facilities meet the needs of the following groups?
(Please respond to those that apply.)

Children	Φ Yes	Φ No
Teenagers	Φ Yes	Φ No
Adults	Φ Yes	Φ No
Seniors	Φ Yes	Φ No

4. If you answered no above, please specify what needs are unmet. _____
_____

5. Would you support the Town taking the following actions to preserve natural resources and promote recreational opportunities? (Please answer for each item.)

	Strongly Support	Support	Do Not Support
Purchase of conservation land			
Purchase of development rights			
Purchase of recreation land			
Pursuit of outside funding/grants for conservation/recreation land acquisition			
Encouraging/supporting community and regional land trusts			
Encouragement of conservation by non-profit organizations			
Encouragement of conservation by state agencies			
Changing zoning regulations to enhance open space protection			
Development of information campaigns about open space and recreation resources			

6. What unprotected natural, historic, and/or cultural resources in Tolland would you like preserved?
1. _____
2. _____
3. _____
4. _____

7. What are the most important issues, challenges or threats facing the Town of Tolland?
1. _____
2. _____
3. _____
4. _____

8. How old are you? Φ <18 Φ 18 - 24 Φ 25 - 35 Φ 35 - 50 Φ 50 - 65 Φ 65+

9. Are you a year-round resident of Tolland? Φ Yes Φ No

Return your completed form in the stamped and addressed envelope provided.
Or, mail it to:
The Environmental Institute
Blaisdell House, UMASS
310 Hicks Way
Amherst, MA 01003-9280

Thank you!

SUMMARY OF RESPONSES

# of Respondents

1. Importance of features	Very Important	Important	Not Important	No Answer
Rural, small town	34	10	1	3
Sense of community	30	13	1	4
Scenic views	40	7	0	1
Agricultural lands	28	14	5	1
Forests	41	6	0	1
Wildlife	38	9	0	1
Natural resource protection	41	5	0	2
Farmington River	26	16	3	3
Municipal recreation land	14	18	14	2
State recreation land	19	20	7	2
Private recreation land	15	14	17	2
Water recreation	28	11	6	3
Land recreation	31	12	4	1
Organized recreation	7	13	25	2
Cultural/arts	14	21	10	2
Other	Elimination of dumps on Rt. 57			
	Need a land trust			
	Protection of land from erosion			
	Keeping traffic down			
	Speed limits			
	New cemetery needs completion			
	ATV Trails			
	No snowmobiles			
	No ATVs			

2. Participation in activities	Regularly	Occasionally	Never	No Answer
Hiking, walking, running	39	8	0	1
Swimming	26	19	2	1
Biking	12	19	16	1
In-line skating	1	4	42	1
Skiing/snowboarding	10	15	22	1
Ice-skating	3	20	22	3
Hunting	8	5	33	2
Athletic teams	5	9	32	2
Organized recreation	7	5	35	1
Other	Snowshoe			
	Fishing (3)			
	Tennis (2)			
	Kayaking			
	Canoeing			
	ATV riding			
	Wildlife appreciation			
	Horses			

3. Adequate municipal programs and facilities?	Yes	No	No Answer
Children	8	18	22
Teenagers	5	20	23
Adults	11	17	20
Seniors	11	15	22

SUMMARY OF RESPONSES

4. Unmet needs
Being a senior with grown children, I'm not sure what can be done. Last year's yoga program, while laudable, was not vigorous enough for me. I've studied yoga for years.
Town has very few and very limited recreational programs.
I don't think there is anything for children. Maybe that's OK in a town our size.
Almost no facilities for the young - no ballfield, no playground, no town beach
No areas or facilities available to town residents
No community lands available. Nearest field in Granville. No outdoor activities for any age group.
There are no programs.
Hangout for kids, swimming lessons
Lived here 6 years, never seen or heard of any programs, especially for the teens.
There are no facilities or programs for any group.
No common place for people of all ages to go - even a simple park area, a few benches and swing set/playscape would be nice.
? Only a summer resident
Recreation for seniors and other age groups, meals on wheels, transportation. Help for seniors.
There are no municipal recreational programs & facilities for audlts & seniors.
More activities are needed.
There is nothing in town.
We have to go to Southwick for recreation sports for the children.

