

# NORWELL

**OPEN SPACE & RECREATION PLAN**

**2012 • 2019**

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## OPEN SPACE & RECREATION PLAN 2012 • 2019

A Seven Year Plan Prepared by the  
Norwell Open Space and Recreation Committee  
for the Norwell Conservation Commission  
Norwell, Massachusetts  
November 2012

## DEDICATION

This Plan is dedicated to Eleanor Norris to commemorate her 100th birthday, which the Town celebrated in December 2011. Eleanor had the foresight to preserve what is now the Albert F. Norris Reservation, better known as Norris Reservation, along the tidal North River. Her conservation vision has affected and inspired nearly every person in the Town for almost a half century, as the Reservation is a favorite destination in Norwell. The Reservation is managed by The Trustees of Reservations to ensure the property remains a conservation land open to the public in perpetuity. We thank the Eleanor for her generous gift that will inspire generations to follow.

Another favorite destination in Town is Black Pond Bog, which is celebrating its 50th anniversary in 2012. The Nature Conservancy made this unique ecological area its first land acquisition in Massachusetts. We celebrate the vision of Captain Bill Vinal, along with Town representatives and The Nature Conservancy, who played instrumental roles in preserving the Bog, and Wes Osborne, whose ongoing care of the bog helps maintain and preserve this unique conservation land.



*"I hope I did some good for the Town."*

*—Eleanor Norris (1911-2012)*

*Photo above: Eleanor Norris celebrating her 95th birthday by Anonymous 2006*

*Photo left: Eleanor Norris tours Norris Reservation, Autumn 2012 by W.D. Grafton III*

*Cover photo: Norris Reservation Boathouse and visitors by Judy Enright*

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 Bond Printing Co, Inc.: Plan Printing  
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The current Plan Committee would like to recognize the contributors whose work on the last major Open Space and Recreation Plan revision in 2005 was instrumental in laying the foundation for the 2012 Plan.

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“Unless someone like you  
 cares a whole awful lot,  
 nothing is going to get  
 better. It’s not.”

— Dr. Seuss, *The Lorax*

Photo above: Lady Slippers in Stetson Meadows by Cary Wolinsky

# 1 PLAN EXECUTIVE SUMMARY

Located adjacent to the magnificent North River, the Norris Reservation provides a 129-acre sanctuary for Norwell residents and visitors from neighboring communities. For some, it is a place to walk, hike, watch for wildlife and birds, or simply escape into Nature. For others, it is a place to run, walk the dog and exercise. For still others, a place to fish. Countless Norwell residents have enjoyed and benefited from Norris Reservation since it was created in 1970 and many more will do so long into the future.

Albert and Eleanor Norris gifted the cornerstone property within the Norris Reservation complex. It was the first of several properties gifted to The Trustees of Reservations. Today, the Reservation contains more than two miles of walking trails providing scenic water views and the presence of well-established forests. The Reservation offers a pond for fishing, a boardwalk over the Second Herring Brook and a boat house for quiet respites overlooking the North River. This is all thanks to what the Norris family started back in 1970.

The type of forward-thinking and conservation planning that led to the creation of Norwell's open space "crown jewel"—Norris Reservation—is needed today more than ever. Just as with Norris Reservation, it takes a collaborative effort—generous, committed, involved citizens, volunteers and local businesses, dedicated public servants, and visionary public interest organizations—all of which are abundant in and around Norwell. As a Town, we have what it takes to create and enhance more conservation and recreation "jewels"; more Norris Reservations.

The 2012 Norwell Open Space and Recreation Plan (the 2012 Plan) is an effort to do exactly that. It is a seven-year planning document developed in conformance with the 2012 requirements of the Massachusetts Executive Office of Environmental Affairs. The 2012 Plan builds on Norwell's previous Plans (1977, 1987, 1997, 2005 and 2010). Major Plan revisions were undertaken in 2005. The overall goals and objectives of the 2012 Plan remain consistent with previous plans, as well as with Norwell's Master Plan, although some priorities may have shifted slightly based on resident feedback.

In addition to an over-arching goal of sustaining and protecting Norwell's quality of life, the prioritized 2012 Plan's Open Space and Recreation Goals are as follows:



*"Show me a healthy community with a healthy economy and I will show you a community that has its green infrastructure in order and understands the relationship between the built and the unbuilt environment."*

*— Will Rogers, Trust for Public Land*

*Photo above: Red Squirrel by Jeremy Clegg*

*Photo left: Kayaking on the North River by Jeremy Clegg*

1. Support and Enhance Passive and Active Recreation in Balance with Nature
2. Protect the Quality and Quantity of Norwell's Water Supply
3. Protect Natural Resources and Promote Biodiversity
4. Protect Norwell's Scenic Quality and Historic Resources

Underlying these broad goals are clear objectives and specific action items that form the heart of the 2012 Plan. Some action items were carried forward from previous plans; others were developed based on recent community feedback, current open space and recreation inventories, and a needs analysis. All action items are listed in Section 9 Goals and Objectives. In addition, this 2012 Plan provides updated maps of the Town identifying conservation and recreation areas, water resources and historical points of interest, among other important data.

Norwell is a unique and special place. Part of the Town's uniqueness, as recognized in Norwell's Master Plan, stems from its strong sense of community and semi-rural visual character. We hope that the 2012 Open Space and Recreation Plan will help inspire and guide Norwell citizens to take the actions and make the decisions necessary to preserve Norwell's unique character by protecting and enhancing the Town's conservation, open space and recreation resources for many generations to enjoy.

*Photo left: Bound Brook Pond by Steve Ivas*

### A. STATEMENT OF PURPOSE

The purpose of the 2012 Norwell Open Space and Recreation Plan is three-fold: (1) to serve as a seven-year road map for addressing the Town's open space and recreation needs; (2) to ensure Norwell's eligibility for grants from the Commonwealth of Massachusetts to acquire new land parcels for conservation and recreation purposes; and (3) to inform Norwell citizens about the Town's current open space and recreation resources so that they may be used and enjoyed to their maximum potential.

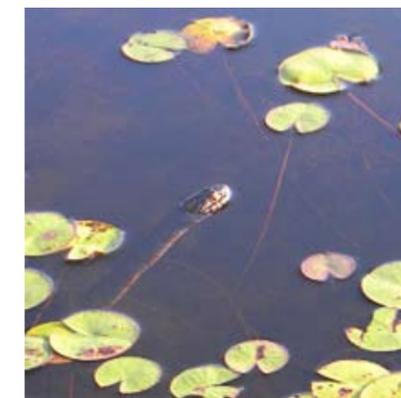
As a planning document, the 2012 Plan is designed to work in concert with Norwell's Master Plan, which describes a vision of Norwell in 2021 as "green, with a network of protected open space and regulations that promote environmentally-sound, appropriate development." The 2012 Plan's Goals and Objectives are consistent with other Master Plan objectives including:

- Shaping development to be in harmony with town character and environmental constraints
- Protecting the town's natural beauty, water resources, and environmental health through a network of "green infrastructure"
- Preserving historic buildings and landscapes

Through implementation of the Plan's Goals and Objectives, the 2012 Plan helps to fulfill the conservation and recreation components of Norwell's Master Plan vision.

The 2012 Plan also ensures Norwell's eligibility for future land grants from the state. Norwell has benefited from state grants in the past, which have enabled the Town to purchase significant open space resources. In order to continue to qualify for these and other grants, the Town must have an updated and state-approved Open Space and Recreation Plan. The 2012 Plan will meet that requirement for the next seven years.

This Plan is not only a valuable planning document; it is an outreach and educational tool as well. It provides a wealth of information about the Town's history, regional setting, demographics, and development patterns. It offers an overview of important natural resources found in Town, as well as a comprehensive parcel-based inventory of all lands that hold



"Our conservation must be not just the classic conservation of protection and development, but a creative conservation of restoration and innovation."

— President Lyndon Johnson, 1965

Photo above: Northern Water Snake surveying the lily pads by W.D. Grafton III

Photo left: Autumn reflections in the Second Herring Brook at Norris Reservation by Judy Enright

open space and recreational value. The 2012 Plan also includes helpful links, appendices and other resources to further inform Norwell residents about open space and recreation issues. The Plan Committee hopes that the information provided in the 2012 Plan helps further engage Norwell citizens in advancing open space, conservation and recreation goals in Norwell.

## B. PLANNING PROCESS & PUBLIC PARTICIPATION

The Norwell Open Space and Recreation Plan Committee prepared the 2012 Norwell Open Space and Recreation Plan. Formed in 2011, the Committee is a six-member subcommittee of the Norwell Conservation Commission. The 2012 Plan updates and expands upon previous Open Space and Recreation planning efforts (completed in 1977, 1987, 1997, 2005-2010 & an update from 2010-2012). The Plan also was established to complement the Norwell Master Plan 2005-2025 and the South Coastal Regional Open Space Plan (2003). The Committee was mindful of these planning efforts and endeavored to retain consistency.

Committee members met weekly from July 2011 through September 2012. The Committee assigned Chapter updates to members who were responsible for reviewing the existing 2005-10 Plan and 2010-12 Plan Update, gathering information, contacting experts when necessary, arranging for the Committee to meet with experts as needed, and providing draft material for Committee review. Norwell's Community Preservation Committee approved funding for professional services to support the Plan Committee's preparation of the 2012 Plan.

At all stages of the drafting and planning process, the Committee encouraged public participation, sought input from residents and Town officials, and generally tried to involve Norwell residents in the planning process in every conceivable way. The following is a partial list of the Committee's public participation outreach:

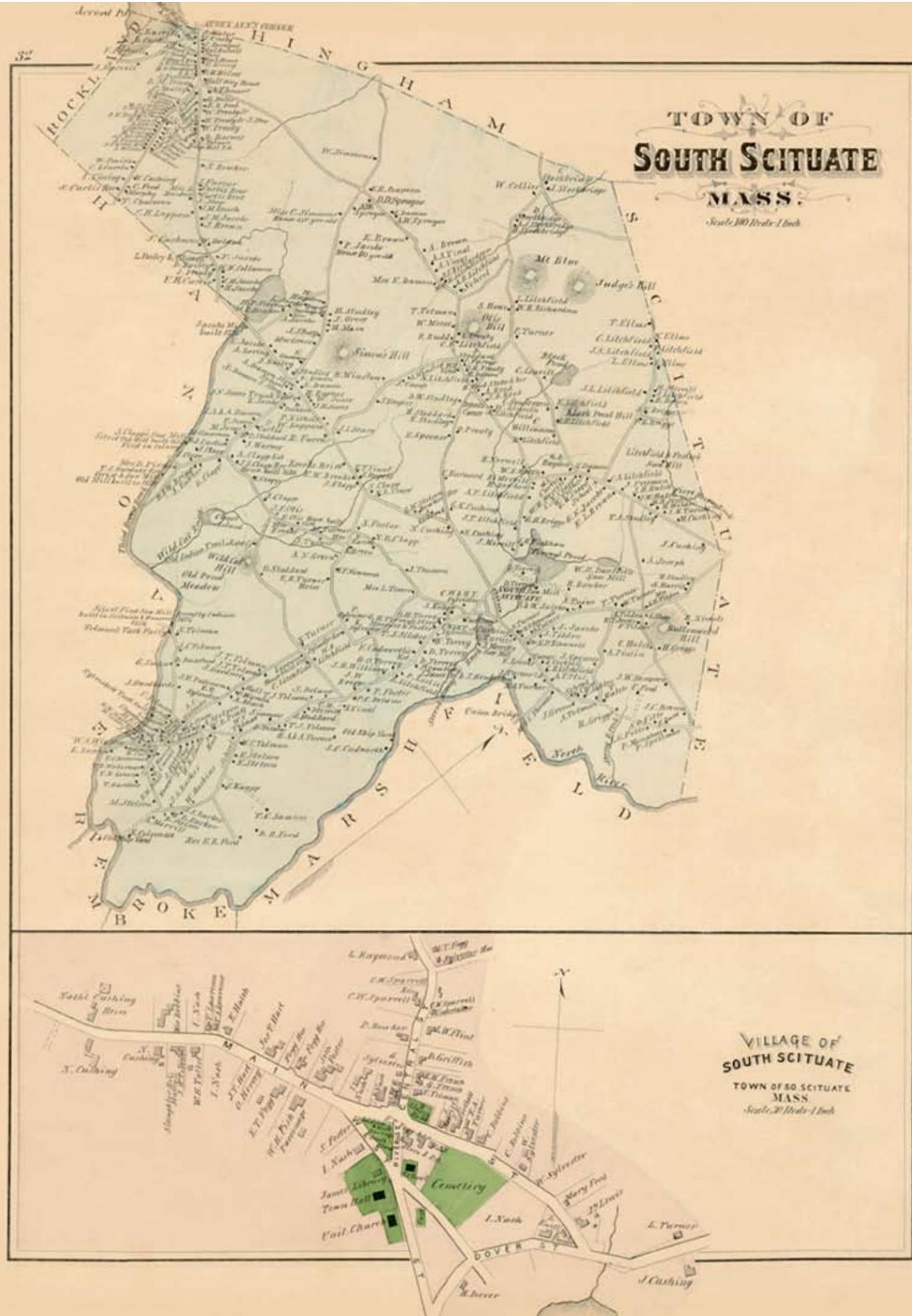
- All of the Committee's weekly planning meetings were open to the public and posted in accordance with open meeting requirements.
- The Plan Committee heard presentations from several Town commission members and other interested stakeholders including: Wendy Bawabe, Norwell Historical Commission; Steve Ivas, Norwell Water Commission; Dale Connor, Norwell Recreation Department; and Samantha Woods, North and South Rivers Watershed Association.
- The Committee developed and distributed an Open Space and Recreation Survey in the Fall of 2011/Winter of 2012. The survey was posted online with portals established on the Town and the

Recreation Department websites, and presented to constituents via email as well. The Committee placed announcements about the survey in both the Norwell Mariner and the Patriot Ledger, handed surveys out directly at Town Meeting, and made it available at the two Norwell public libraries and the Town Hall. There were 357 returned surveys. The data and many of the comments proved valuable in the planning process. The survey is found in Appendix A: Open Space Survey and Results.

- The Committee posted a "Photo Request," looking for iconic Norwell photographs that portrayed conservation and recreation scenes. We received and reviewed hundreds of photographs, the quality of which were outstanding. Norwell High School graciously convened a photography class based on this request, and students submitted some excellent photographs.
- Several Plan Committee members presented formally at a televised School Committee meeting—the School Committee members' comments and suggestions were invaluable to the planning process.
- A formal Town forum participation week was held June 6–13, 2012. The June 6th Selectmen's meeting began with the presentation of the draft Open Space and Recreation Plan and Norwell residents in attendance were given the opportunity to comment. Copies of the draft Plan were made available for comments to be placed in a box for later Committee review. The draft Plan was posted online, and a dedicated e-mail was set up to receive any comments.
- The 2012 Plan's maps were enlarged and posted in the Selectmen's meeting forum and later moved to the Town Hall hallways for the remainder of the week. Residents were encouraged to write their comments directly on the Maps, and many of them did. The comments were incorporated into the mapping process as appropriate.

As demonstrated by these efforts, the Plan Committee worked diligently to be inclusive in the planning process and actively sought input from Norwell residents. The robust public participation was designed to ensure that this 2012 Plan is reflective of the community's vision for the future of Norwell Open Space and Recreation resources.

# 3 COMMUNITY SETTING



## A. REGIONAL CONTEXT

The Town of Norwell is situated in Plymouth County, 23 miles south of Boston. The Town's land area is 21.2 square miles, or 13,548 acres. Adjacent towns include Hanover and Rockland to the west, Pembroke to the south, Marshfield to the southeast, Scituate to the east, and Hingham to the north. The Town's eastern boundary with Marshfield is defined by the North River, a tidal estuary that is also a state designated Scenic River. While Norwell does not have any coastal waterfront, it is considered a "South Shore" Town. It is part of the Massachusetts South Coastal Watershed, and is featured in the 2003 South Coastal Watershed Regional Open Space Plan. Several Norwell residents were active participants in the planning process for that plan. Norwell is also a member of the South Shore Coalition, a sub region of the Metropolitan Area Planning Council, comprised of a group of communities that meet regularly to discuss issues of common interest and serves as a venue for discussing regional open space issues and opportunities. Recently, Norwell's Conservation Agent initiated the South Shore Conservation Commission Network to increase education, awareness and collaboration around conservation issues.

As population growth continues and South Shore towns lose more and more open space, it is imperative that municipal governments coordinate their efforts to identify and protect important shared resources. While this is not always easy to accomplish, especially in New England, which prides itself on home rule governance, it is an important and necessary goal that towns actively pursue. Norwell is cognizant of this fact and has worked successfully with neighboring towns in various municipal projects in the past, and will continue to do so in the future. Many of Norwell's ecologically valuable resources, including wildlife and waterways, extend beyond the Town's borders. Norwell and the surrounding towns have the potential to jointly establish an Area of Critical Environmental Concern (ACEC) to include critical shared habitat such as the North River and the system of Herring Brooks. This is an excellent opportunity for a collaborative effort between Norwell and its neighboring towns.

## B. HISTORY OF THE COMMUNITY

The Town of Norwell has a history spanning more than 350 years. The land area that comprises Norwell today was originally part of the Town of



"They (the inland people) with their bank, their shipyards along the river, their well kept and thrifty farms and heavy pine forests..." — Joseph Merritt.

Historian (describing early Norwell)

Photo above: View of the North River by Steve Ivas

Map: South Scituate (Norwell) in 1879 Courtesy of Bill Petty

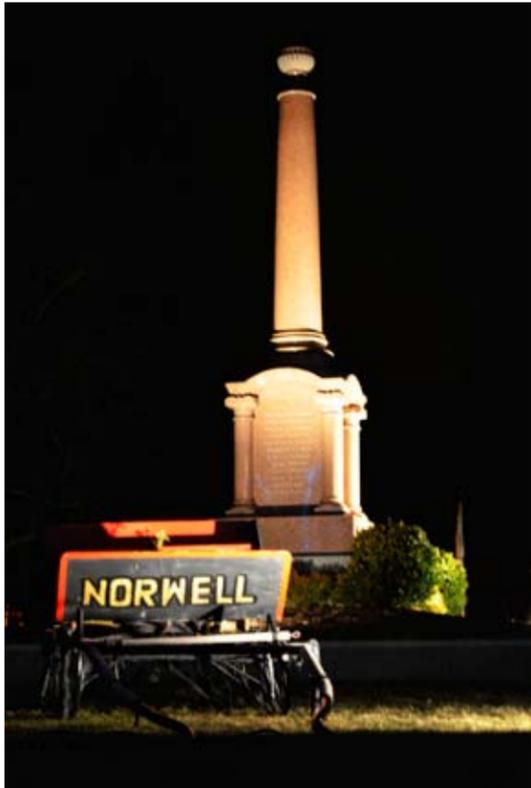


Photo: Norwell Monument  
by Fiona Elliott

Scituate; it was separately incorporated as South Scituate in 1849, then changed its name to Norwell in 1888.

It is believed that the first inhabitants of the area were descendants of Indians who fished the North River. As European settlers moved away from the core of Scituate in the late 1620's, they made their homes in the area east of Stoney Brook and harvested salt marsh grass and fished in the North River. In 1634, Robert Stetson left Scituate and settled upriver thus becoming the pioneer settler of what would become South Scituate. In 1653, the Indian title to the lands comprising Scituate and South Scituate was purchased from Josiah Wompatuck, Chief of the Mattakeesets.

The history and development of Norwell has been shaped by the North River. The North River ferry was established in 1644 at what is now the Union Street Bridge. The prolific shipbuilding industry in Norwell began in 1670 with the establishment of the Wanton Yard. South Scituate was vulnerable to Indian raids and did not begin to flourish until after King Phillip's war in 1676. Sixty area residents fought in the French

and Indian War in 1754 and 400 fought in the Revolutionary War. Life during that time was church-centered. The right to vote was restricted to freemen and freemen had to be church members. The Second Parish of Scituate was organized in 1642, becoming, in 1849, the First Parish of South Scituate. In 1888, this church became known as the First Parish Church of Norwell, where it is still sits today on River Street.

From 1675 to 1775 shipbuilding increased and more families settled on the North River. The center of our Town was originally established as a village of Scituate. Development began in the Assinippi area of Town in the 1720s when David Jacobs of Greenbush built grist and sawmills at the boundary of Hanover and Norwell. At this time, Third Herring Brook was dammed to form Jacobs Pond. These mills operated for nearly two centuries. The sawmill burned down on July 4, 1920—the gristmill had been removed sometime earlier. These mills had been established to support the growing shipbuilding industry and early farming. Elisha Jacobs of Assinippi established a brick kiln for brick making in Town—the most notable example of which is his former 18th Century home at Assinippi, now serving as a branch of the Hingham Savings Bank.

Shipbuilding on the river peaked from 1775 to 1830 with five shipyards in operation. In 1815, the *Mount Vernon*, a 464-ton vessel and the largest

ever built on the North River, was launched at the Wanton Yard. New industries included tanning and shoemaking. The North River ferry was replaced with a toll bridge at Bridge Street in 1802. In 1834, the Salmond Tack Factory was established.

As the demand increased for larger ships requiring deeper water, shipbuilding on the North River declined from 1830 to 1870. In 1871, after more than 1,000 ships had been built, the last vessel, the 90-ton *Helen M. Foster*, was launched from Chittenden Landing. After the collapse of the shipbuilding industry, poultry farming became one of the primary industries along with other agricultural endeavors. The Late Industrial Period (1870-1915) saw the construction of a trolley line on Washington Street (Route 53) between Assinippi/ High Street and Accord Pond in Hingham, increasing growth at Assinippi. In 1850, the Town took over the North River Bridge, removing the tolls. It was replaced in 1917 with the present bridge, the cost of which was shared among Norwell, Marshfield and Plymouth County.

### Emerging Norwell

In 1847, residents of South Scituate had different interests than those in Scituate proper and led different lives from those along the ocean shore. They had a bank, active (but waning) shipyards on the North River, farms and heavy pine forests, and they looked askance at the barren Scituate beaches and wastelands. In 1848, 212 years after the incorporation of the Town of Scituate, the people of our area voted to establish South Scituate as a separate Town. In 1849, the Town of South Scituate was incorporated with land ceded by Scituate. The population of South Scituate in 1850 was 1,770.

In 1874, the James Library was constructed with \$3,000 donated by Mr. Josiah L. James, a Norwell native who had moved to Chicago. There were 135 Norwell men in the Civil War—24 of whom were killed or died in the service. In 1878, the Town voted \$1,000 to complete the Soldiers Monument, which can still be seen in the Norwell common. It was dedicated July 4, 1878, at the entrance to the old Town Hall, with the temperature 99° in the shade. In 1884, the Town Hall on the common burned down. In 1888, the Town name was changed from 'South Scituate' to 'Norwell' after Mr. Henry Norwell, a Boston businessman and



Historic Photos of buildings along  
Washington Street

summer resident, who had contributed \$2,500 each year for 10 years to maintain the Town roads. The first Town seal was adopted in 1899.

In 1900, the Town's population was 1,560. The population remained steady through World War II when the pace of residential construction picked up. In 1950, the population was 2,515 but this figure grew rapidly with the completion of the Southeast Expressway (Route 3) in the early 1960's. The character of the Town gradually changed as new homeowners used the new roads to commute to Boston.

### C. POPULATION CHARACTERISTICS

The population of Norwell in 2010 was 10,506 residents. Norwell population trends since the 1930's are shown on the following chart:

#### 1. POPULATION TRENDS

Year	1930	1940	1950	1960	1970	1980	1990	2000	2010
Population	1,519	1,871	2,525	5,207	7,796	9,182	9,279	9,765	10,506
Percent Change	—	23.17	34.42	107.04	49.72	17.78	1.01	5.24	7.58

Source: US Census

There were less than 100 residents per square mile until the 1950's when access to Norwell by vehicle became easier as a direct result of the new Southeast Expressway. GI Bill low home interest loans for veterans added to the building boom. From 1950 to 1960, the population increased 107% and from 1950 to 1980 it increased 277%. By contrast, during this same period (1950-1980) the population of Plymouth County increased only 114%.

With increasing development, the Town's character changed from small rural farms to a residential suburban community with workers leaving in the morning and returning in the evening. From 1991 to 1999, undeveloped land was reduced by 10.5% (42 acres), agricultural land reduced by 11.0% (37 acres) and forestry reduced by 2.3% (190 acres) for a total loss of 269 acres to residential development. In 2010, there were 173 housing units per square mile (8.9% less than 2000) with an average household size of 2.89 (1.7% less than 2000). According to the Norwell Assessors' Office data, forest, agriculture and recreation properties were reduced by approximately 272 acres between 2001 and 2012. At this pace, Norwell is losing approximately 25 acres per year to development since 1991.

The population of the town is growing at a rate faster than official projections. In 1990, the Metropolitan Area Planning Council projected that the Norwell population in the year 2000 would be 9,406 (a 2% growth) while the actual year 2000 population was 9,765 (a 3.9% growth). By 2003, the town had already exceeded the year 2005 forecast: 10,116 actual residents in 2003 versus 9,883 forecast for 2005. The population growth has paralleled the town's improved transportation infrastructure as more residents commute to jobs and opportunities outside of town.

The restoration of the commuter rail from Boston to Scituate was completed in 2007 and may cause yet another upswing in the population of the town, as development hot spots relate directly to the location of commuter rail. According to the Massachusetts Audubon Society, 10 of the top 20 cities and towns in Southeastern MA that have the fastest growth in new single-family homes lie at the terminus of commuter rail lines. The terminus of the commuter line resides in the Greenbush area of Scituate, located less than a mile from the Norwell town line, at the intersection of Route 3A and Route 123.

#### Income

Norwell is an affluent community with high median household income. Family income figures reflect both the growth in the economy and the character shift of the town's workforce. In 1985, the average annual wage was \$16,954 and more than tripled in 25 years to \$55,276 by the year 2010. That same year, the median household income was \$108,944, ranking it the third highest for the South Shore. (For Plymouth County, the median household income for the year 2010 was \$73,131).

In 2005, most workers in Norwell were involved in the private sector (76.5%) with government workers the next largest group (13.6%). Five years later in 2010, 546 establishments employed an average of 7,366 employees per month in the private sector (92.9%) while eight establishments in the non-private sector employed an average of 566 employees per month (7.1%). The types of industries in Norwell include administrative and waste services (17.0%), health care and social assistance (16.4%), professional and technical services (10.5%), and retail trade (9.1%).

From 1983 to 2010, the unemployment rate for Norwell has remained well below the statewide rate. In 2010, the Norwell unemployment rate was 6.3% versus 8.5% for the Commonwealth of Massachusetts. The poverty rate is also low in Norwell and the number of residents below the poverty level has declined over the past 10 years. Of the total population of Norwell in 2010, 171 individuals (1.7%) and 22 families (0.8%), had

income below the poverty level (\$22,050 for a four-person family). The year 2010 census shows this to be the lowest percentages of poverty for the South Shore. In Plymouth County in the year 2010, 7.0% of the individuals had income below the poverty level.

The median sales price for a single-family home in Norwell has more than doubled in the past 15 years. Despite this impressive growth, median sales prices for single-family homes in Norwell began to dip from the high of \$597,000 in 2006 to \$502,000 in 2011. Notably, the country as a whole has been experiencing a widespread economic downturn and housing prices in general have declined.

## 2. NORWELL MEDIAN SALES PRICE FOR SINGLE-FAMILY HOMES

2011	502,000	2003	474,000	1995	220,000
2010	525,500	2002	452,000	1994	202,750
2009	513,228	2001	393,650	1993	193,000
2008	560,000	2000	357,250	1992	185,900
2007	535,000	1999	330,000	1991	209,000
2006	597,000	1998	250,670	1990	196,500
2005	543,750	1997	264,450	1989	227,000
2004	525,000	1996	235,000		

Source: [www.thewarengroup.com](http://www.thewarengroup.com)

### Business Development

From 1985 to 2010, the number of businesses in Norwell recorded by the Commonwealth of Massachusetts increased from 268 to 558, a growth of 108%. The town has 695 acres zoned for business development within two large industrial parks totaling a commercial/industrial build out capacity of 639,647 additional square feet. The business districts have been located near high-speed access highways (Routes 3, 53 and 123).

### Demographics

As of the 2010 Census, Norwell's population is 95% Caucasian and divided 48% male to 52% female. The median age is 43.8 (up from 37.1 in 1990 and 40.1 in 2000), and 23% of Norwell residents are 60 years of age or older (up from 17.2 % in 2000). There are 1,471 households with individuals less than 18 years of age (41% of households) representing a decrease of 2.8% since the 2000 census, and 1,034 households with individuals 65 or older (29%) representing an increase of 5.9% since the 2000 census.



Photo: Entering Norwell by Steffi Karayaneva

Since 1990, Norwell's population has increased by 14%, from 9,182 to 10,506. The Town's residents have reported total ancestries with Irish (42%), English (20%) and Italian (19%) comprising the majority. The majority of the Norwell population is college educated, managerial or professionally employed in the private sector. Of the population 25 years and older, 44% have a college degree with 57% of those having a bachelor's degree or higher, representing an increase of 5.9% since the last census. With a very low dropout rate, Norwell schools rank very high in percent of students passing the MCAS tests. As of the 2000 Census for Norwell, the most current data indicated that 29% of people 65 years of age and older have a disability. Of the civilian population 18 years and older, 10% are veterans.

### Affordable Housing

The US Department of Housing and Urban Development (HUD) defines affordable housing as housing available to households for a price of no more than 30-33% of their annual income. Making housing affordable to a range of citizens depends largely on household income. According to the Citizens' Housing and Planning Association, the median income for Norwell in 2009 was \$109,765. However, the median sale price of a Norwell home for that same year was \$525,000, and to afford this median

sales price, a household would have to earn approximately \$121,700, thus shutting out many first-time home buyers, young professionals, service workers, and others from the local real estate market.

Norwell has 139 subsidized, affordable housing units. This affordable housing stock comprises only 3.8% of Norwell's total housing units and is well below a 10% goal set for communities by the Commonwealth. For communities in Massachusetts where less than 10% of the total housing stock is not available for low or moderate-income residents (households at or below 80% of median area income), housing proposals may seek exemptions from local zoning and other regulations under the Chapter 40B Comprehensive Permit Law.

Typically, 40B developments include more units than would be allowed under conventional zoning in exchange for 25% of the units being deemed "affordable." The Department of Housing and Community Development keeps a Subsidized Housing Inventory to track how communities are faring with respect to meeting the 10% goal. Norwell's low percentage of affordable housing and lack of an affordable housing strategy makes the Town vulnerable to 40B developments. This means that Norwell may find it difficult or impossible to shape or reject 40B proposed projects that may be otherwise inappropriate for the Town for legitimate reasons. In 2009, in order for a unit to be eligible for the Inventory, the Commonwealth required it to be affordable to a household of four with a total annual income of \$64,200 (80% of the area-wide median income) for moderate-income families, or less for low-income families.

### Population Trends

As is true in all of Massachusetts, Norwell's population is getting older. At present time, 16% of Norwell residents are 65 or older. This is an increase of 4.6% since 2000. It appears that the size of the elderly population could accelerate quite rapidly to an estimated total of 27% of the population by the year 2030. However, the Norwell Baby Boom population (born 1946-1964) comprises 28% of the total population as this generation began to reach retirement age (around the year 2011). This reflects a decrease of 6.5% since the publication of the 2005 Plan and may partially account for the 4.6% increase in the population above 65 years of age as the Baby Boom population has begun to enter elderly status.

In addition, nearly 40% of Norwell households have children less than 18 years of age. The Commonwealth of Massachusetts projects a decline in the population of youths (less than 20 years) and also projects that the dependency ratio—the number of youths and elderly (ages 65 and over) for every 100 people of working age—could rise from 66.7 in 1995 to 77.1



*Photo: Open Meadow  
by Jeremy Clegg*

in 2025. Therefore, the dependency ratio growth will be mostly in the elderly ranks. The Town should begin to plan for this expected growth by working through the Town's Council on Aging to examine services, recreational needs and housing options for the elderly population.

### D. GROWTH & DEVELOPMENT PATTERNS

Shipbuilding along the North River was the primary industry beginning in the 1600's continuing through the early 1800's. As land was cleared and harvested of trees for shipbuilding, farms were developed. As shipbuilding waned, the sawmills continued, and tanneries, shoemaking and extensive poultry farming were pursued. Forested areas began to rebound. Sheep farming was favored over land-based agriculture due to poor rocky soils. The early character of the Town was primarily light industry, but as the shipbuilding industry declined, farms primarily defined the Town's landscape.

Although there were early initiatives that intended to provide rail service to the Town as well as a trolley along High Street/Washington Street/Route 53, the Town remained generally out of the mainstream of commerce. For many years the population remained fairly even, fluctuating slightly from year to year. In 1850, the Norwell population was 1,770 residents but dropped to 1,348 residents in 1920. This level of



Photo: Canada Geese on the Webster Cranberry Bog by W.D. Grafton III

population continued until 1950 when it rose to 2,525 residents. Poultry and other farming, which had flourished since the 1800's, began to decline and the construction of new homes commenced in earnest. The population continued to increase sharply thereafter. Roughly 73% of the homes seen in Norwell today were built over a 50-year period (1940 - 1990). In contrast, from 1600 to 1940, a 340-year period, only 18.0% of the homes in Norwell were built.

This growth in residential homes is directly related to the increase in the economy and to the completion of road and high-speed highway access to Norwell from Boston and surrounding areas for employment, goods and services. After the decline of shipbuilding, the Town became attractive to new residents drawn to its accessibility, its affordable property and desirable lifestyle.

The character of the Town changed to a residential suburb with a rural atmosphere. The Town infrastructure, particularly schools, needed

to expand to accommodate the increase in the number of residents. Residential growth first began in the section of Town closest to Route 53, (Washington Street). Small houses typical of that era were built on lots as small as 7,000 square feet but in 1973, residential zoning was changed to one-acre lot minimum and has remained so since.

### **Build Out Analysis**

The Metropolitan Area Planning Council (MAPC) prepared a Community Profile for Norwell that projects development and infrastructure impacts that could occur if no changes are made to current Norwell zoning by-laws. Some of these projections are cause for concern. The MAPC projects that when all possible land is developed in Norwell ("build-out") the population could be 16,686 residents (a 59% increase from the Town's 2010 population) with 5,713 houses and 3,349 students (a 22% increase in students from the 2000 population). An additional 41 miles of roads could be required. This increased population and development would strain the Town's infrastructure, natural resources and particularly its water supply.

The Trust for Public Land has conducted research and concluded that municipal revenues generated from open space properties exceed their costs and that in the long-term open space saves towns money. This is contrary to the common perception that development will bring lower taxes. As an example, property tax rates are generally higher in more developed towns than in more rural towns. As Norwell's pace of build out continues, it will progressively lose most of its open space to residential development. The expected outcome will be increased tax rates to pay for the rising cost of the growing infrastructure and natural resources will suffer as unfragmented habitat is increasingly divided. A number of studies and reports on this subject can be found in Appendix K: Studies and Reports Supporting Open Space Saves Towns Money.

### **Municipal Groundwater Wells and Drinking Water**

Norwell is served almost entirely by a municipal water system that relies on 10 wells that pump groundwater after treatment into the municipal system. A few residences in Norwell are served by the Hingham and Scituate municipal systems.

All of the Norwell municipal water is disinfected with chlorine and adjusted for pH with potassium hydroxide. Treatment locations are located at Grove Street (Wells 2,3,5, and 10), Washington Street (Wells 4, 7, and 8), South Street (Wells 1 and 6) and Bowker Street (Well 9). See Map 5, Water Resources. The wells in the South Street Wellfield are also treated to remove elevated levels of iron, manganese, and organic color.

Every year, Norwell conducts more than 1,000 water quality tests for more than 100 drinking water contaminants. The results are summarized in a Consumer Confidence Report that the Town mails to all residents every summer. It is also available on the Water Department's website at: [http://www.Townofnorwell.net/Public\\_Documents/NorwellMA\\_Water](http://www.Townofnorwell.net/Public_Documents/NorwellMA_Water).

Recent improvements to Wells 1, 4, 6, 7, and 8, including moving Well 6 about 50 feet and constructing a new pumping station, have resulted in higher and more sustainable yields of drinking water. Planned work in the Grove Street Wellfield is anticipated to result in similar quantity and quality improvements. Other planned improvements include a water main connecting Tiffany Road and the South Street Wellfield facilities to create a second supply to the southeast portion of the Town.

The Town has a permit from the Massachusetts Department of Environmental Protection to pump an average of 1.35 million gallons per day (mgd), with a peak day demand (usually in early June) of over 2 mgd. The system now serves nearly 3,550 residential, commercial, municipal, and industrial customers. In 2011, the system pumped about 359 million gallons, for an average daily demand of just less than one million gallons. Water is charged with an ascending block rate (the more a resident uses, the more it costs), which encourages conservation. A very small percentage of private residences are served by the towns of Hingham and Scituate or have private wells.

The system is managed by a Superintendent who reports to an elected three-member Board of Water Commissioners. The Town by-laws empower the Board to impose water restrictions during periods of high demand. In the summer of 2012, the Commissioners instituted voluntary water restrictions due to demand that exceeded the safe removal of water from the well fields due to the lack of rainfall that serves to replenish the aquifers. The search for new water supplies is ongoing.

### **Wastewater**

The Town has no Municipal or Industrial Wastewater Treatment System. Wastewater disposal is on-site, except for the Accord Industrial Park on the south side of Route 3, a portion of which is tied into the Rockland Wastewater Treatment System.

Increasingly, residential developments within the Town are providing combined sewage absorption systems and/or package wastewater treatment plants for multiple residences. The package plants improve the quality of the resulting effluent. These are required by state regulation once a project exceeds 10,000 gallons per day.