5. Level of support	Strongly Support	Support	Do Not Support	No Answer
Purchase of conservation land	27	15	6	0
Purchase of development rights	21	10	15	1
Purchase of recreation land	22	15	10	0
Pursuit of outside funding for land purchases	39	7	1	1
Encouraging community land trusts	28	18	1	0
Encouraging conservation by non-profits	30	11	5	1
Encouraging conservation by state	26	13	6	2
Changing zoning	28	13	7	0
Information campaigns	21	20	4	3

6. Unprotected resources would like preserved
Otis Reservoir
Forest lands and waterways
Marie Whitney property
Old cemeteries
Carriage sheds and hearse house in the center
Farmlands, old open fields
Grasslands and other wildlife habitat
Ridgelines
Forest lands
Center of town
Church, which should have a steeple
Would not like to see Tolland developed with anything commercial or anything like housing subdivisions
Village center and adjoining fields
Older houses and buildings (80+ years)
Views from Route 8 in CT
Open fields
Old country church
Historic agricultural sense of community
OCD Church
Population
Cemeteries
Old foundations of homes, etc.
Maple arches

SUMMARY OF RESPONSES

This is one of the few real "country" areas within reasonable distance of population centers - and so is VERY valuable and VERY vulnerable.
Ridge protected from building.
Natural springs
Old farm homesteads
Forest land
Drinking water/wells
All state land and waterways
None
Things are pretty good here now.
School House Road
Cemeteries
Town Common - library building
Land
The old farmsteads; open land
Farmington River
Farmland
Water quality in ponds/lakes
Trout fishery in streams, ponds, lakes
Church and town green
Historical sites
Open space
Church on town green and library
Farmington river corridor
Town green and surrounding areas.
All water resources: lakes, ponds & streams
Ridgelines
Forests
Wetlands
Waterways
Small town.
Undeveloped lands, including wetlands and waterways and the wildlife it supports.
Keep housing development slow
Keep out chain stores, large and small
Cell phone accessibility could be helpful - maybe a receiver on top of town hall?
"Downtown"
Land on the west side of Hartland Rd.

7. Important issues in Tolland
Maintaining rural character
Taking for granted part-time residents who cannot vote - especially on the budget.
Loss of large tracts of property that are broken up into building lots
Loss of wildlife habitat
Loss of identity
Funding for schools
Residential development
Cell tower development
Messy locations on Route 57. Dumps are an eyesore and detract from the community. This is the major issue, who would want to live here, based on coming to Tolland on Rt. 57 - appalling.
Fuel leaking from defunct cars and trucks
Zoning Enforcement
Trying to pay for the big spenders plans for the town.
Tax increases due to state funding dwindling
Revisiting zoning laws
Getting rid of the attorney for the town - he's useless
Requiring clean up of several yards on Rt. 57 - junk everywhere and in plain sight.
Potential residential use of every meadow
Only road frontage buildout, with no interior lots.