### **Transportation**

Norwell has limited public transportation options and this has been historically the case for the region. In 1845, the Old Colony Railroad Company built a train line from Boston to Plymouth. The South Shore Railroad was chartered in March 1846 to build a line from the Old Colony in Braintree through Weymouth, Hingham, Cohasset, Scituate, and Marshfield to Duxbury. It opened on January 1, 1849, and was equipped and run by the Old Colony. In March 1893, the entire Old Colony Railroad system was leased to the New York, New Haven & Hartford Railroad. Usage hit an all-time high in 1911, but started to decline soon after as service reductions were mandated during World War I to conserve fuel, equipment, and labor for the war effort. The decline continued with competition from the automobile in the 1920's, and ultimately ended in June of 1959, coinciding with the opening of the Southeast Expressway (Route 3).

In 2000, Norwell had 8,666 registered vehicles. This decreased to 7,827 vehicles in 2010; a 9.6% reduction in registered vehicles in a 10-year period. However, even with this reduction the number of registered vehicles per household is 2.4.

Many of the Town's residents work in Boston. Commuting options include driving the full 23-mile distance, driving to the Braintree and Quincy MBTA light rail stations, driving to Quincy or Hingham MBTA ferry, driving to the MBTA bus line in Rockland, or driving to the MBTA commuter rail line in Scituate. The Old Colony Railroad commuter rail line recently resumed service after being eliminated more than 50 years ago.

In 2000, 85.5% of workers more than 16 years of age commuted to work by vehicle with only 7.1% using public transportation. In 2010, about two years after completion of the commuter rail line, 84.2 % commute to work by car and 9.06 % use alternative transportation (7.1% public transportation). Ridership has not reached initial MBTA estimates, but the service provides an excellent option for commuters and the number of public transportation users should increase over time. The Town is investigating improving access to the rail station by using means other than the automobile. In particular, improving pedestrian access to the station is a priority for the town.

### **Long Term Development Patterns**

Norwell has a relatively simple zoning structure with two residential zoning districts (residence A and B), three business districts (Business A, B and C), and six overlay districts (Norwell Village Historic, Wireless, Adult, Salt Marsh Conservation, Route 3 Buffer, and Village). See Map 2,

Zoning. Most districts have a one-acre minimum lot size, and the Town is primarily zoned for residential use.

### 3. LAND USE SUMMARY – 2012 ASSESSOR’S DATA

	PARCELS #	TOTAL PARCELS%	TOTAL LAND AREA	TOTAL LAND AREA%
Residential	3,956	0.84	8,564.20	0.63
Commercial	268	0.06	372.35	0.03
Industrial	32	0.01	95.48	0.01
Forest, Agriculture, Recreation	48	0.01	546.00	0.04
Exempt *	408	0.09	3,861.97	0.29
TOTAL	4,712	1.00	13,440.00	1.00

Source: Norwell Assessors Office \*Tax exempt parcels are held by nonprofits such as churches, schools, land trusts, or held by a municipal, state, or federal entity.

Quickly developed and poorly planned land use can result in land fragmentation, often leaving other land uses (particularly open space uses) less viable and fracturing wildlife corridors. The Trust for Public Lands has found that since 1950, Massachusetts has developed land at a rate six times that of its population growth and Norwell was in 16th place in land consumed per new resident (.61 acres/resident between 1991-1999) among all the other 351 cities and towns in the Commonwealth. However, compared to neighboring towns, Norwell is growing at a relatively modest rate and maintains the lowest population density of the South Shore Towns. The Trust for Public Lands is in the early stages of designing a new study pertaining to the potential Economic Benefits of Land Conservation in Massachusetts. The outcome of this study will be beneficial to both planning and conservation interests.

### 4. POPULATION DENSITY OF SOUTH SHORE TOWNS PER SQUARE MILE

Scituate	1,056
Hingham	986
Marshfield	883
Hanover	889
Cohasset	762
Norwell	503

Source: US Census Data 2010

According to the Norwell Building Inspector, new houses in Norwell tend to be large, averaging 3,000 square feet or more. As the amount of vacant, buildable land decreases, developers are buying smaller existing homes and either tearing them down or undertaking major renovations, in some cases costing \$100,000 - \$200,000. In these cases, the land has become more valuable than the homes themselves. Additionally, the Norwell Building Inspector reports that the former Wear Guard facility on Longwater Drive is transitioning to new businesses, four large subdivisions are active, and one additional large subdivision is permitted.

In order to conserve more open space and allow for more creative site design, the Town adopted the Open Space Residential Design by-law that allows for half-acre lots in exchange for open space deed restrictions on half the available upland. Additional planning considering the full impacts of development versus open space also will help Norwell retain its natural resources. A number of studies show that towns save money for the municipal government and residents when they conserve land as open space or for agriculture versus developing these properties. Typically, towns spend 15-45% more in providing services for new residential properties than the tax revenue generated on these new properties. There are multiple studies and reports supporting this position. See Appendix K: Studies and Reports Supporting Open Space Saves Towns Money.

# 4 ENVIRONMENTAL INVENTORY & ANALYSIS



“In nature nothing exists alone.” — Rachel Carson

The Town of Norwell is located in the “Southern New England Coastal Plain and Hills” region as defined by the EPA. Norwell’s landscape character is defined by scenic roadways lined with trees and stone walls. Common, treasured Town features include open fields, ponds, large wetland resource areas, and the North River. The North River forms a portion of the Town’s boundary stretching from Scituate to Pembroke. Norwell’s landscape can be characterized as a sloping coastal plain dotted with small hills and valleys. The hills are the creation of a Town-wide drumlin field left over from the ice ages. The rural landscape character has remained intact to a large extent due to the Town’s early adoption of one acre or larger lot zoning. The Town is committed to protecting and preserving natural eco-systems, open space, greenways, water resources, recreational spaces and access as outlined in the Master Plan that expires in 2025. Adherence to these goals has resulted in the preservation of natural treasures and parks frequented by Norwell residents and other visitors, as well as important habitats and natural communities supporting Norwell’s abundant wildlife populations. It is important to note that despite heavy commercial and residential development pressures evident in many of the surrounding communities, Norwell has been successful in maintaining its open space and recreation commitment.

## A. GEOLOGY, SOILS & TOPOGRAPHY

### Geology

There are a number of wetland areas that may have been historic ponds that are now characterized by many feet of peat, clay, sands, and gravel deposits. The deepest layer of these historic pond deposits discovered to date is an area of 90-foot thick materials in Old Pond Meadows, south of Route 3, and about a half mile east of the end of South Street. The second deepest layer of deposits above bedrock is at the end of South Street near the present course of Third Herring Brook at Municipal Pumping Well No. 1, where the deposits are about 60 feet deep. In some locations, there are ledge outcrops where bedrock reaches ground elevation. See Map 3: Soils.

### Outcrops in Norwell

Norwell’s few bedrock outcrop gives a glimpse of the glacial influences that shaped this area:

1. Hoop Pole Lane directly behind Town Hall, likely the largest rock outcrop in Town

Photo above: Wild turkey off Parker Street by W.D. Grafton III

Photo left: Norris Reservation Path by Judy Enright

2. East Side of Damon Pond
3. Just West of Wildcat Brook on Forest Street (Diorite, mafic rock)
4. Gaffield Park
5. Far end of High School Football Field (Dedham Granite)
6. The Rapids on the North River
7. Intersection of Mill and South Streets (Removed—was a Dedham Granite outcrop)
8. Tiffany Road by Third Herring Brook
9. Main Street between Bridge Street and Downtown
10. Main Street by Wilson Hill Antiques

Eskers characterized by long winding ridges of stratified sand and gravel are found in several locations in Norwell. It is believed that eskers were formed within ice-walled tunnels by streams that flowed within and under glaciers as they slowed. After the retaining ice walls melted, stream deposits were left behind as long winding ridges. The esker trail around Jacobs's Pond is a good local example of this phenomenon.

Norwell's surficial geology was created by glacial and wind action. Glacial action and soft bedrock material are responsible for carved-out valleys that were later filled with a variety of materials, including till, clay, sand, gravel, cobbles, and boulders. The bedrock layer is mainly Dedham Granite.

### Soils

Norwell's soils are primarily a Scituate-Essex-Merrimac soil association characterized by nearly level to gently-sloping moderately well-drained soils formed in glacial till. Scituate soils tend to be very stony sandy loams, wet in spring and fall and most suitable for pasture land or woodland. Essex soils also are well-drained but stonier and tend to follow the higher elevations in Town. Merrimac soils were formed in sand and gravel, and are very well-drained. See Map 3: Soils.

These soils usually present no major barriers to construction. However, because nearly 30% of the Town is comprised of wetlands and there are areas with pockets of boulders and other obstacles, it is often necessary to try several locations to find a suitable site for a septic system for a private residence. This often results in a need for larger lots and sometimes limits the number of lots in a subdivision.

## B. LANDSCAPE CHARACTER

The lowest points in Town are found along the North River (sea level) while the highest are Mt. Blue (220 ft.) and Judge's Hill (240 ft.) at the northern end of the Town. The top of both Judge's and Paradise Hills (200 ft.), are home to water stand pipes that create a gravity-pressurized



*Photo: Winter at the North River  
by Jean Lamkin*

municipal water system. Most of the rest of the Town gently rises and falls between 75 foot and 150 foot elevations. The North River and its floodplain cuts a half-mile-wide channel through this sandy plateau, leaving fairly steep 50'-100' wooded bluffs in some areas. There are also 89 acres of open space and woodland along Cross and Winter Streets, of which 40 acres are cranberry bogs and blueberry stands.

Norwell contains many broad, flat swamps, some of which are associated with streams and one wetland southeast of the intersection of Grove and Prospect Streets that is completely isolated from any other surface waters. Surface and subsurface hydrology and flow direction are significant factors that impact land use as well as resource areas. Creating a Town-wide study of these hydrological influences is one of the action items of the Open Space Plan.

## C. WATER RESOURCES

### Watersheds

Roughly 30% of the Town's area is comprised of water and wetlands. Norwell is part of the Massachusetts South Coastal Watershed, but more specifically, the Town lies in two major watershed basins: the Weir River in the north, and the North River Basin for the remainder and majority of the Town. See Map 5: Water Resources. The following lists the watershed sub-basins and significant surface water bodies found in Norwell:

- Accord Pond along Norwell's west border flows into the Weir River Basin to the north.
- Jacobs Pond (Upper Third Herring Brook) drains into the Third Herring Brook to the south and ultimately the North River to the southeast.
- Wildcat Brook includes, from west to east, Wildcat Creek, Margaret's Brook (just east of the Town Offices), and Wildcat Brook, all flowing into Third Herring Brook.
- Upper Second Herring Brook flows south into the North River Basin at Norris Reservation.
- Stony Brook at the easterly end of Norwell flows southeasterly into the North River.
- First Herring Brook at the northeast portion of Norwell flows south and then easterly into the tidal Herring River before merging into the North River estuary in Scituate.
- The North River Basin, which includes the creeks and streams along River Street, including Dwelley's Creek, Copeland Tannery Brook, and the un-named stream that crosses Lantern Lane and Tiffany Road before flowing into the Third Herring Brook at Tack Factory Pond.

Under the Massachusetts Rivers Protection Act, the first 200 feet of a permanent river is afforded special protection. The first 200 feet from the mean annual high tide line is "riverfront." This "riverfront" is considered a resource area itself, rather than a buffer zone. Some activities such as pruning for view sheds and the installation of docks and piers are allowed with a permit, while other activities are restricted, such as clearing vegetation for lawn. The Norwell Conservation Commission has jurisdiction over any project proposed in the 200-foot riverfront area. The Norwell Wetlands Protection Bylaw Article XVI-a affords a 50-foot no-disturb zone around any jurisdictional wetland, vernal pools and perennial rivers and streams. The River Protection Act zone can be found on Map 5, Water Resources.

The upper reaches of streams, or headwaters, are important habitats for the base of the food chain within aquatic systems. These areas also

provide high species diversity that is a measure of system health. Additionally, understanding of land use practices show that when the amount of impervious surface in a watershed exceeds 15%, there is often a loss of species diversity (and therefore ecosystem health) of rivers and streams. Moreover, the use of pesticides and fertilizers loads and deteriorates these aquatic systems.

### Ponds

Norwell has one natural pond, Black Pond, identified as a kettle hole. There are 13 man-made ponds of varying sizes throughout Norwell that were primarily built for saw and grist mills in the 1800's. None of the ponds are suitable for swimming, but many are used as fishing spots, for ice-skating, and some for non-motorized boating. The most notable ponds include:

- Jacobs Pond, a man-made recreational pond used for fishing, canoeing and skating, located between Washington Street (Route 53) and Jacobs Lane, is the Town's largest and most visible pond with more than 50 acres. Unfortunately, Jacob's Pond is listed on the 1998 Massachusetts DEP 303d list of impaired waterways due to "noxious aquatic plants."
- Hatch Pond, which connects to Cole School and contains trails, observation platforms, benches, and outdoor classroom areas.
- Accord Pond is located in Norwell but the water rights belong to Hingham.
- Bound Brook Pond (aka Stockbridge Pond) is a significant resource to wildlife especially waterfowl. It also provides skating, fishing and other recreational values. It too is plagued by noxious weeds and poor water quality.

Eutrophication, which is a very slow process occurring over 5-10 thousand years in kettle holes, has directly resulted in the conversion of a number of kettle holes to swamps. The bulk of this conversion has occurred more recently within the last 100-200 years. The increased density of houses and other impervious surfaces expedites environmental alteration. Changes such as these are a new phenomenon in terms of the overall natural history of the landscape.



*"If one does not enjoy the fields, waters, and forest in his youth, to be put in those places in old age will be a punishment. It is the duty of every parent to see that his children are not robbed of the early enjoyment of nature play."*

*— William "Cap'n Bill" Gould Vinal*

*Photo: Madison, Melissa and Miranda Halatsis at Hatch Pond Cole School by Marynel Wahl-Halatsis*

The Black Pond Bog property was purchased by The Nature Conservancy as its first purchase in the Commonwealth due to its unique features and surrounding habitats. The flows from the pond and wetlands complex reach the Second Herring Brook just below Torrey Pond.

### **The North River**

The North River is a tidal estuary that comprises most of the Town's eastern border, and is one of the South Shore's most scenic and historically significant attractions. An estuary is a river that is heavily influenced by the tides and has both fresh and saltwater features. The headwaters of the river are in Pembroke, and the river and/or its tributaries pass through Hanson, Pembroke, Hanover, Marshfield, Norwell and Scituate before emptying into the ocean between 3rd and 4th Cliffs in Scituate. Many different habitat types are found in and around the North River estuary, including shallow open waters, freshwater and salt marshes, mud flats, wooded swamps, and even a freshwater Wild Rice stand. The North River is a unique natural resource and as such is afforded special protection as the Commonwealth's only Scenic River to date. Captain Bill Vinal, The North and South Rivers Watershed Association, and other dedicated citizens played crucial roles in establishing this protection.

- The North and South Rivers Watershed Association (NSRWA) was created in 1970 by a handful of concerned citizens. Since that time, the organization has grown significantly and is one of the largest and most effective watershed organizations in the state. The mission of the NSRWA is to preserve, restore, maintain and conserve in their natural state, the waters and related natural resources within the watershed. The NSRWA headquarters is located on South Street in Norwell.
- In May of 1977, the North and South Rivers were designated as a National Natural Landmark (NNL) by the Secretary of the Interior. There are only 11 NNL sites in all of Massachusetts. Under the NNL program, the North and South Rivers are described as "classic examples of drowned river mouth estuaries, supporting at least 45 species of fish and many species of birds...the site contains salt marsh, brackish marsh, and freshwater marsh areas." The NNL Program encourages and supports preservation of sites that illustrate the geological and ecological history of the United States, thus strengthening an appreciation of America's natural heritage.
- The North River is the only "Scenic River" in eastern Massachusetts, protected as such under the 1978 Scenic Rivers Protection Act (M.G.L. Ch. 21, s.17B). The North River Commission was established that same year to enforce protection of the river with the authority to

regulate such actions as development and vegetative cutting within a 300-foot corridor of the river's natural banks. The Commission is comprised of representatives from each of the six Towns that abut the river, including Norwell. See Glossary for additional information about the Commission.

### **Aquifer Protection**

Norwell relies solely on groundwater for its municipal water system. As a result, actions occurring on lands above the groundwater aquifer must be monitored closely. The Town owns or controls a 400-foot diameter around each of its drinking water wells, called "Zone 1." There are strict limitations on land use activities within these Zones due to the potential for contamination. "Zone II" is the theoretical area from which the wells draw water under drought conditions and "Zone III" is the area that contributes surface water to the Zone II soils under drought conditions. See Map 5, Water Resources.

The Town has mapped these zones into a series of Aquifer Protection Overlay Districts to assist with appropriate development. These zones outline the most sensitive areas for groundwater and surface water pollution in Norwell. The aquifer areas are composed mainly of sands and gravels that can allow pollutants to travel quickly to groundwater resources. The deepest public well in operation in 2012, Well #10, is about 60 feet; Well #11 expected to be put into operation in another decade will be about 90 feet deep. The watershed aquifer overlay is presented on Map 5, Water Resources.

The Town has also taken the step of identifying contributory areas to the Town of Scituate Municipal Wells and surface water supply, and the Town of Cohasset's Surface Water Supply. One of Norwell's Overlay districts in the eastern portion of the Town protects Town of Scituate well fields. The Town of Scituate owns 28 acres off First Parish Road in Norwell for surface water protection purposes.

### **The Weir River Watershed**

Norwell's Grove Street wellfield lies entirely within the Weir River watershed. Municipal pumping wells 2, 3, 5, and 10 currently supply more than 30% of the drinking water in Norwell. Wise management of the water and wetland resources along Accord Brook by both Norwell and Hingham is an important component of conserving the resources while continuing to use the groundwater from these wells. Pumping well Number 2 has the best quality water in Norwell, similar to the Mount Blue spring within Wompatuck State Park.

### Norwell Flood Hazard Areas

The most recent Flood Insurance Rate Map (FIRM) for Plymouth County was effective on July 17, 2012. The Town of Norwell is shown on 15 of the 650 panels of the county map series. These panels are as follows:

#### 5. FLOOD INSURANCE RATE MAP PANELS

25023C 092J	25023C 0111J	25023C 0117J
25023C 094J	25023C 0112J	25023C 0118J
25023C 0103J	25023C 0113J	25023C 0119J
25023C 0104J	25023C 0114J	25023C 0206J
25023C 0108J	25023C 0116J	25023C 0207J

Source: Federal Emergency Management Agency

These maps are issued to identify Special Flood Hazard areas (i.e., areas subject to flooding by the one percent (1%) annual chance flood). They include actuarial insurance rate zones.

There are two zones that are important for areas in Norwell, Zones A and AE. Zone A is defined as “Areas with a one percent (1%) annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas, no depths or base flood elevations (BFEs) are shown within these zones.”

Zone AE is defined as “The base floodplain where base flood elevations are provided. AE Zones are now used on the new format FIRMs instead of A1-A30 Zones.” These base flood elevations are in feet above Mean Sea Level (MSL), and in Norwell, extend from 75 feet just south of Trout Brook Lane to eight feet along the tidal North River estuary.

The following areas include a summary of the flood hazard areas in Norwell, with their panel references:

**Panel 092J** This panel is located at the far westerly corner of Norwell, which is in Accord Park. The only location of a flood Zone A located directly adjacent to the easterly portion of the pond.

**Panel 094J** This panel is located at the far southwesterly corner of Norwell. A Zone A is extant at the headwaters of Longwater Brook, which is a very small lobe that enters into the Town of Norwell over the Norwell-Hanover boundary. There are no residences or commercial businesses within this Zone A.

**Panel 0103J** This panel is located along the northwesterly boundary of the Town, in Wompatuck State Park. There are no flood hazard zones within the Norwell portion of this panel.

**Panel 0104J** This panel is the northerly boundary of Norwell (with Scituate and Cohasset) that includes the northerly portion of Bound Brook Pond and its associated wetlands. There is a Zone A associated with the Pond and its wetlands, and another Zone A downstream of Mt. Hope Street to the Town boundary. There are no residences or commercial businesses within the two Zone As.

**Panel 0108J** The northeasterly boundary of Norwell is located on this panel, as is South Swamp northeast of Summer Street, and the headwaters of First Herring Brook. There are no flood hazard areas on the Panel in Norwell.

**Panel 0111J** This panel shows a Zone A associated with Jacobs Pond and its up-stream wetlands complex, that curves around to nearly Washington Street to the north and west of the Pond, and Grove Street to the north. The area is north and east of Beers Avenue, and also crosses Farrar Farm Road is north of Duncan Drive and Leigh Road, and is west of Jacobs Lane, and includes very few residences or commercial business properties. This panel also shows Zone A areas in the wetlands from the south and east of Prospect Street, mainly in the area of the Town’s Grove Street Wellfield, to the northern boundry of Hingham, where Municipal Pumping Wells 2, 3, 5, and 10 are located. There are no residences or commercial business in this Zone A complex. There is a sliver of Zone A on this panel along the Third Herring Brook downstream of the Jacobs Pond dam at Main Street. The Zone A does not reach into the playing fields of the baseball field complex east of Third Herring Brook and south of Main Street.

**Panel 0112J** This parcel extends from Mount Blue Street and Wompatuck State Park in the northwesterly boundary of Norwell to just south of Main Street at the Middle School. There is a complex that is all of Zone A associated with Wildcat Creek and its headwater wetlands in Hoop Pole Swamp, north to the east of Bowker Street, then northwest to another large complex of Zone A areas south of Grove Street and east of Prospect Street associated with Dead Swamp. There is an easterly bound of the Area that is west and parallel with Lincoln Street. There are very few residences in any of the Zone A areas on this parcel; some are along Prospect Street, and others are west of Bowker Street.

**Panel 0113J** This panel shows a very small portion of Third Herring Brook in Norwell northeast of the Route 53/Rt 3 Interchange. A Zone A is associated with the wetlands and some upland on both banks of the

Brook. The Zone A does not reach the commercial buildings along Route 53 in Hanover.

**Panel 0114J** This panel extends from the electric utility line north of the Wildcat Creek headwaters in the north to the Third Herring Brook boundary of the Town with Hanover in the south. Zone As are extant along Wildcat Creek, Wildcat Brook south of Pleasant Street, crossing Route 3, and along and in the Old Pond Meadows Municipal Wellfield that connects with the Zone A along Third Herring Brook. There are very few residences or commercial businesses inside any of the Zone As on this panel.

**Panel 0116J** This panel shows Torrey Pond and Black Pond Brook/ Second Herring Brook west, then crossing Central Street. There are a number of Zone AEs along the two-stream complex, where the elevation of the AE Zones ranges from elevation 75 feet just south of Trout Brook Lane to elevation 12 feet southeast of the Dover and River Streets intersection. This panel also shows a very small portion of the North River, with an AE Zone of elevation eight feet. Torrey Pond and its associated wetlands is zoned A. Turner Pond and its associated wetlands, upstream from Torrey Pond along Second Herring Brook, is also zoned A.

**Panel 0117J** This panel's extents are from Old Oaken Bucket Road at Winter Street to Stony Brook and the North River at the Scituate/Norwell boundary. There is a Zone AE along the North River, its marshes, and the marshes associated with Stony Brook of at elevation nine feet. Very few residences or commercial properties are within the Zone AE along Stony Brook and the North River, including, but not limited to, a residence along Stony Brook Lane, and others at King's Landing.

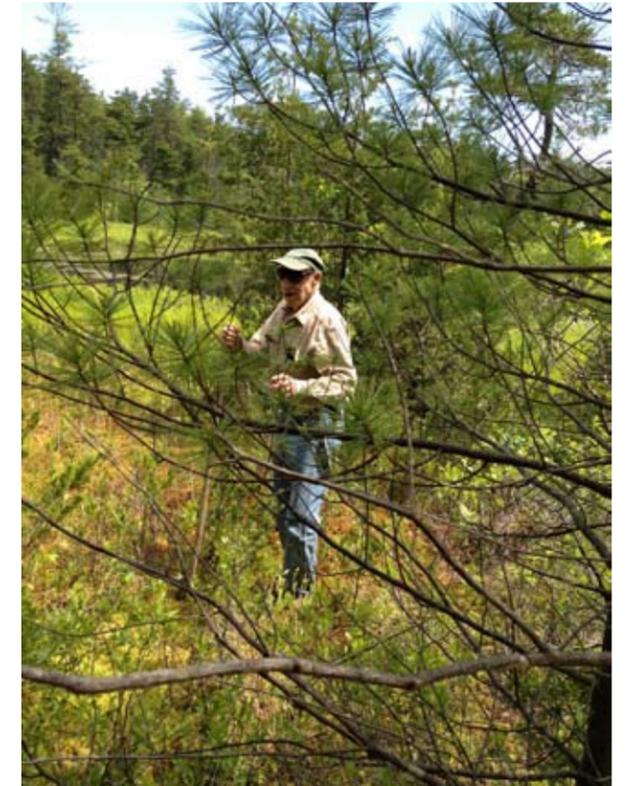
**Panel 0118J** This panel shows mainly Marshfield, with two areas along the North River and its tidal marshes, which is the boundary between Marshfield and Norwell. Small portions on the west and north sides of the North River are AE zones, with an elevation of eight feet to Bridge Street, and further down-river, elevation nine feet. There are very few residences within this AE Zone.

**Parcel 0119J** This panel extends from Route 3 in the south to the Second Herring Brook just north of Chittenden Lane, east to the North River. Zone AEs continue along Second Herring Brook from elevation 12 feet within The Norris Reservation across from Forest Avenue to its confluence with the North River at elevation eight feet. The Zone AE along the North River is elevation eight feet. There are wetland complexes along the North River east of Blackthorne Lane and east of River Street in the former Hastings property to Island View Circle and

upstream along the North River. There are very few residences within this AE Zone.

**Panel 0206J** This panel includes the area along Third Herring Brook south of Route 3 to the North River, and downstream on the River to nearly Route 3. There is a Zone A along Third Herring Brook to River Street. The Zone AE along the wetlands associated with the Brook and the North River then is elevation eight feet. There are very few residences within this AE Zone.

**Panel 0207J** This panel shows the North River from just upstream of Route 3 to downstream of Route 3 in Norwell. The AE Zone is associated with the North River and its tidal marshes, and is elevation eight feet. There are no residences in this AE Zone.



*Photo: Wes Osborne at Black Pond Bog's 50th anniversary celebration by Madison Halatsis*

## D. VEGETATION

### Overview

Freshwater resources and the tidal influence of the North River have helped create diverse natural communities in Norwell. There are extensive, intact fresh and saltwater marshes along the North River. White pine, red maple and various oak trees, including red, black and white oak, are the predominant upland tree species. Groves of beech and clusters of holly trees reaching 30 to 40 feet are also coming in quickly. One significant grove of tall holly trees exists on private land off of Hoop Pole Lane. Red maples and water tupelo are commonly found in the lowland and swampy areas.

### Mapping Projects

A number of vegetation and habitat mapping projects have been undertaken either regionally or statewide that include all or part of Norwell and that have made valuable contributions to the base of natural resources knowledge in Town. Several mapping projects immediately relevant to Norwell are listed below:

- Massachusetts BioMap is a statewide map produced by the Natural Heritage and Endangered Species Program (NEHESP) with funding from the Executive Office of Environmental Affairs (EOEA), and is designed to guide the protection of the state's biodiversity. Habitat identified as crucial to the state's rare species and exemplary natural communities were mapped. The map itself represents the areas that are

most viable exemplary natural communities and habitat for rare plant and animal species and depicts the surrounding landscape that buffers and connects habitat areas. Norwell looks forward to completion of Town-wide bio-inventories to more accurately reflect and characterize the Town's species diversity to optimize the use of BioMap 2 for future planning purposes.

- The North River Mapping Project, produced by the North and South Rivers Watershed Association (NSRWA) with funding from the Massachusetts Riverways Program and the Trustees of Reservations, uses GIS technology to identify parcels targeted for future protection. The project focus area was defined as the first major road back from the river and included approximately 2,500 parcels in five towns: Scituate, Norwell, Marshfield, Hanover, and Norwell. The project produced a base map in digital form that displays individual parcels in relationship to natural resources. Natural resource data were then overlaid with the parcels and criteria were established to identify parcels of high priority for protection. The goal of this project is to work with land trusts and neighboring towns and to identify parcels of high priority to determine the feasibility of either acquiring the property or protecting it through a conservation restriction or easement.

### Forest Lands

The total area of Norwell is 21.2 square miles of which 0.3 square miles is open water and 20.9 square miles is land. Fifty-eight percent is upland forest and 30 percent is wetlands. Forested land occurs throughout the Town but is a patchy mosaic interspersed and broken by large developments, open water and farmland. Developmental pressures are leading to an ever-increasing loss of continuous forestland and therefore, a loss of biodiversity.

However, Norwell is fortunate to have some areas of large, uninterrupted, and protected woodland. Wompatuck State Park is situated in Norwell, Hingham, and Cohasset and has 3,467 acres of undeveloped land; 537 of those acres lie in Norwell. Wompatuck State Park contains many diverse natural communities including Successional White Pine Forest and many different types of wetlands. Almost half of the Norwell portion of Wompatuck State Park is considered an Estimated Habitat of Rare Wildlife by the NHESP.

The Cuffee Hill and Judges Hill/Black Pond Bog complex provides approximately 261 acres of contiguous, undeveloped and protected open space. In 2012, Norwell voted at Town Meeting to add 16 acres of conservation lands, including the Historic Cuffee Lane. The Town finalized the land purchase in September 2012. This entire open space



Photo: Open Field by Jeremy Clegg

area is valuable because of its position in the landscape. It is situated at some of the highest elevations in Norwell and is therefore valuable for sub-watershed protection. NHESP has identified an Estimated Habitat of Rare Wildlife that is contained within this complex. It is also part of the Massachusetts BioMap's supporting Natural Landscape. Additional clusters of trail areas such as Donovan/Wildcat occur throughout the Town. Connections between trail systems are a priority of the Norwell Conservation Commission land program.

### Agricultural Lands and Open Fields

Agricultural lands contribute both scenic and wildlife values to a community. As Norwell has become more and more residential, much of the farmland has been sold developed. There are still some active farms in Norwell today that sustain hay and a variety of produce, including 40 acres of cranberry bogs and blueberry stands. Others maintain farm animals such as sheep, cows, llamas, chickens, and horses. Many species of wildlife find the resources they need for all or part of their lifecycle on agricultural lands, including cranberry bogs, where migratory birds and ducks stopover in the open reservoirs, spotted turtles have been known to estivate on the bottom, frogs inhabit the channels and adjacent ponds, and hawks perch on the surrounding tree canopy. Other animals, such as



Photo: Aerial of Hornstra Farm  
by Karl Swenson

white-tailed deer and foxes will often use cranberry bog reservoirs for a water source.

The Hornstra Farm (formerly Loring Farm) on Prospect Street is the largest active farm in Town. This idyllic farm property is roughly 71 acres and was farmed for more than 240 years by the Loring Family. Albert Loring was the last of his family to continue the family practice of operating a dairy farm on the site. In 1980, Mr. Loring sold the development rights to his property to the Commonwealth of Massachusetts and Town of Norwell to provide protection in perpetuity under Norwell's first Agricultural Preservation Restriction (APR), and one of the first APRs written by the Commonwealth. Cliff Prentiss, well-known local preservationist and conservationist, along with representatives from Norwell and the Commonwealth worked closely with Mr. Loring to establish the APR, ensuring that the property would remain a farm. Mr. Loring, having no heirs, sold the property and the practice of dairy farming was suspended until 2009 when John Hornstra, a local family farm owner, purchased it. Mr. Hornstra's goals are to preserve the property, raise dairy cows on pasture feed and hay (grown on the farm), and produce and process milk for sale locally. In 2010,

Norwell acquired from Mr. Hornstra, with Community Preservation Act funds, an additional Conservation Restriction on the remaining 2.4 acres where the buildings are located, which ensures that no part of the land can be used for anything except an active farm. The character and historic significance of this charming farm echo the importance of farms to our local community in earlier days. Only three dairy farms remain in Plymouth County where once scores of such farms supplied food for local residents and summer visitors.

There are not many remaining areas of open meadows or fields in Town. In addition to the cranberry bogs, the Donovan Farms on Pleasant Street, the Whiting Fields on Main Street, Fresh Meadow an old hay field, and Jacob's Farm on Jacobs Lane and Main Street are the major areas of open land. Some of these areas are already protected in perpetuity while others are in some type of conservation restriction. In all planning efforts to date, Norwell residents have made clear that the preservation of the Whiting Fields on Main Street is a high priority. These fields are currently held under Chapter 61A. See Chapter 5 for more details.

#### **Public Shade Trees**

Massachusetts regulations define public shade trees as all trees within a public way or on the boundaries thereof including trees planted by the tree warden (or a private organization acting with written consent of the tree warden) for the purpose of improving, protecting, shading, or ornamenting the public way. M.G.L. ch.87 §§1,7.

Norwell has a Tree Warden whose responsibilities are primarily maintenance, responses to calls and complaints, including keeping brush and growth down on Town roadsides, drainage areas, culverts, and rights-of-way. Although Town officials have discussed a Public Shade Tree Inventory previously, the Town has never generated one. Other than occasional requirements by the Planning Department and a few older subdivision developments, there have been no public shade tree planned plantings in Town. The NOSR Plan Committee has added an Action Item to this Plan to assess the need, if any, in Norwell for planned public shade tree plantings and the possibility for obtaining funds.

#### **Upland Communities**

Norwell is home to one of the Super Maples, which are large diameter maple trees. The Super Sugar Maple on Judges Hill is more than 6 feet in diameter. A large group of sugar maples found on Judges Hill is listed in one of the Town's history books. A cluster of this size containing such a tree is a rare occurrence. The Super Maple is sadly in very poor condition and may not survive much longer; however, it is the parent to all the other sugar maples that comprise the rare cluster.

The majority of the forests on conservation lands are comprised of mature state trees approaching the century mark. These forests are largely in an unmanaged state resulting in dense white pine areas with no understory. This combination frequently leads to the death of the forest. A long-term, comprehensive forest management plan is a priority action item for the Town.

The following upland natural communities are located in Norwell. The state listed index of rarity is given beside each natural community and classifications are primarily found in *Classification of Natural Communities of Massachusetts* by Swain and Kearsley, 2001. This Classification system assigns an alpha-numeric reference to natural communities based upon the rarity of the community. Those natural communities that are considered rare are listed as S1 on the continuum and those considered secure are listed as S5. Access to the complete NHESP description for each rare and unique natural community can be found in Appendix J, Page 235, Helpful Links Associated with Land Conservation and Recreation. Discussions with local naturalists Fred St. Ours and Steve Ivas helped to identify locations where these types of communities occur in Norwell.

**Oak/Hickory Forest (S4)** Oak-Hickory Forest is defined as a hardwood forest dominated by a mixture of oaks with hickories mixed in at lower densities. The subcanopy can include hop hornbeam (*Ostrya americana*), flowering dogwood (*Cornus florida*), and shadbush (*Amelanchier arborea*). This is a broadly defined and variable forest type. The Norris Reservation contains examples of this natural community.

At the highest elevations in Stetson Meadows, a large Oak/Hickory forest woodland has been decimated by a combination of factors. The combined defoliation caused by forest tent caterpillars, winter moths and gypsy moths have reduced the natural resistance of the Red Oak woodland. The stress of defoliation coupled with drought over several years weakens trees to the point where secondary agents, such as insects and fungi, can overcome what is left of the trees' natural defenses.

**White Pine-Oak Forest (S5)** White Pine-Oak Forests are comprised of a mixed dominance of oaks and white pine in the canopy and dominate the upland forests of Norwell. This natural community usually has a prominent heath shrub layer, with low bush blueberries (*Vaccinium angustifolium* and *V. pallidum*), huckleberry (*Gaylussacia baccata*), mountain laurel (*Kalmia latifolia*), and sheep laurel (*Kalmia angustifolia*). The White Pine-Oak Forest is probably the most common natural community in Norwell and the area in general. Good examples can be found on the Town-owned Stetson Meadows property.

**Successional White Pine Forest (S5)** Successional White Pine Forest is defined as old-field (several decades) with a white pine overstore and other non-dominating co-occurring species. Other co-occurring species include white oak (*Quercus alba*), red oak (*Quercus rubra*), and red maple (*Acer rubrum*). The shrub layer varies from sparse to thick and usually contains elderberry (*Sambucus canadensis*), black cherry (*Prunus serotina*), maple-leaved viburnum (*Viburnum acerifolium*), and sometimes non-native species such as buckthorn, honeysuckle and multi-flora rose. This community can also be found throughout Norwell.

**Cultural Grassland (No state ranking)** Cultural Grasslands are open communities created and maintained by humans that generally occur on sand or other droughty, low nutrient soils. They are important for conservation of grassland bird communities. Donovan Fields, owned by the NCC, and Jacobs Farm, owned by the Town, are good examples of cultural grasslands. Hilltop Meadow, an upland area on Pine Street behind the soccer fields that was the former Town landfill, provides habitat to a surprising diversity of wild flowers, red-tail hawks, saw-whet owls, Eastern meadowlarks, and migratory dragonflies.

#### **Wetland Communities**

The following wetland natural communities are located in Norwell. These natural communities are referenced using the same alpha-numeric system used for Upland Communities following "Classification of Natural Communities of Massachusetts" by Swain and Kearsley, 2001. The complete NHESP description is available for each rare and unique natural community in Appendix J, Page 235, Helpful Links Associated with Land Conservation and Recreation.

**Freshwater Tidal Marsh (S1)** Freshwater tidal marshes are defined as "Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream especially vulnerable to extirpation in Massachusetts for other reasons." Patricia Swain, ecologist for the NHESP, states that the occurrence in Norwell is fairly large along the North River and in good condition. Freshwater Tidal Marshes occur along free-flowing coastal rivers in the upper reaches of tidal influence and are comprised of mixed herbaceous marsh species. Dominant species include blue joint (*Calamagrostis canadensis*), sedges (*Carex stricta*), narrow-leaved cattail (*Typha angustifolia*), jewelweed (*Impatiens capensis*) and sweet flag (*Acorus calamus*). All efforts should be made to maintain the protection of this fragile and rare habitat.