SUMMARY OF RESPONSES

Current zoning discourages backlot development
Large segment of population 2nd homes or retirees
No space available to residents for outside activities.
Trespassers - hunters, atvs, snowmobiles
Funding
Roads are poor
Police are limited
New developments
Old homes not kept up
Lack of planning for town development
Lack of enforcement of existing developmental laws
Development is coming - ready or not! I assume this survey is in recognition of this fact. Wonderful start. You can't stop development- but you can influence it.
Restricting development and space destruction
New housing/poor planning for water runoff
Land erosion
Contamination of springwater (new construction)
Wildlife being pushed out
Over development
Pollution
Low population and tax base.
No motor boats or houseboats on Noyes Pond.
Bears and moose
Over-population
Waste removal - need better system
Motor oil; hazardous waste removal
Too many new people
Overdevelopment
Higher taxes
School budget
Lack of equal enforcement of zoning violations
Unsightly property on Rt. 57 & elsewhere
Cronyism
Balancing tax base growth vs. conservation
Residential development
Year round vs. seasonal residents
Town management competency
Elected official term limits
Conflict of interest - town officials
Tax base
Over building
Increase in population
Political inbreeding
Lack of enforcement of zoning and health codes
Properties on Rt. 57 between New Boston and Tolland Center that are covered with garbage, debris and are generally looking horrific!! Owners couldn't care less - but the rest of us do!!
Control development by zoning bylaws
Clean up old cars, etc.
Culture of trash collection!
Inadequate zoning laws regarding junk cars, trash and garbage collection
Lack of zoning law enforcement
Clear cutting of building lots
Bacon strip development
Money.
Dumping, roadside & woodland clutter including municipal wastes (road repair leftovers, culvert pipes, down trees).
Unknown. Perhaps protection of locally owned businesses?
Overdevelopment
Development around wetland area.

SUMMARY OF RESPONSES

8. Age	<25	25-35	35-50	50-65	65+	N/A
	0	3	9	24	11	1

9. Year-round resident?	Yes	No	No Answer
	24	21	3

COMPARATIVE RESPONSES

1. Importance of features	ALL RESPONSES (%) Very Important	Important	Not Important	No Answer	YEAR-ROUND RESIDENTS (%) Very Important	Important	Not Important	No Answer	SEASONAL RESIDENTS (%) Very Important	Important	Not Important	No Answer
Rural, small town	71%	21%	2%	6%	58%	33%	0%	8%	86%	5%	5%	5%
Sense of community	63%	27%	2%	8%	63%	21%	4%	13%	67%	29%	0%	5%
Scenic views	83%	15%	0%	2%	79%	17%	0%	4%	86%	14%	0%	0%
Agricultural lands	58%	29%	10%	2%	63%	17%	17%	4%	52%	43%	5%	0%
Forests	85%	13%	0%	2%	79%	17%	0%	4%	90%	10%	0%	0%
Wildlife	79%	19%	0%	2%	75%	21%	0%	4%	81%	19%	0%	0%
Natural resource protection	85%	10%	0%	4%	75%	17%	0%	8%	95%	5%	0%	0%
Farmington River	54%	33%	6%	6%	46%	38%	8%	8%	71%	24%	5%	0%
Municipal recreation land	29%	38%	29%	4%	46%	25%	21%	8%	14%	43%	43%	0%
State recreation land	40%	42%	15%	4%	46%	29%	17%	8%	38%	48%	14%	0%
Private recreation land	31%	29%	35%	4%	17%	38%	38%	8%	43%	24%	33%	0%
Water recreation	58%	23%	13%	6%	50%	25%	17%	8%	67%	19%	10%	5%
Land recreation	65%	25%	8%	2%	54%	33%	8%	4%	71%	19%	10%	0%
Organized recreation	15%	28%	53%	4%	21%	25%	46%	8%	10%	25%	65%	0%
Cultural/arts	30%	45%	21%	4%	33%	42%	17%	8%	30%	40%	30%	0%