**Inland Atlantic White Cedar Swamp (S2)** The most significant area of Atlantic White Cedar swamp that is found in Norwell probably does not match the natural community description by Swain and Kearsley. In

Norwell, vegetation compositions matching this description typically occur in small pockets within larger hardwood/conifer wetlands. Old Pond Meadows might contain one of the only state-recognized examples of Inland Atlantic White Cedar Swamp in town. The area contains a 3-5 acre stand of Atlantic White Cedar. Jacobs Pond, Bound Brook Pond, and Black Pond Bog also contain small pockets of Atlantic White Cedar.

**Acidic Shrub Fen (S3)** Acidic Shrub Fens are acidic peat lands dominated by mostly deciduous shrubs. They are less acidic and nutrient-poor than level bogs. In the eastern part of the state, they are usually found along wet pond margins. Black Pond Bog is often considered a very good example of this type of natural community, however the best examples in Norwell are Valley Swamp, sections of Jacobs Pond and segments of the Second Herring Brook as it runs through the Norris Reservation.

**Level Bog (S3)** Level bogs are acidic dwarf ericaceous shrub peat lands, typically with pronounced hummock-hollow topography. They are the most acidic and nutrient poor of Massachusetts' peat land communities. Leatherleaf (*Chamaedaphne calyculata*) is dominant with a typical mix of rhodora (*Rhododendron canadense*), sheep laurel (*Kalmia angustifolia*), and bog laurel (*Kalmia polifolia*). The NHESP identifies Black Pond Bog as a Level Bog.

**Emergent Marsh (S4)** Both Deep Emergent Marshes and Shallow Emergent Marshes (both S4) occur along the North River in Norwell. It is difficult to separate these two natural communities but according to the DEP Wetlands Inventory 1:5000 data layer, Norwell has both types of communities. As more information becomes available, we will better be able to determine exact locations of each type of community.

**Wet Meadow (S4)** A Wet Meadow is defined as a graminoid emergent marsh that is temporarily flooded. Repeated disturbances such as mowing keep this habitat open. Tussock-forming sedges are often dominant. An excellent example of a wet meadow is the Third Herring Brook valley below South Street as it enters Hanover. The Norwell Conservation Commission recently acquired a parcel on River Street with Community Preservation Act funds. This parcel is most likely a wet meadow but needs a more complete inventory to determine if it meets the Swain and Kearsley definition.

**Hemlock Hardwood Swamps (S4)** Hemlock Hardwood Swamps occur in poorly drained basins in bedrock and till and are found typically throughout the central and western portions of the state. Hemlock (*Tsuga canadensis*) is the dominant canopy species but is associated with holly, white pine (*Pinus strobus*), red maple (*Acer rubrum*) and yellow birch (*Betula*



Photo: Woods behind the Cranberry Bogs by Tori Moore

*alleghaniensis*). Shrubs form in canopy gaps between the dense conifers and hardwoods. Common associated shrubs include alders (*Alnus* spp.), highbush blueberry (*Vaccinium corymbosum*), winterberry (*Ilex verticillata*), and mountain holly (*Nemopanthus mucronatus*). The ground layer is hummocky and covered with various moss species. Black Pond Brook, north of the power line, contains an excellent example of a Hemlock Hardwood Swamp. More recently, the hemlock woody adelgid has had an effect on the hemlock forest resulting in decline of large tracts of hemlock.

**Red Maple Swamp (S5)** Red Maple Swamps are the most common forested wetland in Norwell as well as in Massachusetts. Red maple swamps are highly variable and occur in a variety of physical settings. Red maple is strongly dominant in the canopy overstory with a co-occurrence of a variety of species, which may include yellow birch (*Betula alleghaniensis*), black gum (*Nyssa sylvatica*), white ash (*Fraxinus americana*), white pine (*Pinus strobus*) and American Elm (*Ulmus americana*). The shrub story is often dense and well-developed (<50% cover but can be variable).

Red Maple swamps can be important vernal pool habitats in areas where there are two to three months of ponding and an absence of fish. Examples of Red Maple Swamp natural communities in Norwell include the wetlands along both sides of Bowker Street and the swamps of Miller Woods Conservation Area.

**Shrub Swamp (S5)** Shrub swamps are highly variable communities that are shrub-dominated and occur on mineral or mucky mineral soils that are seasonally or temporarily flooded. Norwell has a number of good examples of this natural community, including Dead Swamp, Hoop Pole Swamp, and portions of Bound Brook Pond.

**Vernal Pools** There has been some debate over what precise characteristics define a vernal pool but generally it can be defined as a depression where water is confined and persists during the spring and early summer of most years, where many species depend on vernal pools for all or part of their lifecycles, and where fish do not survive (Burne, 2000). Vernal pools often occur in fall as well but do not generate the same attention as the spring pools. In Massachusetts, vernal pools vary widely in size, shape, depth, and other characteristics. Wood frogs (*Hyla versicolor*), spotted salamanders (*Ambystoma maculatum*), marbled salamanders (*Ambystoma opacum*) and fairy shrimps (*Eubranchipus spp.*) are obligate vernal pool species, meaning they depend on vernal pool habitat to complete all or a portion of their lifecycle. All except the marbled salamander have been identified in Norwell. The marbled salamander is a state listed Threatened species and has not been confirmed in Norwell or Hingham. It should be noted that Massachusetts is at the far northern reach of the habitat range for the marbled salamander. It is prolific in many southern states.

Vernal Pools themselves are protected under the Wetlands Protection Act but not the vernal pool habitat. With the increased pressure of development, access by species reliant on vernal pools is threatened echoing the importance of protecting vernal pool habitat as well as the pool itself. Some towns including Norwell have adopted by-laws providing greater protection for the habitat surrounding vernal pools.

The number of vernal pools that have been officially certified in Norwell has more than doubled since the last 2005 Plan to the current total of 27. Since 2005, 20 vernal pools were certified with the NHESP. Efforts are continuously underway to certify more. The South Shore Natural Science Center runs a vernal pool identification and certification program and students identified and surveyed vernal pools on the Science Center property. Thanks to these efforts four vernal pools are now certified through NHESP.



Photos: Black Pond tree with mushrooms by John Galvin

Currently, 55 potential vernal pools were listed in Norwell by the NHESP. These potential vernal pools remain uncertified until observations are reported to NHESP for certification. The Science Center continues their efforts to identify potential vernal pools and expanded their vernal pool educational program to certify vernal pools town wide. The Norwell Conservation Commission is also in the process of certifying additional vernal pools in Town. These and other efforts to certify and protect vernal pools will be included in the Action Plan. See Section 9 for more details.

#### **Rare, Threatened and Endangered Plant Species**

Norwell's wetlands account for 30% of the Town's total area. Wetlands provide robust habitat that sustains a diversity of plant and animal species including rare, threatened and endangered species listed with the NHESP as well as species of special conservation interest to the state of Massachusetts. The NHESP is responsible for protecting rare, threatened and endangered plant and animal species.

The rare vegetation species identified and confirmed by NHESP in Norwell include Estuary Beggars-ticks (*Bidens hyperborean*-Endangered) Parkers Piperwort (*Eriocaulon parkeri*-Endangered), Gypseywort (*Lycopus rubellus*-Endangered), Pale Green Orchis (*Platanthera flava var. herbiola*-Threatened), Swamp Dock (*Rumex verticillatus*-Threatened), Wild Senna

(*Senna hebecarpa*-Threatened) and Hemlock Parsley (*Conioselinum chinense*-Species of Special Concern). Parkers Piperwort, Gypseywort, Swamp Dock, and Hemlock Parsley recently have been observed. The Pale Green Orchis, Wild Senna and Estuary Beggars-ticks have not been reported in Norwell in 25 years and those observations are listed as Historic.

### **Invasive Plants**

A number of invasive species, both aquatic and terrestrial have been confirmed in Norwell. No scientific surveys have been done but local naturalists and scientists can confirm that Japanese barberry, pokeweed, Japanese bamboo, Tartarian honeysuckle, Japanese honeysuckle, garlic mustard, European buckthorn, Phragmites (Common Reed), floribunda roses, and purple loosestrife are all present to some extent.

The distribution of these species or the rate of invasion is not known. Most of the invasive species mentioned above can be seen at the large conservation parcels including Norris Reservation, Stetson Meadows, Jacobs Pond, and Fogg Forest as well as at the highway barn area and Town soccer fields. There is an extensive invasion of purple loosestrife just upstream of the Mill Pond Dam owned by the YMCA of Hanover. All of these areas could benefit from an invasive species management plan.

The recent changes in Planting Zones will likely result in an increase in invasive species and a slow change in naturally occurring native species. The Norwell Conservation Commission (NCC) banned the use of hay bales as an erosion control method because of the presence of invasive plant seeds that can germinate and spread impacting wetlands and buffer zones. The NCC accepts straw bales, silt socks and other options as erosion control methods because of the absence of invasive plant seeds.

## **E. FISHERIES AND WILDLIFE**

The diversity of natural communities in Norwell supports an equally diverse array of wildlife species. Jeff Corwin well-known animal activist grew up in Norwell and began his career by learning about the wildlife right here in town. As a child growing up in Norwell, Mr. Corwin had the opportunity to explore Norwell's diversity of natural communities and equally diverse array of wildlife species. Norwell wildlife has been well documented from a variety of sources. Local naturalists and experts Steve Ivas, Fred Saint Ours and David Clapp offered many helpful suggestions of where to find specific species, as well as confirming the presence or absence of species that were previously theoretically listed in Norwell. The Science Center shared two years' worth of Biodiversity Days information that their staff naturalists collected. The information described the diverse habitats on the Science Center property, Jacobs

Pond, Stetson Meadows, and Black Pond Bog conservation areas. In addition, the First Herring Brook Watershed Initiative (FHBWI) conducted a comprehensive stream survey during the information-gathering phase of its watershed study. The final document, the FHBWI Watershed Report, was completed in 2003. The data on macro invertebrates found in the FHBWI's report enhanced data previously collected by local naturalists. The information on aquatic invertebrates was particularly useful. The information about Rare, Threatened and Endangered Species comes from Patricia Swain of NHESP. A habitat analysis has not been undertaken for this Plan due to limitations in staff and resources.

In this section, the highlights for each group of wildlife are presented. Species included in these lists are often derived from a "theoretical list" based on the existence of preferential natural communities and reported observations. Species that have been observed and reported in Town are then confirmed with input from biologists and naturalists. The Town should continue to add to these lists as more is learned about which species inhabit Norwell.

Animals migrate for feeding, breeding or overwintering and occasionally vehicular collision result in mortalities or injuries. A consortium has established a public website where observations of animal mortality can be reported. These reports help establish a better understanding of where incidents occur and shape decision making about how to better protect wildlife. Additionally, specialized organizations are equipped to aid injured animals. See Appendix J, Helpful Links Associated with Land Conservation and Recreation.

### **Birds**

There are more than 70 confirmed species of breeding birds and 23 additional possible breeding species in Norwell. Many areas of Town such as Bound Brook Pond on Mt. Hope Street provide excellent habitat for a diversity of birds and waterfowl. Local naturalists and residents confirm that this area provides habitat for a diversity of migratory waterfowl. The open land behind the Pine Street Hill soccer field provides habitat for screech owls, barred owls, great horned owls, and American kestrels. There is one rare bird listed in Norwell by NHESP, the Common Tern (*Sterna hirundo*), classified as a Species of Concern.

A section of the North River that extends from the Hanover Town line to the Center of Norwell was one of the first areas recognized and nominated for an Important Bird Area (IBA) for the marsh wren (*Cistothorus palustris*), a Species of Conservation Interest in Massachusetts. The Massachusetts Audubon Society defines an IBA as a location providing

essential habitat to one or more species of breeding, wintering, and/or migrating birds. The North River is a very important stopover for migratory birds and is also important to resident waterfowl. The North River is incredibly valuable as a wildlife habitat because its tidal influence supports a diversity of habitats and is currently under review for acceptance into the IBA program.

One bird that has undergone a tremendous rebound statewide is the Wild Turkey (*Meleagris gallopavo*). Wild Turkeys were found commonly throughout Massachusetts at the time of Colonial settlement. By the late nineteenth century, turkeys had disappeared from the State. By 1996, turkey's populations were thriving throughout the state. Turkeys are commonly seen in Norwell crossing streets, grazing in fields, roosting in trees, or even flying.

### **Amphibians**

The Spotted Salamander (*Ambystoma maculatum*), Eastern Red-backed Salamander (*Plethodon cinereus*), American Toad (*Bufo americanus*), Spring Peeper (*Hyla crucifer*), Gray Treefrog (*Hyla versicolor*), American Bullfrog (*Rana catesbeiana*), Green Frog (*Rana clamitans*), Pickerel Frog (*Rana palustris*), and Wood Frog (*Rana sylvatica*) are all relatively common in Norwell. Some are obligate vernal pool breeders.

### **Reptiles**

Snapping Turtle (*Chelydra serpentina*), Painted Turtle (*Chrysemys picta*), Eastern Box Turtle (*Terrapene carolina*-Species of Concern), Spotted Turtle (*Clemmys guttata*-Delisted), Eastern Racer (*Coluber constrictor*), Northern Watersnake (*Norodia sipedon*), Common Gartersnake (*Thamnophis sirtalis*) all find habitat in Norwell. Although Norwell has habitat appropriate for Wood Turtles (*Glyptemys insculpta* Species of Special Concern), none have ever been confirmed and documented.

### **Butterflies**

Butterflies are not only enjoyable to observe but they also serve a very important function in the environment by pollinating many species of plants. They are also very fragile because they often are dependent upon only one or two species of vegetation for their food source. If that food source becomes rare and hard to find, then the species of butterfly is also put at risk.

Black Swallowtail (*Papilio polyxenes*), Eastern Tiger Swallowtails (*Papilio galucus*), Cabbage White (*Pieris rapae*), and Spring Azure (*Celastrina ladon*) are just a few of the common butterflies that were identified by The Science Center staff during Biodiversity Days. The Massachusetts Audubon Society hosts a butterfly atlas online recording the distribution of butterflies that populate the Commonwealth. See Appendix J, Helpful Links Associated with Land Conservation and Recreation.

### **Insects**

The Elderberry Long-Horned Beetle (*Desmocerus palliates*-Species of Conservation Interest in Massachusetts) is a striking insect with dark metallic blue body with bright gold and orange wings that resides in Norwell. It was formerly listed as a Species of Concern until reports around the Commonwealth indicated a more secure population. In 2010, it was delisted but remains a Species of Conservation Interest in Massachusetts.

Norwell's habitat supports pockets where fireflies are prevalent. There are approximately 20 to 30 species of fireflies in New England. The species that flash come in three main genera (groups of closely related species): *Photinus*, *Pyroactomena* and *Photuris*. These flying beetles were once very common in New England but their nighttime presence has become less common in recent years. A citizen science study called Firefly Watch based at the Museum of Science collects data about firefly behavior and distribution provided by its volunteers.

Dragon flies and damselflies are flying insects of the order *Odonata* commonly found in both wet and dry environments in Norwell. Dragon flies and damselflies are beautiful, harmless, and ancient and prey on other insects. These expert fliers control each of their wings independently by flapping their wings both up and down as well as rotating their wings forward and back, which allows them to move straight up or down, fly backwards, stop and hover all while flying at either full speed or slow motion. The Mocha Emerald Dragonfly (*Somatochlora linearis*-Species of Concern) and New England Bluet Damselfly (*Enallagma laterale*-Species of Conservation Interest in Massachusetts) inhabit Norwell.

Nuisance insects including mosquitoes and deer ticks are prevalent in Norwell with the abundance of wetlands and wildlife. Mosquitoes potentially carry West Nile Virus and Eastern Equine Encephalitis virus. The Massachusetts Mosquito Control Project administered by the Massachusetts Department of Agriculture keeps Mosquito populations in check. Deer ticks potentially carry diseases like Lyme disease but not all deer ticks carry the bacteria.

### **Aquatic Macro-invertebrates**

The First Herring Brook Watershed Initiative's report entitled "Aquatic Macro invertebrates of First Herring Brook and its Tributary Streams" (September 2002) provides information on macro-invertebrate species that live in a system primarily found in Scituate, however, a part of the watershed sub basin is in Norwell.

## Fish

Norwell has many freshwater brooks and streams as well as the tidally influenced North River. These factors contribute to a diversity of freshwater species, as well as anadromous fish. The freshwater species include natives such as Brown Bullhead (*Ameiurus nebulosus*), Chain Pickerel (*Esox niger*), Rainbow Smelt (*Osmerus mordax*), and four different species of Stickleback. Four species of anadromous fish have been confirmed in Norwell including the Blueback Herring (*Alosa aestivalis*), Alewife (*Alosa pseudoharengus*), American Shad (*Alosa sapidissima*), and Striped Bass (*Morone saxatilis*). All four species live in the ocean and the first three species undertake spawning migration to Norwell's brooks in the Spring. Dams that were established in the early colonial days up to the twentieth century affect the breeding success of anadromous and catadromous fish directly as obstacles to their migration and indirectly by changing the natural conditions potentially affecting recruitment. In May 2012, a deceased 6-foot Sturgeon (*Acipenser* spp.) was landed in the North River. Sturgeon species are listed as endangered by both the Commonwealth and the Federal government.

Every Spring, the Massachusetts Division of Fisheries and Wildlife (Mass Wildlife) stocks Second Herring Brook (Norris Reservation Pond) with trout and the Third Herring Brook with rainbow trout. Smelt eggs recently have been reported in Second Herring Brook by Division of Marine Fisheries.

## Mammals

Woodchuck (*Marmota monax*), Striped Skunk (*Mephitis mephitis*), Common Raccoon (*Procyon lotor*), Eastern Gray Squirrel (*Sciurus carolinensis*), Eastern Cottontail (*Sylvilagus floridanus*), Eastern Chipmunk (*Tamias striatus*), Red Squirrel (*Tamiasciurus hudsonicus*), Common Gray Fox (*Urocyon cinereoargenteus*), and Red Fox (*Vulpes vulpes*) were all identified during The Science Center's Biodiversity Day 2002 and have been easily confirmed by many observers. Norwell has most of the other mammals that are found commonly throughout southeastern Massachusetts but there are a few worth mentioning in more detail because they are either making a comeback or expanding their range.

River otters (*Lutra canadensis*) have been spotted on River Street near Third Herring Brook. In order to survive, River otters require the first 200-300 feet of a riparian corridor (parallel to the river) to have healthy habitat. They were historically distributed throughout the state but had disappeared due to development along their river corridors. Pollution and vehicular collisions have also taken a toll on their ability to survive. In some areas, River otters appear to be making a comeback.

Fishers (*Martes pennanti*) are a type of weasel, and have been sited crossing River Street, at Jacobs Farm, and also parallel to Winter Street. By the 19th century, Fishers had been eliminated from the state due to the extensive clearing of land for agriculture. Fishers made a comeback in the state as mature forests became re-established. Fishers need mature, dense, coniferous or mixed coniferous-hardwood forest with closed canopy and tend to avoid traveling in large open areas. Local naturalists have confirmed that they are present in Norwell. The extent of their range in Town or if they spend their entire lifecycle in Norwell's forests is not known.