2. Participation in activities	Regularly	Occasion-ally	Never	No Answer	Regularly	Occasion-ally	Never	No Answer	Regularly	Occasion-ally	Never	No Answer
Hiking, walking, running	81%	17%	0%	2%	75%	21%	0%	4%	86%	14%	0%	0%
Swimming	54%	40%	4%	2%	29%	58%	8%	4%	81%	19%	0%	0%
Biking	25%	40%	33%	2%	21%	33%	42%	4%	29%	48%	24%	0%
In-line skating	2%	8%	88%	2%	0%	8%	88%	4%	0%	10%	90%	0%
Skiing/snowboarding	21%	31%	46%	2%	17%	21%	58%	4%	19%	48%	33%	0%
Ice-skating	6%	42%	46%	6%	0%	38%	58%	4%	10%	43%	38%	10%
Hunting	17%	10%	69%	4%	13%	8%	75%	4%	24%	10%	62%	5%
Athletic teams	10%	19%	67%	4%	17%	17%	58%	8%	0%	24%	76%	0%
Organized recreation	15%	10%	73%	2%	8%	17%	71%	4%	19%	5%	76%	0%

3. Adequate municipal programs and facilities?	Yes	No	No Answer	Yes	No	No Answer	Yes	No	No Answer
Children	17%	38%	46%	21%	58%	21%	14%	14%	71%
Teenagers	10%	42%	48%	13%	67%	21%	10%	14%	76%
Adults	23%	35%	42%	17%	58%	25%	29%	10%	62%
Seniors	23%	31%	46%	17%	54%	29%	24%	10%	67%

COMPARATIVE RESPONSES

5. Level of support	Strongly Support	Support	Do Not Support	No Answer	Strongly Support	Support	Do Not Support	No Answer	Strongly Support	Support	Do Not Support	No Answer
Purchase of conservation land	56%	31%	13%	0%	46%	38%	17%	0%	71%	19%	10%	0%
Purchase of development rights	45%	21%	32%	2%	30%	30%	35%	4%	62%	10%	29%	0%
Purchase of recreation land	47%	32%	21%	0%	48%	43%	9%	0%	48%	14%	38%	0%
Pursuit of outside funding for land purchases	81%	15%	2%	2%	83%	13%	4%	0%	76%	19%	0%	5%
Encouraging community land trusts	60%	38%	2%	0%	43%	52%	4%	0%	71%	29%	0%	0%
Encouraging conservation by non-profits	64%	23%	11%	2%	48%	26%	22%	4%	76%	24%	0%	0%
Encouraging conservation by state	55%	28%	13%	4%	39%	30%	22%	9%	71%	29%	0%	0%
Changing zoning	58%	27%	15%	0%	46%	25%	29%	0%	67%	33%	0%	0%
Information campaigns	44%	42%	8%	6%	42%	42%	13%	4%	43%	43%	5%	10%

APPENDIX B – ADA Self-Evaluation

(Forthcoming)

APPENDIX C – Land Trusts and NonProfit Organizations

Provided by the Division of Conservation Services, in the *Open Space Planner's Workbook.* The entire Workbook is available at http://www.mass.gov/envir/dcs/global/publications.htm

Land Trust Alliance
The Land Trust Alliance promotes voluntary land conservation across the country, provides resources, leadership, and training to the nation's 1,200-plus nonprofit, grassroots land trusts to help them protect important open spaces.

Land Trust Alliance
1331 H Street NW, Suite 400
Washington DC 20005-4734
202-638-4725
http://www.lta.org/

Massachusetts Land Trust Coalition
An informal association of Massachusetts land trusts and conservation organizations.
Massachusetts Land Trust Coalition
2 Clock Tower Place, Suite 500
Maynard, MA 01754
978-897-0739 phone
978-461-0322 fax
http://www.massland.org/

Other Environmental Organizations in Massachusetts

American Farmland Trust	http://www.farmland.org/
Association for the Preservation of Cape Cod	http://www.apcc.org/
Berkshire Natural Resources Council	http://www.bnrc.net/
Coalition for Buzzards Bay	http://www.savebuzzardsbay.org/
Environmental League of Massachusetts	http://www.environmentalleague.org/
Essex County Greenbelt Association	http://www.ecga.org/
Massachusetts Association of Conservation Commissions	http://www.maccweb.org/home.html
Massachusetts Audubon Society	http://www.massaudubon.org/
Nashoba Conservation Trust, Inc.	http://www.nashobatrust.org/
New England Forestry Foundation	http://www.neforestry.org/
Sudbury Valley Trustees	http://www.sudburyvalleytrustees.org/
The Trust for Public Land	http://www.tpl.org/
The Trustees of Reservations	http://www.thetrustees.org/
Valley Land Fund	http://www.valleylandfund.org/
Walden Woods Project	http://www.walden.org/
Wildlands Trust of Southeastern Massachusetts	http://www.wildlandstrust.org/

APPENDIX D – Land Protection Options

Provided by the Division of Conservation Services, in the *Open Space Planner's Workbook.* The entire Workbook is available at http://www.mass.gov/envir/dcs/global/publications.htm

Open space and resource protection is becoming increasingly complex - in terms of both the pressures impacting landowners and the many options available to protect land. Careful consideration and a creative approach are often required to determine the proper techniques, or combination of techniques, to be employed in each case. Some of the available options are described briefly below. This is intended as an overview only: binding decisions should not be made without first consulting the appropriate advisor - whether it be for financial, legal, or other reasons. State and local governments and nonprofit conservation groups are good sources of additional information and guidance.

General Tips for Approaching Landowners

1. Know why you want to protect it - To select the most appropriate protection strategy, it is important to know your objectives. For example, it may be determined that preservation of a specific viewshed and public pedestrian access are the primary objectives for a given tract. Having identified the objectives, you can explain to the landowners why you are interested in protecting their land. Determining the objectives also enables you to select the optimum strategy.

2. Know what the owners want - It is also essential to determine the desires and objectives of the property owners, and incorporate them into your proposed protection strategy. These concerns and desires may relate to numerous issues, including liquidating the equity that exists in the property; current or future tax burdens (including real estate, income and estate taxes); and family concerns regarding the future land uses on the property.

3. Know the property itself - It is also worthwhile to become familiar with the property before meeting with the owner. By demonstrating a sound knowledge of the physical characteristics of the property, you are likely to gain the respect of the landowner. Can you really expect landowners who consider their land significant and worthy of protection to be comfortable entrusting it to you if you aren't even familiar with its layout or resources?

4. Be prepared to suggest several options - Spend enough time studying the situation before contacting the owners to be prepared to suggest several possible approaches to them. Be able to explain the advantages to themselves and to the town of each option on the table.

5. Build trust and stay in touch - Once you are clear about your own objectives and the probable objectives of the landowners, it is time to approach them regarding protection of their land. At this point it is important to acknowledge the importance of trust in your relationship with the landowner. By demonstrating a knowledge and appreciation of the significance of their property, having a clear understanding of what they want to achieve, and a sound strategy to achieve it, a good foundation for trust is developed. By maintaining regular communication and monitoring specific circumstances affecting ownership and staying in touch over time, you can be properly positioned to react quickly if necessary. It is often at times of family distress or other need for property transfer that an opportunity to acquire, or otherwise protect, a parcel of critical importance exists. The existence of mutual trust often makes the difference between a successful or failed effort.

By taking the time to think through these issues ahead of time, and then discussing them with the landowners, you increase your chances of a successful encounter.

Specific Protection Techniques

The following is a brief description of several ways that you can meet your resource protection objectives. These descriptions are not intended to make you an expert in their use, but rather to familiarize you with some of the most important issues to consider in each.

Transfer of Title

This is the most traditional, simple and sure means of protecting a given tract: the fee-simple interest is purchased by, or donated to, someone who wants to preserve the property. Although there are numerous variations on the use of this technique, this section will address the three most common: donations, sales and transferring title subject to attached conditions.

Donation: An individual may give his land to the town or a nonprofit land trust; that is, donate the fee interest. This is also called a complete charitable transfer or outright gift. There are also

somewhat more complicated arrangements. The landowner may opt to donate the property subject to a life estate, which allows her to live on the property for the rest of her life. Or, she may decide instead to donate property while retaining certain rights in the land (removing firewood, having general access rights, or retaining rights to keep a particular view open). However, these restrictions may reduce property value, and thus the tax savings.