White tailed deer (*Odocoileus virginianus*) populations have rebounded from nearly a century of decline. Early colonial impacts on forest habitat nearly eliminated the species from the Commonwealth. Today, efforts to conserve and restore habitat are associated with a thriving White tailed deer population. These deer are highly adaptable and successful breeders. Their increased numbers have brought several negative impacts including a wide distribution of deer ticks, vehicular collisions, and over grazing of numerous native plant species. Research is ongoing focused on deer impacts to shrubs and the succession of the forest canopy. Towns across Massachusetts are identifying deer management strategies to mitigate the impacts of the White tailed deer. The United States Forest Service employs a Botanist who specializes in deer management studies that help towns, states and private organizations to make informed decisions about managing their local deer populations.

Bats are nocturnal and consume a vast amount of mosquitoes and other insects. Their numbers have declined due to White-Nose Syndrome (WNS), a white, crusty fungus that covers their muzzles and other parts of their bodies during winter hibernation. WNS depletes the winter fat reserves too quickly by the middle of winter causing them to begin to forage during the winter, which leads to starvation. Norwell resident, Roger Landry, is a bat expert who also builds bat houses that provide an alternative to natural bat dwellings such as caves where high rates of WNS are now impacting bat populations.

## Rare, Threatened and Endangered Wildlife

NHESP has documented three Species of Concern in Norwell: the Eastern Box Turtle (*Terrapene carolina*), Mocha Emerald Dragonfly (*Somatochlora linearis*) and the Common Tern (*Sterna hirundo*). "Species of Concern" are native species that have suffered a decline that could threaten the species if allowed to continue unchecked, or which occurs in such small numbers or with restricted distribution or very specialized habitat requirements that they could easily become threatened within Massachusetts (Endangered Species Act). In addition, NHESP lists one species that occurs in Norwell,

the New England Bluet Damselfly (*Enallagma laterale*), as a Species of Conservation Interest in Massachusetts. Two species found in Norwell, the Spotted Turtle (*Clemmys guttata*) and the Elderberry Long Horned Beetle (*Desmocerus palliates*), were removed from NHESP's list because observations throughout the Commonwealth indicated that their populations have stabilized.

### Wildlife Corridors

Wildlife corridors are unfragmented areas of wildlife habitat that allow populations of animals to move freely, disperse into new areas, and intermingle with other individuals of their species. Though a few large tracts of forestland and wetland complexes are protected and mostly intact, Norwell does not have any documented terrestrial wildlife corridors. Habitat fragmentation is a growing problem for wildlife species that depend on intact areas of habitat for their survival. The North River serves as riverine corridor for four species of anadromous fish: The Blueback Herring (*Alosa aestivalis*), Alewife (*Alosa pseudoharengus*), Striped Bass (*Morone saxatilis*) and American Shad (*Alosa sapidissima*), and is a likely corridor for River otters (*Lutra canadensis*).

Habitat fragmentation is a major threat to the survival of many species. Not only do species face fragmentation of their habitat due to dense developments, but physical barriers such as highways, dams, substandard culverts, and large expanses of impermeable surfaces restrict the animals' ability to breed, find the resources they need to survive, and migrate without the threat of vehicle mortalities. Many species move out daily to seek food or shelter. Sufficient continuity in their range is needed for adaptation and survival. Additional impacts to habitat loss include the conversion of meadow edges to lawn or forest. The transitional shrub layer between field/lawn and forested areas is critical to many species, but is one of the most endangered habitat areas due to development into areas previously considered marginal.

Norwell's major highways and state roads, including Route 3, Route 53 (Washington Street), and Route 123 (Main Street), act as barriers for many terrestrial and semi-aquatic species. Turtles, snakes, salamanders, frogs, and many small mammals fall victim to vehicular mortality more often than the larger mammals. Dead gravid (egg bearing) female turtles are often found on Grove Street, Prospect Street, Winter Street, and Mount Blue Street. All of these streets have extensive wetlands on both sides and the turtles often cross to find appropriate habitat to lay their eggs. The Town should attempt to protect large tracts of open space that can provide un-fragmented habitat, including transitional meadow edge, for a wide variety of species. Reporting animal mortalities will also assist in establishing greater protection. See Appendix J.



## F. SCENIC RESOURCES & UNIQUE ENVIRONMENTS

Norwell possesses features of great natural beauty engendering pride and appreciation in its citizens and admiration from visitors and neighbors. The beautifully maintained colonial homes, historic village district, open fields, stone walls, and forests are truly impressive and reflect the pride its citizens have in its history. The North River, as seen through the eyes of a hiker or a boater, is enchanting. Although time, development and growth may have diminished the many scenic views enjoyed by our ancestors, Norwell remains one of the most beautiful towns on the South Shore. See Map 4, Unique Features, for numerous points of interest in Town.

### The North River

The North River is a beautiful tidal estuary, a unique and fragile habitat with salt and fresh water features. Because of its proximity to the ocean and the local availability of timber and other resources, the North River was the location of an active shipbuilding industry from the late 17th to the mid-19th century. Plaques marking these historic sites can be found along the river's edge. Norwell is home to four historic shipyards on the North River (Block House, Chittenden Lane, Wanton, and Bald Hill).

*Photo: The North River looking upstream towards Hanover — Norris Reservation and Norwell on the right by Karl Swenson*

Early use of the river also included the extensive harvesting of salt hay from the salt marshes and meadows to feed farm animals.

Prosperous merchants and other settlers built many beautiful homes along the river at a time when most of the area was farmland. Many of the homes situated on River Street would have had fantastic views of the river. Unfortunately many of these early views have since been obscured by secondary forest growth and development. However, the River is bordered by several large tracts of conservation land (most notably Norris Reservation and Stetson Meadows) that offer walking trails and beautiful views of the river. These areas provide opportunities for walking, jogging, and swimming, fishing and boating. Norwell also has two public boat launch sites: the Union Street Bridge and the end of Chittenden Lane. The Union Street Bridge is an extremely unsafe (albeit popular) diving location for local teenagers on hot summer days.

**Black Pond Bog Nature Preserve**

The 87-acre Black Pond Bog Nature Preserve was The Nature Conservancy’s first purchase in Massachusetts in 1962. It is a unique environment that contains a pocket of Atlantic White Cedar swamp, an upland forest, a meadow where one can see ecological succession, and a quaking bog surrounding Black Pond. Quaking bogs are composed of sphagnum moss, rushes, sedges, and decaying vegetation forming an apparent solid base that is actually a woven mat laying over pooled water or mud. The name stems from the shaking or quaking effect that occurs when weight is placed on the bog mat. The Pond itself is a glacial kettle hole filled with peat that has a limited water supply. The water is extremely acidic and low in nutrients. These factors, combined with the cool, coastal climate, make the Black Pond Bog plant community unusual.

Surrounding the Bog are concentric rings of plant communities beginning with a floating mat of sphagnum moss that contains carnivorous plants, sundews and pitcher plants, as well as sedges, cranberries, cotton-grass, wild orchids, Leatherleaf, and swamp loosestrife. Around this mat is a wet shrubby zone with highbush blueberry, poison sumac and Atlantic white cedar. A red maple swamp is outside the shrub zone, which grades into the nearby upland forest dominated by white and red oak, American beech, eastern hemlock, and some American holly. The Pale Green Orchis (*Platanthera flora var. herbicular*, threatened) had been observed in Black Pond Bog but has not been verified in more than 25 years.

A boardwalk and trail system provides accessibility to the property and connects with the Town’s Cuffee Hill Conservation Area to the west and north. Additions to the boardwalk and trail system have been under

consideration for years. Completing this work should be addressed to provide greater access to this natural jewel.

**Scenic Roads**

One way in which towns may protect scenic vistas is through the Scenic Road Designation Program (M.G.L. Ch. 40, s.15c). This law allows a road other than a numbered route going beyond a town’s boundaries, and not owned or maintained by the Commonwealth, to be designated as a Scenic Road. After a road has been designated as a Scenic Road, any repair work that involves the cutting or removal of trees or stone walls must be approved by the Planning Board. Since the publication of the 2005 Plan, Norwell has approved 17 scenic roads.

**6. NORWELL’S SCENIC ROADS**

STREET	YEAR DESIGNATED	STREET	YEAR DESIGNATED
Bowker St	1976	Circuit St	2006
Norwell Ave	1976	Green St	2006
Jacobs Ln	1980	Lincoln St	2006
Stetson Rd	1980	Pine St	2006
Stetson Shrine Ln	1980	Pleasant St	2006
Tiffany Rd	1980	Mount Blue St	2006
Central St	2005	Wildcat Ln	2006
First Parish Rd	2005	Winter St	2006
High St	2005	Cross St	2008
Old Oaken Bucket	2005	Forest St	2008
Prospect St	2005	Summer St	2008
River St	2005		

Source: Norwell Historical Commission

The Planning Board, Conservation Commission or Historical Commission may recommend such a designation, which then must be approved by the voters at a Town Meeting. Usually residents initiate the request for scenic road designation of their street. For example, the residents of Bowker Street, alarmed by a plan to widen their street, were instrumental in the designation of their street as a Scenic Road at a 1976 Town Meeting. It is apparent that the protection afforded by the Scenic Road designation has enabled these roads to retain much of their historic rural charm.

**Historical Sites**

Norwell has tremendous history and has many beautiful structures and sites that illustrate this in modern times. Beautiful old homes are marked

with small but visible plaques, and the sites of several historic shipyards are marked today by handsome signs along the edge of the North River. The State Register of Historical Places lists the following designated historical sites:

Jacobs Farmhouse, 4 Jacobs Lane: Upon entering Norwell via Route 123 from Route 53, the Jacobs Farm beside Jacobs Pond is a beautiful example of a historic colonial farm and homestead (circa 1726). Open fields and ancient stonewalls characterize this quiet setting, and traffic has been halted more than once to allow for a chicken or goose passing. The Jacob's Farmhouse is now the headquarters for the Norwell Historical Society.

The Historic Norwell Village area, 536-894 Main Street, 7-49 Central St., West Dover and River Streets was designated a "National Register Historic Area" in June 1982. The overlay includes 34 buildings, such as the Cushing Center (formerly the Town Hall), fire station, police station, several restaurants and small shops, a church and cemeteries, several homes, and also the Town Common and patriotic monuments. The James Library is also included in this district. It was built in 1873 and is one of the finest examples of Victorian architecture in Norwell. Other historic sites include:

- Stetson-Ford House 2 Meadow Farms Way (Town owned/historical restriction)
- Tack Factory 49 Tiffany Road (Privately owned/burned/demo 1983)
- Bryant-Cushing House 768 Main Street (Privately owned)

### South Shore Natural Science Center/Hanover YMCA

The South Shore Natural Science Center is located on Jacobs Lane in Norwell, adjacent to Jacobs Farm. The Science Center is run under the auspices of the YMCA and is dedicated to educating the public about the natural and cultural environments of the South Shore through a variety of programs for people of all ages.

The Science Center sits on 27 acres and is surrounded by an additional 200 acres of Town conservation and recreation land consisting of meadows, woodland, and Jacobs Farm fields and Jacobs Pond. There are many trails and picnicking spots for residents and members to enjoy as well as wildlife exhibit displays within The Science Center. The Science Center participates in the NHESP annual "head starting" program for the Northern Red-bellied Cooter (*Pseudemys rubriventris*-Endangered) by raising several turtle hatchlings in captivity for one year before releasing them into the wild. Begun in 1980, this program has helped sustain this federal and state listed endangered species. The Northern Red-bellied Cooter is an isolated turtle population confined to Plymouth County ponds.

## G. ENVIRONMENTAL CHALLENGES

### Disposal Sites

There are no known Federal Superfund Sites in Norwell. There have been, however, 67 Massachusetts Department of Environmental Protection Bureau of Waste Site Cleanup disposal sites for oils and hazardous materials in Norwell. Fifty-five of these sites have undergone appropriate cleanup and have achieved regulatory closure in accordance with the Massachusetts Contingency Plan (MCP; 310 CMR 40.000). There are five phases of clean-up, beginning with an initial site investigation (Phase I), and culminating in a full-scale clean up (Phase V). There are 14 active disposal sites listed below that have not achieved regulatory closure in Norwell. This is double the number of sites that were open in 2005.

### 7. DISPOSAL SITES

ADDRESS	DEP/MCP PHASE	SOURCE
4 Whiting	→ Phase V	Unlisted
10 Pond Street	→ Phase II	Oil and hazardous material
16 Old Oaken Bucket Road	→ Phase II	Oil
32 Pond Street	→ Phase V	Oil
32 Glen Trailer Park	→ Phase IV	Oil
46 Bridge Street	→ Phase II	Oil
49 Washington Street	→ Phase IV	Hazardous material
72 Washington Street	→ Phase V	Oil
109 Prospect Street	→ Phase II	Oil
310 Main Street	→ Phase II	Oil
507 Washington Street	→ Phase II	Hazardous material
724 Main Street	→ Phase V	Oil
Route 228 and 53	→ Phase V	Oil
West Street	→ Phase V	Oil

Source: Bureau of Waste Site Cleanup

### Norwell Landfill

The Pine Street Landfill, located at the intersection of Pine and Circuit Streets, was closed in 1976 and capped 1977. A leachate collection system was not constructed to collect direct leachate from the facility. The reclaimed site is currently used as a soccer field. The field has a fine view of the sky and is often used by the South Shore Astronomical Society during many of its monthly field meetings.

### Recycling

The Town formed a Recycling Committee in 1989, and its program has grown and flourished since its inception. The recycling program currently serves 3,429 households. The drop off center was open to residents on

96 days in 2011. Norwell has curbside recycling every week for paper, cardboard, aluminum foil, metal, glass and plastic bottles and cans. All recyclable items may be placed together in bins or a labeled trash can for Single Stream Recycling. Stickers for curbside pickup are available at the Board of Health at Town Hall. The Town is a member of the South Shore Recycling Cooperative (SSRC), a group of 15 Towns that work together to maximize their solid waste programs. Better pricing is available through the economy of scale of the SSRC, particularly in the area of administration and bidding contracts.

In 2011, residents recycled 456.38 tons of newsprint and cardboard, 581.29 tons of glass, metal cans and plastics, 25.21 tons of white goods, 24.8 tons of Cathode Ray Tubes (CRTs) such as televisions and monitors, 570 tons of leaves and brush, 168 propane tanks, 55 gallons of spent antifreeze, and 54.5 gallons of surplus latex and oil-based paint. Mercury in thermostats and thermometers and elemental mercury was also collected, as were household batteries. One hundred surplus tires were collected on one spring cleanup day in 2011. The Town has a composting operation, and there are regular drop-off days for white goods, CRTs, propane tanks, antifreeze, and waste oil and paint products. The Spring cleanup day is the largest drop off day. In addition to the above noted items, 160 Christmas trees, 800 pounds of shredded paper, 300 pairs of glasses, 50+ cell phones, and 2.16 tons of books for “Got Books” were also collected during the Spring cleanup day. In November 2011, the recycling center began collecting used cooking oil, which has a resale value for fuel usage.

In 2011-2012, the Boy Scouts Troop 44 held a fundraising event picking up Christmas trees. Under the direction of Scoutmasters the troop picked up 158 Trees. Thanks to help from the Department of Public Works, the trees were chipped into mulch at the Town DPW facility. In addition to materials collected, the recycling center processed and distributed 1,350 cubic yards of finished compost. Troop 44 also maintains a bottle and can collection dumpster located in the rear parking lot of the Town office.

### **Erosion and Sediments**

Erosion from construction sites is problematic and requires considerable diligence in the implementation of erosion control measures. For the upland areas, construction sites that are adjacent to wetlands are managed in accordance with the Town of Norwell Wetlands Bylaw, Article XVI of the Norwell General Bylaws, and the Massachusetts Wetlands Protection and Rivers Protection Act. Erosion controls are standard conditions in all Orders of Conditions under the above-referenced Bylaw and the Act. Planning Board and Zoning Board regulations for subdivisions and site

plan review respectively also require compliance with DEP storm water management regulations. This extends the requirements for erosion controls of smaller sites beyond the 100-foot buffer zone of wetlands. EPA requirements under the National Pollutant Discharge (NPDES) Program have resulted in a required storm water permitting process for any development that disturbs more than one-acre of land. This process will result in developers submitting a plan for review that will show how they will control runoff, sedimentation and erosion. Norwell also is subject to the Municipal Separate Storm Sewer Systems (MS4) requirements of the NPDES Phase II Storm Water Program, which requires identification of storm water outfalls, maintenance of the storm water system, development and implementation of a storm water management program (SWMP), and obtaining a NPDES permit.

Storm water is one of the largest sources of sediment loading into wetland resources. Norwell just went through a comprehensive storm water bylaw creation process. The resulting Bylaw passed by Town meeting includes improvements for today’s best management practices to address storm water discharge with new green technology, design and materials. Many of the storm water drainage structures in Norwell discharge directly either into wetlands or water courses and if systems are not maintained, or if inadequate controls are implemented on construction sites, this can result in discharge of large amounts of sediments to these waterways. The factors that lead to contaminated storm water include many seemingly innocuous residential activities such as landscaping activities, chemically treating lawns, salting driveways, washing cars in driveways, not picking up pet waste, and other common daily actions in addition to the more obvious industrial and construction activities that release sediments into storm water systems.

There is another type of erosion concern present in Norwell—erosion of the banks along the North River Estuary and tidal creeks caused by recreational boating. River speed limits have been set at six miles per hour for more than two decades to mitigate this source of erosion. The presence of the Norwell Harbor master helps reduce some of the vessel speeding that erodes the banks.

### **Chronic Flooding**

Although the Town, due to its elevation and topography, has many streams and wetlands that provide flood storage during non-frozen months, it does not contain many areas subject to flooding. Some of the wetland areas that contain streams during most of the year converge with streams that expand into the entire wetland during spring snow melt periods. A good example is the Old Pond Meadows wetlands complex that contains water a foot or more deep during some spring runoff and storm events.

A small residential community (King's Landing) is situated very close to the North River banks in a flood plain. This community has been exposed to potential floods since the mouth of the North River broke through in 1898.

### **Groundwater and Surface Water Pollution**

Norwell's water system is completely dependent upon groundwater wells. The 10 active wells are less than 60 feet deep, resulting in a high potential for contamination from ground or surface water. Wells that are greater than 60 feet deep are more likely to have clay layers between the surface and the water-bearing sands and gravels, thus reducing pollution risks. Plans for an 11th well include construction to approximately 90 feet deep, and the well is anticipated to come on-line in approximately 10 years.

Since the Town has no Municipal or Industrial Wastewater Treatment System, the aquifer or water-bearing areas may be subject to contaminants that flow off the streets through catch basins and into wetlands and streams, or substances that are poured down a residential or industrial drain. Additionally, increased development will adversely impact the protected areas around the wells and will reduce the land available to develop potential additional water sources. The efficiency of older septic systems will be reduced over time and could further adversely impact the Town's drinking water supply by the addition of fecal coliform bacteria and nitrates. Title V upgrades to these septic systems will reduce but not eliminate the negative impacts of effluent entering wetlands, groundwater resources and water bodies.

Road salt intrusion from winter snow and ice clearing operations also will adversely impact the shallow well drinking water supply. The search for alternatives to road salt includes pre-treating roads with brine, which keeps ice and snow from adhering to roads and leaves less salt residue to enter wetlands and storm water systems. To enhance wellhead protection, the Town has approved Aquifer Protection Overlay Zoning and Town Wetlands Zoning to provide guidance on local sensitive areas.