Advantages of a donation:
1. It's free! Sometimes, certain indirect costs, such as appraisal, title, survey, hazardous waste inspection, recording fees, etc., must be borne by the grantee. However, even in these cases, since there is no purchase price, precious acquisition funds can be saved for another effort.
2. Donations, particularly complete charitable transfers, generate maximum allowable tax savings for a given property transfer. It is worth proposing, though you may not know which landowners are in a financial position to benefit from the tax consequences of a donation. Each landowner will need to consult an attorney or accountant familiar with these tax laws. However, for those to whom it is beneficial, it is one of the best ways to obtain significant capital gains and estate tax savings.
3. Donations can become contagious within a given area. That is, as more conservation donations are made, more people become aware of the numerous benefits to the donor. The benefits to the receiver are obvious while the benefits to the giver often are not. The public recognition and appreciation for the donor's generosity and public-spiritedness can be significant. Some landowners may enjoy the idea of a public park bearing their name.

Sale: In real estate terms, sale is the transfer of ownership for a price. Groups involved in the acquisition and holding of land range from federal, state and local environmental agencies to certain nonprofit conservation groups and others. Funding sources include the sale of municipal bonds, dedicated annual funds, conservation trust funds, real estate transfer fees, grant programs and charitable contributions. While acquisition at market value is the most traditional type of sale, there are several creative alternatives to be considered.

Bargain Sale: This approach combines the partial donation of a property with the sale of it. A bargain sale occurs when a parcel is sold for less than its market value. The difference between the market value and the bargain sale price represents the amount of donation. There are two main advantages to this approach: the grantor receives income from the sale and also gains tax benefits from the reduced sale price. The grantor must obtain an appraisal that the IRS will accept, in order to receive the hill tax advantages of the bargain sale.

Advantages of Bargain Sale
1. Can be a "win/win' situation: landowner benefits from sale income and tax advantage, and town acquisition funds are conserved.
2. Minimizing the purchase price enhances the chances of a successful re-sale to another conservation group to ensure long-term protection.
3. May help to leverage additional bargain sales and outright gifts within a given neighborhood or region.

Transfer with Restrictions: This technique is often used when a landowner must sell the property but wants to govern the future use of the land. In this case, the owner may choose to attach various restrictions to the deed prior to the sale. These determine the activities that can and cannot take place on the land in the future. Although this may reduce market value of the parcel somewhat, and IRS tax benefits, the owner does gain income and achieve other objectives as well. Future owners are obligated to abide by the restrictions.

Limited Development: This technique involves the sale of a portion of a parcel of land for development to subsidize the protection of the rest. It is probably the most controversial, and risky, approach to land protection. However, in the right circumstances (a healthy market and insufficient acquisition funds), this tool may be used with very positive results. It works best where there is a portion of the parcel that is not environmentally sensitive and can be sold for carefully planned development. The following example may help illustrate limited development, and was successfully used by the towns of Harvard, Grafton and Westford:

A conservation group wants to preserve a parcel that contains endangered species in the rear portion. The owners are moving out of the area and the property is on the market. The asking price is more than the conservation group can come up with. However, they know of several buyers interested in house lots along the road. The conservation group buys the entire property, but immediately sells the road frontage lots (the most expensive part of the parcel), thereby needing to use less from their acquisition fund to protect the endangered species.

This technique can also be used when a landowner, perhaps a nonprofit land trust, faces unmanageable carrying costs for a parcel. In this case, the owner can identify an "insignificant" portion and sell it, reducing the carrying costs and providing funds to pay future costs. Although this points out why this technique sparks controversy, it can sometimes be the only way to avoid selling the entire parcel.