Norwell's Water Department and Boston College are currently conducting research on a plume of road salt emanating from the Massachusetts DOT salt barn along Route 53 in Hanover. The Town also has a source of road salt at its DPW yard on Main Street that affects Wildcat Brook. The Town should strongly consider upgrading these two storage areas and adopting new road salt handling methods to address this issue.

There are two surface water bodies in Norwell that are listed on the 1998 Massachusetts DEP 303d list of impaired waterways: Jacob's Pond for "noxious aquatic plants" and Bound Brook Pond, also for "noxious aquatic



plants" and turbidity. The Massachusetts DEP 303d list identifies surface water bodies that do not meet expected water quality standards.

*Photo: View of the salt marsh along the North River by Judy Enright*

### **Environmental Equity Issues**

Norwell does not have any identified Environmental Justice populations. The Plan Committee has analyzed the current distribution of open space and recreation areas and resources in Norwell and has concluded the following:

- Generally, already protected open space and conservation areas are well distributed throughout town, with a slight preference for long-term protected areas in northern Norwell.
- There is a cluster of Chapter 61 lands in the center of Town, that, if they could be better protected in the long-term as Article 97 lands, would solidify the balanced distribution and would further the Master Plan's goal of creating Greenways throughout Norwell.
- Passive recreation areas are also well distributed throughout Norwell, and there are current plans underway to increase walking trail connectivity locally and regionally.
- Active recreation areas are concentrated around the schools, and are not well distributed for residents without school age children. Opportunities for expanding active recreation resources for all segments of the population should be explored.

# 5

## INVENTORY OF CONSERVATION & RECREATION LANDS

The term “open space” can refer to a wide range of land uses from school athletic fields to conservation lands held specifically for wildlife habitat management. For the purpose of this plan, the term “protected lands” will refer to land that is permanently committed for conservation. This section will identify lands in Norwell that are protected in perpetuity as well as other lands that contribute to the Town’s current open space and recreational resources but are not protected as such because their use can easily change. See Map 6-3, Open Space Inventory for more details about open space and recreation lands of interest.

On the municipal level, lands that are acquired through the Town’s Conservation Commission and Water Department for conservation and recreation purposes are protected under Massachusetts Constitution Article 97. To change the use of lands held under Article 97 requires a two-thirds vote at Town Meeting followed by a two-thirds vote of the state legislature, making it very difficult for a municipality to sell or transfer those lands for other purposes. Parcels held by a state or federal conservation agency are also protected under Article 97. In 2005, there were 3,258 acres of protected lands in Norwell that comprised 24% of the Town’s area. The 2005 Open Space and Recreation Committee proposed that 30% of the Town should be protected in order to maintain its semi-rural character and ecological integrity. The protection of these properties should be based on a ranking system according to Norwell’s Open Space Criteria (Appendix F). Properties that fall into the protected lands category include:

- Town-owned land held in fee simple by a municipality for natural resource protection and recreation purposes. (Article 97).
- Town-owned historical land protected through a historical restriction held in perpetuity.
- State-owned park lands (Article 97).
- Private Land Trust-owned lands, held outright, with deed restrictions or through a Conservation Restriction (CR) held in perpetuity.
- Private lands that have enrolled in the state’s Agricultural Preservation Restriction Program (APR).

The term “unprotected lands” refers to properties that currently hold some conservation or recreational interest but are not protected as such in



“We abuse the land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.” — Aldo Leopold

Photo above: Day’s catch at the annual Fishing Derby by Virginia Maree

Photo left: Annual Fishing Derby on Jacobs Pond by Virginia Maree

perpetuity and could be developed for other purposes in the future. Unprotected lands include:

- Town-owned lands not protected under Article 97, such as school athletic fields are valuable as open space at the moment but might be needed to accommodate future building additions.
- Private lands that restrict land use for a short term (5-30 years) under a Conservation Restriction (CR). The most common program restricts land use to forestry, agricultural/horticultural or recreational uses under Massachusetts General Law Chapter 61, 61A and 61B respectively. Private landowners who elect to enroll their property under Chapter 61/61A and 61B or chose to put a CR on their property do so in exchange for a sizeable reduction in property taxes on that land. If the landowner wishes to sell the property or make a change in the land use, the Town must be given the right of first refusal. With this potential, these lands are vulnerable to development and should be considered part of a strategic plan for potential conservation and/or recreation purposes.

Included in this section is an inventory of all known protected and unprotected lands of conservation and/or recreational value in Norwell. The Plan Committee obtained information for this inventory from the Town Assessors' records. Through the preparation of a matrix for the 2005 Plan, it was apparent that there were some discrepancies in the assessors' records with respect to lands held by the Norwell Conservation Commission. Specifically, in 2005, the NCC believed it controlled 131 parcels while the Assessor's office only identified 80 parcels under NCC jurisdiction. Similarly, the 2012 Plan Committee found discrepancies that required a dedicated effort beyond the immediate scope of this plan. In order to better understand the conservation potential for municipal lands, the 2012 Plan Committee recommends that the Town thoroughly investigate and document accurate property ownership for all questionable parcels.

## A. PROTECTED LAND

### Municipal

The Norwell Conservation Commission (NCC) was established in 1958 and acquired its first piece of property in 1965. The NCC acquires lands by purchasing and through gifts, and manages activity that takes place on those parcels. In 2005, the NCC believed that it owned more than 131 parcels totaling roughly 1,600 acres. This was an increase from the previous 1,522 acres, accounting for the addition of five parcels as well as the identification of 14 other primarily 1-2 acre parcels donated or sold to the Town for conservation purposes that were not included in plans prior

to 2005. This represented slightly more than 11% of the Town's total area. However, data from the Assessor's Office showed the NCC owning a total of only 80 parcels, totaling 947 acres.

Since the publication of the 2005 Plan, six properties totaling 38.68 acres were added as conservation land as part of development donations. These properties include 3.68 acres on Grove Street (block 3/lot 29), 5.5 acres on Lincoln Street (Block39/lot 6), 4.82 acres on Hawthorne Street (block 38/lot 75), 7.91 acres on South Street (block 53/lot 45A), 5.77 acres on River Street (block 77/lot 75), and 11 acres off Summer Street (at end of Cowings Cove). (See Map 6-2, Town owned Conservation Land)

The NCC has established rules and regulations governing the use of its land. Many of these conservation lands provide for passive recreation such as walking and horseback riding trails, cross country skiing in the winter, and boating and fishing. Management plans are available for Stetson Meadows (144 acres) off Stetson Shrine Lane, Jacobs Pond Recreational Area (335 acres), and Donovan Farm (130 acres). Development of management plans for the remainder of the active Conservation Parcels is underway. Extensive woodland trail systems are maintained by the Norwell Senior Volunteers on eight conservation parcels including Cuffee Hill, Wildcat Trails, Donovan Fields, Jacobs Pond Area, Stetson Meadows, Miller Woods, Fogg Forest, and Hatch Lots. Trail connections and loops have been created linking many trail systems. For example, the trails on Donovan link to a trail system on recreation land located on Wildcat, which then link to a trail network created on conservation restriction land that is part of the Wildcat subdivision. Another similar trails network exists between the multiple parcels held by the NCC and The Nature Conservancy off of Mount Blue Street.

### Water Department

The Norwell Water Department currently services approximately 95% of the total population with municipal water. The Norwell Water Department currently has 10 well pump stations that lie in four well field areas: South Street (356 acres), Washington Street (16 acres), Grove Street (135 acres), and Bowker Street (46 acres). The Town of Scituate owns 28 acres off First Parish Road for wellhead protection. In total, the Norwell Water Department owns and manages approximately 602 acres including wells, aquifer protection buffer lands, water treatment plants, and water storage tanks. With their specific permission, the Board of Water Commissioners allows passive recreation, such as walking and hiking, on the land under their care and control.

### Historic New England

Two Town-owned properties are protected by a historical deed restriction



held by Historic New England, formerly known as the Society for the Preservation of New England Antiquities:

- The Woodworth Park/Little League Fields (13 acres) located on the south side of Route 123 across from Jacobs Pond
- Jacob Farm Homestead (15 acres) located at the intersection of Route 123 and Jacobs Lane.

#### **Other Town Owned Property**

Gaffield Park, located at the intersection of River St. and Forest St., is a children's playground located on eight acres. The land was deeded to the Town in 1896 to be used as a public park.

#### **Commonwealth of Massachusetts State Park Land**

Wompatuck State Park lies within the Towns of Hingham, Cohasset, Norwell, and Scituate. The land was previously used as a Federal military storage depot. In 1967, the Federal Government's General Services Administration sold 2,900 acres to the Commonwealth's Department of Environmental Management.

An additional 604 acres of federal property at the northeastern boundary of the park were donated to the state in 1985.

Approximately 537 acres (or 15% of the total park acreage) are within Norwell. In the southern portion of the park in Norwell there are two ponds, Holly Pond and Boundary Pond that are used by hikers and birdwatchers. Mount Blue springs is a beneficial source of spring water used by many visitors. There is a 12-acre cleared field used for ball games and other activities. There are 12 miles of bicycle trails within the park that are located in Norwell.

## **B. PRIVATE & NON-PROFIT CONSERVATION & RECREATION LAND**

### **The Trustees of Reservations (TTOR)**

The Norris Reservation is a 130-acre parcel owned by the Trustees of Reservations with frontage on the North River. It is an exquisite piece of land that features small mill ponds, river views, and an old boathouse on the North River, wooded upland and salt marsh. TTOR has outlined a comprehensive management plan for Norris Reservation within the context of the organization's overall strategic plan (Trustees 2017), to

ensure the reservation is preserved for generations to come. This plan includes addressing issues beyond the boundaries of the reservation, broadening outreach to constituencies to support reservation management, and evolving management practices with innovative and proven approaches. Currently, TTOR does not have any specific properties identified to add protection to the Norris Reservation and Second Herring Brook but has evaluated several upstream properties for their ecological protective potential, presence of priority natural communities unrepresented in the Reservation and scenic values. TTOR will continue to monitor these properties for potential purchase, establishment of conservation restrictions and public outreach to property owners to make them aware of their importance to the Norris Reservation and Second Herring Brook.

### **The Nature Conservancy**

The 87-acre Black Pond Bog Reserve was the first parcel acquired in Massachusetts by The Nature Conservancy. The property includes a pond and peat bog, a unique feature in this area. Black Pond is a typical kettle hole pond surrounded by a quaking bog and a Atlantic white cedar/red maple swamp. The property is mostly wooded and has trails including a boardwalk around part of the bog. It was acquired through the joint efforts of well-known local conservationist, Captain Bill Vinal, the Town of Norwell and The Nature Conservancy and was dedicated June 2, 1962.

On June 9, 2012, as part of the 50th anniversary celebration of the acquisition of Black Pond Bog, several new trails, recently created and mapped, were announced. The celebration also honored Wes Osborne's integral participation and personal devotion to this natural jewel. Special attention was given to the Pitcher plant, which was in full bloom for the event. Walks in early July will often reveal blooming orchids.

The Preserve is used for nature education and guided tours. This parcel abuts several other large parcels managed by the Norwell Conservation Commission.

### **The Massachusetts Audubon Society**

The Massachusetts Audubon Society owns a 12-acre parcel of marsh along the North River. There are no facilities and no public access other than from the river. The land is known as the Chase Garceau land.

### **The South Shore Natural Science Center/Hanover YMCA**

The South Shore Natural Science Center offers natural history programs for children and adults. The 27-acre parcel features self-guided nature trails through woodlands and wetlands. There are four certified vernal pools on the grounds. One trail, the Tupelo Trail, is for people with disabilities and meets the American Disabilities Act standards.

### **Permanent Conservation Restrictions**

A Conservation Restriction or CR is a legally binding agreement between a landowner and a public agency (usually a land trust or a town's conservation commission) where the landowner agrees to keep the land undeveloped. Public access may be permitted but is not required. CR's are permitted under the Conservation Restrictions Act (M.G.L. Ch. 184) and must be approved by the Secretary of Environmental Affairs. Conservation restrictions have a number of advantages: (1) they cost less than a fee simple acquisition, (2) the owner still pays real estate taxes (although at a lower rate) and (3) the owner continues to maintain the land.

There are currently seven listed conservation restrictions in Norwell according to the Registry of Deeds totaling eleven parcels and approximately 253 acres. They range in size from 1.42 acres to 106 acres. The largest CR is held by The Trustees of Reservation on 106 acres located along the North River. This property, owned by Fred St. Ours, Sr., has been referred to in the past as "The Hollow" and has open fields, salt marsh, woodlands, and a historical home. Dwelley's Creek flows through the property to the North River. The Wildlands Trust of Southeastern Massachusetts holds a CR to an additional nine acres adjoining this parcel that is owned by David DeGhetto. The Barque Hill Neighborhood Association owns 64 acres abutting the North River with a CR held by the Town. There are several more required CR's that are in process of being recorded/registered. These include two additional parcels at the end of Laurelwood Drive subdivision, lots 11-74 and 11-69, totaling approximately 24 acres. Stetson Kindred (lot 72-6) off Stetson Lane adds 36 more acres to the CR roster. Additionally, during the preparation of the 2005 Plan, the Plan Committee reported that the Norwell Conservation Commission identified 15 conservation restrictions that were required as part of land development and subdivision projects permitted by the Commission. A dedicated and thorough review of town records may uncover additional conservation restrictions.

### **Agricultural Preservation Restrictions**

An Agricultural Preservation Restriction (APR) is a variation of a Conservation Restriction whereby the purpose is to preserve agricultural land. The APR program pays farmers the difference between the fair market value and the agricultural value of their farmland in exchange for a permanent deed restriction that precludes any use of the property that will have a negative impact on its agricultural viability.

There is one APR in the Town of Norwell: the 71-acre Hornstra Farm property located on Prospect Street. In 1980, Albert Loring, the last member of the Loring family to farm this historic property, signed an agreement to preserve the property as a farm in perpetuity. The restriction

is held jointly by the Town and the Massachusetts Department of Food and Agriculture and prohibits any construction or activity detrimental to retaining the agricultural use. It allows the construction of houses for family members and employees and structures related to the sale of agricultural products, but only with the prior approval of the holders of the restriction. In 2009, John Hornstra, a local family farm owner, purchased the land with plans to continue the tradition of farming. Hornstra Farm will raise dairy cattle, pasture and hay feed, and produce and process milk for sale to the local community.

## **C. UNPROTECTED LAND**

### **Recreation Commission**

Norwell's Recreation Commission owns and manages several public recreational areas totaling about 41 acres. These lands include Reynolds Playground on Prouty Avenue, the Woodworth Park on Main Street, Stetson Meadows recreation area off River Street, and the Ed White recreation area on Green Street. Only the Woodworth Park is protected for recreational uses in perpetuity.

### **Schools**

Norwell's five school sites have approximately 27 acres of playing fields.

### **Historical Commission**

The Historical Commission is a dedicated group of Norwell residents working tirelessly to move forward initiatives, including managing two properties owned by the Town. Although the Jacob's Farm is protected by a historical restriction held by Historic New England, the Stetson Ford House, a 1700s historical colonial, is not. The Stetson Ford House is currently listed on the National Register for Historic Places, and the Jacobs Farmhouse application for the National Register was compiled during the preparation of this Plan.

### **Cemeteries & Burial Grounds**

Norwell has eight cemeteries with known gravestone locations that are maintained privately or by the Town: Washington Street Cemetery, First Parish Cemetery, Second Church Cemetery, Stockbridge Cemetery, Bowker Cemetery, Church Hill Cemetery, Pinehurst Cemetery, and the Damon Cemetery. The site of the old Quaker Cemetery is unknown, but a location is presumed, and large stones mark the site of both the former Second Church Graveyard at Wilson Hill and the Jacobs-Collamore Cemetery on Jacobs Trail, but no gravestones remain at either location. There are also a number of private burial grounds and tombs in Town. A proposed cemetery site on Stetson Shrine Lane is currently undergoing the engineering and permitting process. These cemeteries total almost



Photo: First Parish Cemetery in Norwell Center by Karl Swenson

55 acres with one of the largest being the Stetson Shrine Lane location, which is part of the Stetson Meadows Recreation and Conservation Area.

The search for a new cemetery in Norwell began in 1994 with the Norwell Cemetery Committee reviewing and evaluating locations. Around 2005, a suitable site involving 20 acres located on Town-owned Stetson Meadows off Stetson Shrine Lane adjacent to Route 3 was selected. Extensive permitting involving off-site mitigation for estimated and priority rare species habitat used by the Eastern Box Turtle, a Special Concern species, strict work protocols, reductions of the scope of work, and approvals from the NHESP and the NCC resulted in an approved project. The cemetery will be constructed through a 50-year 3-phased construction plan that impacts 12.62 acres of forested upland used by the Eastern Box Turtle for overwintering, feeding, breeding, and migration. Planned mitigations to reduce these impacts include ensuring that all of the work is kept greater than 100 feet from a bordering vegetated wetland, restoring 2.12 acres of the 12.62 acres impacted as storm water drainage basins or early successional edge habitat, and off-site mitigation establishing a Conservation Restriction under the NCC on approximately 23.1 acres of Town-owned property bounded by Pleasant Street, Circuit Street and Wildcat Lane. This off-site location was chosen

based upon prior reviews with the NHESP staff and the Conservation Restriction will protect in perpetuity approximately 18.1 acres of forest land and 4.8 acres of bordering vegetated wetlands commonly used by the Eastern Box Turtle.

Cemeteries have the potential for recreational use. The design plan for the Stetson Shrine Lane Cemetery provides meandering pathways and roadways for walking similar to cemeteries like Forest Hills in Boston and Mount Auburn Cemetery in Cambridge.

### Public Access to the North River

There are two Town owned public access landings along the North River: the Bridge Street Town landing and the Chittenden Lane landing. Utilizing Community Preservation Act funding, both landings underwent construction to improve access. Upgrades to the Bridge Street landing were completed in 2008. The landing now has a new ramp, a re-graded and resurfaced driveway and parking area, two benches that overlook the River, and trash receptacles. Both motor powered and non-motorized boats may be launched from this landing. The Chittenden Lane landing upgrades were completed in 2009, adding additional parking with enough space for four parking spots, a new dock, improved access to the River, benches, trash cans, re-grading and resurfacing the driveway as well as restoring an area of salt marsh with Spartina. The Chittenden Lane landing allows for only non-motorized boats and is primarily used as a local fishing spot.

### Chapter 61 Land

Chapter 61 of the Commonwealth's General Laws relates to the classification and taxation of forest land and forest products. Under this taxation program, parcels of 10 or more contiguous acres under an approved management plan are taxed at 5% of fair market value. Taxes for properties enrolled in chapter 61/61A are calculated based on current property use (e.g., the productive potential of the land for growing trees), instead of the fair market or development value. If the forestry use is discontinued, a penalty must be paid. When land under Chapter 61 is put up for sale, the municipality has 120 days in which to exercise its right of first refusal to purchase the land at full market value. This provision allows municipalities the opportunity to plan for acquisition of parcels with conservation and recreation value. Within Norwell, there are nine parcels totaling 101.98 acres of forest land under Chapter 61.