Advantages of Limited Development:
1. Can be the only way to afford to protect a parcel.
2. Good way to incorporate other community objectives, such as affordable housing, into the scheme.
3. Provides flexibility when developing a conservation strategy for a particular parcel.

Deed Restriction

Ownership of property in the United States encompasses numerous rights relating to the various uses of that property. The full array, or "bundle" of rights, is commonly referred to as the fee-simple interest or fee-simple estate. The granting of a restriction or easement is an example of a less-than-fee interest since both parties, the grantor and grantee, are holders of separate portions of the original bundle as a result of the conveyance. As described above, a deed restriction is a right-of-use that has been transferred to another party, so the owner is prevented from exercising one or more of the bundle of rights normally associated with a fee-simple estate. One form of deed restriction is a conservation restriction.

Often the terms restriction and easement are used interchangeably. However, many professionals in the fields of land and resource protection consider there to be a distinction. An easement is considered to involve a "positive" granting of rights or permitted uses. For example, a public access easement grants the right to use a trail; a construction easement grants the right to use a given area, generally adjacent to the permanent easement area, to facilitate construction within the permanent easement area; a utility easement grants the right to bury a gas line. A restriction is considered to be a "negative" granting of rights. For example, an agricultural preservation restriction gives away (or sells) the right to develop the land; a historic preservation restriction gives away or sells the right to modernize at will.

A conservation restriction (CR) is a legal document that embodies those limitations on land use that a landowner agrees to impose on his or her property in favor of a named grantee, not to undertake specified acts that they would presumably otherwise have the right to do. The restricted activities often involve the right to develop or subdivide the property. CRs are granted to Conservation Commissions and other government bodies, as well as to non-profit land trusts and conservation groups. In turn, these entities (grantees of CRs) agree to monitor and enforce the terms of the CR.

The scope and nature of the CR is very flexible, allowing for "custom tailoring," based on the particulars of a specific property and the desires of the landowners, to ensure an identified conservation objective. The restrictions are generally in perpetuity (forever), and consequently are recorded at the Registry of Deeds. The restriction becomes attached to the title, which remains with the landowner (grantor). Anyone who purchases this title (the property) in the future automatically becomes subject to the same set of restrictions. CR's are authorized in Chapter 184, Sec. 31-33, of Massachusetts General Laws and those held by land trusts and municipalities must be approved by the Secretary of Environmental Affairs. Be certain to get adequate legal guidance in drafting your CRs.

Since CRs are usually forever, it is important to identify things that could happen in the future and prepare for them. It is largely the anticipation of impacts in the future that determines the

effectiveness of the CR to protect the property. In other words, if the Town receives the CR, but files the document away, doesn't map the location of the property, and doesn't pay attention when new landowners violate the conditions of the restriction, the CR is ineffective. Inspection and enforcement are essential and are the responsibility of the grantee. Or, if a small nonprofit land trust receives the CR and no successor is named, what will happen to the property if the land trust goes out of business in 10 years?

A CR can be structured in various ways. They range from a very simple, one-page document to an enormously complex, multi-party “instrument”. Fortunately, most fall somewhere in-between. The following is provided as a very general guide to some essential elements of CRs:

1. Grantor's Clause - states who parties are.
2. Legal Description of Property
3. Statement of Purpose(s) and Objectives(s)
4. Listing of Prohibited Uses
    a) to ensure conservation objectives
    b) whatever is NOT prohibited is assumed to be allowed.
5. Reserved Rights (Permitted Uses)
    a) to the grantor or a third party
6. Monitoring and Compliance
    a) This is critical. Access to the property by the grantee for monitoring on a regular basis is essential. Enforcement of the terms, as a result of regular monitoring, becomes the "teeth" of the restriction.
7. IRS-required clauses, if applicable
8. Signatures
    a) Co-holding (more than one grantee) is often a good idea to share the responsibility of monitoring and enforcement. However, coordination between co-holders needs to be maintained over time to ensure that these important duties are carried out fully and consistently. A successor grantee is also a good idea, especially if a nonprofit is the grantee - to be prepared if something happens to the nonprofit.
    b) Includes acceptance and approval
9. Subordination clause, if applicable
10. Exhibits, if applicable

For a more detailed description of conservation restriction format and construction, please refer to The Massachusetts Conservation Restriction Handbook, EOEA Division of Conservation Services, 2001, or The Conservation Easement Handbook, by Thomas S. Barrett and Janet Diehl, Land Trust Exchange and Trust for Public Lands, 1988, as revised by Model Conservation Easement and Historic Preservation Easement, 1996, by Thomas S. Barrett and Stefan Nageel, Land Trust Alliance.

The advantages of using a CR include:
1. They are often flexible enough to incorporate many desires and concerns of both the grantor and the grantee.
2. The title remains with the landowner (grantor). This allows for continued use of the land within the restriction called out in the document.
3. They can be donated - a definite advantage to the grantee and there is usually a tax benefit to the grantor.
4. The purchase price (if not donated) to the grantee is less than the fee-simple interest for a given parcel. The value (cost) of the CR being the difference between the value of the property without the restriction and its value with the restriction.
5. The municipal tax assessor may endorse a lower evaluation (and hence, tax assessment) for a property that is subject to a CR. Unfortunately, this is not done consistently across the Commonwealth.

Another useful resource for is the Land Conservation Options: A Guide for Massachusetts Landowners, by Essex County Greenbelt and The Trustees of Reservations, June 1998.

State Programs that Help Protect Resource Areas

Wetlands Conservancy Program

Formerly the Wetlands Restriction Program, this program has been changed to reflect the policy of no net loss of wetlands. The goal is to map all the state's wetlands, register them, and place land-use limitations on all of them, allowing only those activities that do not harm wetlands functions. The end product of the program is a permanent restriction order that is recorded at the Registry of Deeds and applies to the land regardless of ownership changes. The statewide program is implemented on a town-by-town basis, and is expected to take a few more years to complete. For more information, contact the Wetlands Conservancy Program, Division of Wetlands and Waterways, Department of Environmental Protection, I Winter Street, Boston, MA 02108 – (617) 292-5908.

Areas of Critical Environmental Concern Program

The purpose of the Areas of Critical Environmental Concern (ACEC) program is to identify and protect critical resource areas throughout the Commonwealth. There are several categories of resources that can be included in an ACEC, ranging from wetlands and wildlife habitats to farmland and scenic landscapes. The program works through a nomination, review and designation process that can be initiated by municipal boards and commissions. An ACEC designation directs state environmental agencies to administer programs and review projects under their jurisdiction to protect and preserve the resources of the ACEC. A designation is intended to complement local zoning and actions, and create a planning and management framework for long-term resource preservation. A brochure describing the program is available. For further information, contact (for coastal areas) Coastal ACEC Program, Office of Coastal Zone Management, 251 Causeway Street, Boston, MA 02114, (617) 626-1200; (for inland areas) Inland ACEC Program, contact the Department of Environmental Management, Division of Resource Conservation, 136 Damon Road Northampton, MA 01060 or call at 413-586-8706 ext. 21, or visit online at http://www.state.ma.us/dem/programs/acec.

Massachusetts Endangered Species Act

The act does two principal things:

1. Prohibits "taking" of any listed rare plants and animals (vertebrates and invertebrates) unless specifically permitted for scientific, educational or propagation purposes.
2. Protects designated "significant habitats". Significant habitat can be designated for endangered or threatened species populations after a public hearing process. Once designated, any alterations of significant habitat will, in most cases, require a permit from the Department of Fisheries, Wildlife and Environmental Law Enforcement. For more information, contact Division of Fisheries, Massachusetts Natural Heritage and Endangered Species Program, North Drive, Westborough, MA 01581, (508) 792-7821, or http://www.state.ma.us/dfwele/nhesp/heritage.