### Chapter 61A Land

Chapter 61A is the Farm Assessment Act that provides for the use-value assessment of agricultural and horticultural land of at least five acres. There are provisions similar to Chapter 61 regarding taxation, the penalty for

discontinuing the use, and the municipality's right of first refusal when the land is put on the market. In Norwell, there are 36 parcels in the Chapter 61A program totaling 548 acres. Several of the fields on Main Street are held in this program. This offers the Town an opportunity for acquiring parcels that are priorities for maintaining Norwell's much valued rural scenic quality. Both conservation and recreation uses would apply.

### **Chapter 61B Land**

Chapter 61B provides for a reduction in tax assessment of a least 75% on parcels five acres or more that are classified as recreational, wild or open land. There are three Chapter 61B parcels in Norwell totaling 109.7 acres.

### **Wetlands**

Norwell has an abundance of wetlands and salt marsh totaling roughly 30% of the Town's land area. There are about 3,884 acres of wetlands and salt marsh along rivers, on municipal lands and in residents' backyards. Wetlands are currently protected from development under the Norwell Wetlands Protection Bylaw, the Massachusetts Wetlands Protection Act and the Massachusetts Rivers Protection Act but laws can change. The only true way to protect land is to purchase and preserve it through Article 97 status and/or Conservation Restrictions in perpetuity. Concern exists that technologies may be developed in the future to allow for greater development of these fragile resources, which clean, filter and protect not only our drinking water supply, but are core habitat to almost all wildlife.

### **Other Town Owned Property**

There are a number of other Town owned properties that offer some conservation protection. These are lands managed by the Fire Department, the Police Department, the Highway Department, and the Board of Selectmen. These Town-owned lands total approximately 590 acres. The Board of Selectmen oversees two soccer fields: Pine Street Fields and the Osborne Fields with 23.7 acres. None of these parcels offer any kind of long-term conservation protection other than the fact that the Town owns them. These lands are largely developed but some have land that could be evaluated for conservation and/or recreation uses.

### **Lands of Interest:**

#### **Norwell's Islands, Clam Flats, and Other Land in Scituate**

In 1849, Norwell (then called South Scituate) separated from Scituate and the two Towns agreed upon a division of so-called "common" land. For the sum of \$1,350 Norwell acquired an amount of real estate that included the Town common and other parcels such as the land where Cushing Hall (the old Town hall) sits today.

The Town was also granted sections of salt meadow or flats on North River. More precisely, the deed names the land: "The Gulph Island, the Middle Green Island and sunken flat, the Jacob Flat, the Northey Flat, the Great Green Island...The Great Green Flat and Hummock Flats, they being all the flats that have been annually let at auction" apparently for the purposes of shell fishing and salt haying.

Scituate renounced any claim to the land: "To them, the said inhabitants of South Scituate, their successors and assigns to their own exclusive use and behoove forever so that neither the said inhabitants of Scituate nor any person nor persons claiming by, though, or title to the above named real estate or its appurtenances or to any part or parcel thereof forever."

The land was very valuable property in 1848, and remained so for many years. After the Great Storm of 1898 (nicknamed the Portland Gale after the steamship that foundered during the storm), the configuration of the North River changed dramatically, creating a new mouth, today known as the "New Inlet." New beaches, channels, islands and flats appeared changing the appearance of the Norwell property. Unfortunately it does not seem that either town established clear boundaries after the storm, or as a result, over time, it became unclear which flats belonged to Norwell and which ones did not.

For years Norwell residents could obtain parking stickers to be able to use Scituate beaches, and a few "old timers" still remember the free clam licenses Scituate used to provide Norwell residents. For 137 years, the Townspeople of Norwell paid taxes to Scituate on the islands and flats in the North River; the payments finally stopped in 1986. A competent title search would establish boundaries, and Norwell residents could potentially enjoy clamming, picnicking, swimming and fishing on Scituate beaches as earlier generations once did.

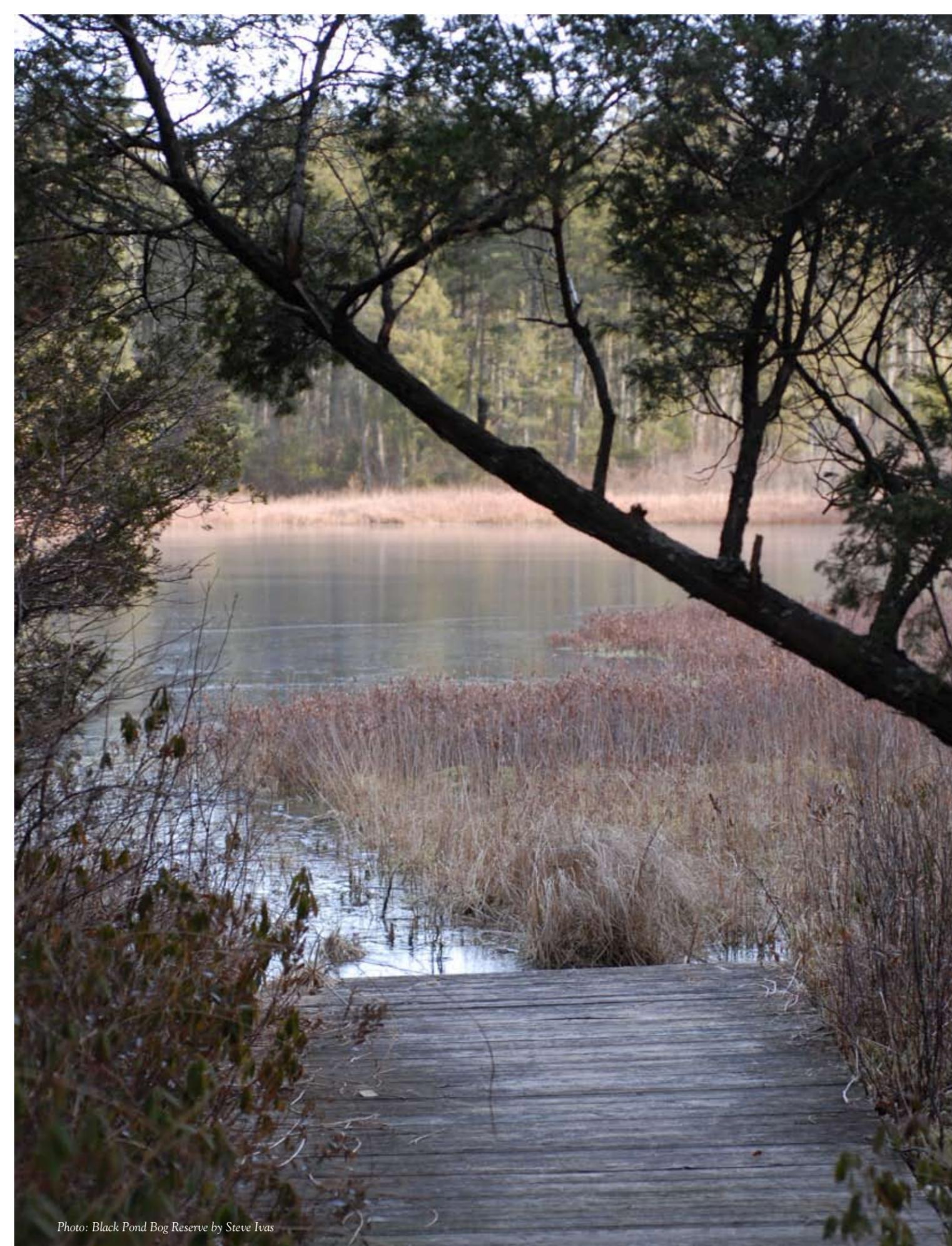


Photo: Black Pond Bog Reserve by Steve Ivas

## PROTECTED & UNPROTECTED LANDS IN NORWELL

### PROTECTED LANDS IN NORWELL

#### PRIVATE PROTECTED LANDS

Non-Profit Organization Lands of Conservation and/or Recreation Interest:											
Map	Lot	Location	Zoning	Acres	Ownership	Management	Use	Condition	Recreation	Access	Protection
29	10	PROSPECT ST	RA	5.73	South Shore Natural Science Center	South Shore Natural Science Cent.	Education	Good	Nature Study, Trails	Yes: Parking	Perpetuity
29	8	JACOBS LN	RA	2.09	South Shore Natural Science Center	South Shore Natural Science Cent.	Education	Good	Nature Study, Trails	Yes: Parking	Perpetuity
29	9	JACOBS LN	RA	5.08	South Shore Natural Science Center	South Shore Natural Science Cent.	Education	Good	Nature Study, Trails	Yes: Parking	Perpetuity
29	30	JACOBS LN	RA	4.37	South Shore Natural Science Center	South Shore Natural Science Cent.	Education	Good	Nature Study, Trails	Yes: Parking	Perpetuity
29	33	48 JACOBS LN	RA	9.70	South Shore Natural Science Center	South Shore Natural Science Cent.	Education	Good	Nature Study, Trails	Yes: Parking	Perpetuity
71	11	RIVER ST	RA	12.58	Mass Audubon Society Inc.	Mass Audubon Society Inc.	Conservation	Wetlands	None	No	Perpetuity
42	29	MT BLUE ST	RA	30.10	The Nature Conservancy	Mass Audubon Society Inc.	Recreation/Conservation	Good	Nature Study, Trails	Yes: Parking	Perpetuity
9	27	MT BLUE ST	RA	24.80	The Nature Conservancy	Mass Audubon Society Inc.	Recreation/Conservation	Good	Nature Study, Trails	Yes	Perpetuity
9	29	MT BLUE ST	RA	10.50	The Nature Conservancy	Mass Audubon Society Inc.	Recreation/Conservation	Good	Nature Study, Trails	Yes	Perpetuity
9	87	SUMMER ST	RA	12.50	The Nature Conservancy	Mass Audubon Society Inc.	Recreation/Conservation	Good	Nature Study, Trails	Yes	Perpetuity
7	11	MT BLUE ST	RA	2.40	The Nature Conservancy	Mass Audubon Society Inc.	Recreation/Conservation	Good	Nature Study, Trails	Yes	Perpetuity
7	12	MT BLUE ST	RA	3.00	The Nature Conservancy	Mass Audubon Society Inc.	Recreation/Conservation	Good	Nature Study, Trails	Yes	Perpetuity
7	13	MT BLUE ST	RA	2.75	The Nature Conservancy	Mass Audubon Society Inc.	Recreation/Conservation	Good	Nature Study, Trails	Yes	Perpetuity
60	54	MAIN ST	RA	16.25	The Trustees of Reservations	Mass Audubon Society Inc.	Recreation/Conservation	Good	Trails	Yes	Perpetuity
60	28	DOVER ST	RA	101.63	The Trustees of Reservations	The Trustees of Reservations	Recreation/Conservation	Good	Trails	Yes: Parking	Perpetuity
60	24	39 DOVER ST	RA	1.22	The Trustees of Reservations	The Trustees of Reservations	Recreation/Conservation	Good	Trails	Yes: Parking	Perpetuity
60	34	DOVER ST	RA	12.00	The Trustees of Reservations	The Trustees of Reservations	Recreation/Conservation	Good	Trails	Yes: Parking	Perpetuity
60	55	CHITTENDEN LAINE	RA	12.02	The Trustees of Reservations	The Trustees of Reservations	Recreation/Conservation	Good	Trails	?	?
				<b>268.72</b>	<b>NB: Includes all acreages above.</b>						
<b>Agricultural Preservation Restriction (APR):</b>											
35	21	PROSPECT ST	RA	71.75	Prime, Pricilla M & WM	Commonwealth of Massachusetts	Agricultural	Good	Fields	No	APR
<b>Conservation Restrictions (CR):</b>											
71	2A	RIVER ST	RA	98.50	Saint Ours, Frederick	Trustees of Reservations	Conservation	Good	N/A	No	CR
71	8	RIVER ST	RA	9.00	Deghetto, Lynn & David	Wildlands Trust	Conservation	Good	N/A	No	CR
78	112	BARQUE HILL	RA	1.42	Barque Hill Associates	Town of Norwell	Conservation	Good	N/A		CR
78	113	BARQUE HILL	RA	4.89	Barque Hill Associates	Town of Norwell	Conservation	Good	N/A		CR

Map	Lot	Location	Zoning	Acres	Ownership	Management	Use	Condition	Recreation	Access	Protection
78	115	BARQUE HILL	RA	63.91	Barque Hill Associates	Town of Norwell	Conservation	Good	N/A	Yes	CR
78	116	BARQUE HILL	RA	4.86	Barque Hill Associates	Town of Norwell	Conservation	Good	N/A		CR
78	117	BARQUE HILL	RA	8.93	Barque Hill Associates	Town of Norwell	Conservation	Good	N/A		CR
60	28	STETSON KINDRED		99.60	Trustees of Reservations	Trustees of Reservations	Preservation/Recreation	Good	Trails	Yes	CR-TOR
28	11	JACOBS LANE	RA	1.76	Town of Norwell	Town of Norwell	Preservation	Good	N/A	Yes	CR-Historic NE
28	12	JACOBS LANE	RA	2.50	Town of Norwell	Town of Norwell	Conservation	Good	N/A	Yes	CR-Historic NE
11	69	LAURLWOODS	RA	19.68	Simeone Properties LLC	Town of Norwell	Conservation	Good	Trails	Yes	CR
11	73	LAURLWOODS	RA	8.50	Simeone Properties LLC	Town of Norwell	Water Supply Protection	Good	Trails	Yes	CR
11	74	LAURLWOODS	RA	??	Simeone Properties LLC	Town of Norwell	Water Supply Protection	Good	N/A		CR
55	48	PLEASANT ST	RA	25.60	Pemberton, Brigham & Louise	Town of Norwell	Conservation	Good	N/A	No	CR w/ 10 House Lots w/in
		<b>TOTAL ACRES</b>		<b>349.15</b>	<b>Approx.</b>						

**PUBLIC PROTECTED LANDS**

**Commonwealth Park Lands:**

2	99	PROSPECT ST	RA	537.00	Comm of Mass/Wompatuck St. Park	Dept of Conservation & Recreation	Recreation/Conservation	Good	Hiking, Bicycling	Yes: Parking	Article 97
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**Town Owned Lands under the jurisdiction of the Recreation Commission**

27	98	PROUTY AVE	RA	0.67	Town of Norwell	Recreation Comm	Recreation	Good	Reynolds Playground	No	Article 97
53	1	MAIN ST	RA	1.29	Town of Norwell	Recreation Comm	Recreation	Good	Athletic Fields	Yes: Parking	Article 97
53	5	MAIN ST	RA	0.78	Town of Norwell	Recreation Comm	Recreation	Good	Athletic Fields	Yes: Parking	Article 97
53	4	MAIN ST	RA	2.63	Town of Norwell	Recreation Comm	Recreation	Good	Athletic Fields	Yes: Parking	Article 97
53	2	MAIN ST	RA	7.29	Town of Norwell	Recreation Comm	Recreation	Good	Athletic Fields	Yes: Parking	Article 97
53	3	MAIN ST	RA	2.04	Town of Norwell	Recreation Comm	Recreation	Good	Athletic Fields	Yes: Parking	Article 97
53	6	MAIN ST	RA	1.01	Town of Norwell	Recreation Comm	Recreation	Good	Athletic Fields	Yes: Parking	Article 97
66	18	PLEASANT ST	RA	74.33	Town of Norwell	Recreation Comm	Recreation	Good	Athletic Fields	Yes: Parking	Article 97
69	32	GREEN ST	RA	7.69	Town of Norwell	Recreation Comm	Recreation	Good	Trails	Yes: Parking	Article 97
		<b>TOTAL ACRES</b>		<b>97.73</b>					Playground	No	Article 97

**Other Town Owned Lands of Recreation Use**

58	50	RIVER ST (Galfield Pk)	RA	8.00	Town of Norwell	Board of Selectmen	Recreation	Good	Playground	yes:parking	Deed Restriction
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**Town Owned Water Department Lands:**

36	17	BOWKER ST	RA	40.00	Town of Norwell	Water Dept.	Wellfield	Good	Trails	Yes: Parking	Article 97
36	26	BOWKER ST	RA	0.70	Town of Norwell	Water Dept.	Wellfield	Good	Trails	Yes	Article 97
36	16	BOWKER ST	RA	5.25	Town of Norwell	Water Dept.	Wellfield	Good	Trails	Yes	Article 97
11	3	FIRST PARISH RD	RA	27.50	Town of Scituate	Water Dept.	Wellfield	Good	Trails		Article 97
11	4	FIRST PARISH RD	RA	0.25	Town of Scituate	Water Dept.	Wellfield	Good	Trails		Article 97
11	5	FIRST PARISH RD	RA	0.25	Town of Scituate	Water Dept.	Watershed	Good			Article 97

Map	Lot	Location	Zoning	Acres	Ownership	Management	Use	Condition	Recreation	Access	Protection
36	20	GROVE ST	RB	1.30	Town of Norwell	Selectmen	Wellfield	Good	Trails	Yes	Article 97
13	6	GROVE ST	RB	20.30	Town of Norwell	Water Dept.	Wellhead	Good	Trails	Yes: Parking	Article 97
13	7	GROVE ST	RB	17.60	Town of Norwell	Water Dept.	Wellfield	Good	Trails	Yes	Article 97
13	3	GROVE ST	RB	8.00	Town of Norwell	Water Dept.	Wellfield	Good	Trails		Article 97
13	4	GROVE ST	RB	22.50	Town of Norwell	Water Dept.	Wellhead	Good	Trails		Article 97
13	5	GROVE ST	RB	28.50	Town of Norwell	Water Dept.	Wellhead	Good	Trails	Yes	Article 97
13	2	GROVE ST	RB	8.20	Town of Norwell	Water Dept.	Wellfield	Good	Trails		Article 97
14	5	GROVE ST	RB	23.72	Town of Norwell	Water Dept.	Wellhead	Good	Trails		Article 97
13	18	GROVE ST	RB	0.50	Town of Norwell	Water Dept.	Wellfield	Good	Trails		Article 97
14	9	191 GROVE ST	RB	3.87	Town of Norwell	Water Dept.	Wellfield	Good	Trails		Article 97
6	14	MT BLUE ST	RA	6.87	Town of Norwell	Water Dept.	Water Tank	Good	Trails	Yes	Article 97
7	14	MT BLUE ST	RA	6.56	Town of Norwell	Water Dept.	Water Tank	Good	Trails		Article 97
41	28	PARADISE DR	RA	1.40	Town of Norwell	Water Dept.	Water Tank	Good	Trails	Yes: Parking	Article 97
18	73	PHILIP DR	C	19.12	Town of Norwell	Water Dept.	Water Tank	Good	Trails	Yes: Parking	Article 97
65	17	PLEASANT ST	RA	31.60	Town of Norwell	Water Dept.	Wellfield	Good	Trails	Yes	Article 97
30	81	RIDGE HILL RD	RA	14.08	Town of Norwell	Water Dept.	Wellhead	Good	Trails	Yes: Parking	Article 97
64	13	SOUTH ST	RA	25.20	Town of Norwell	Water Dept.	Wellfield	Good	Trails		Article 97
64	12	SOUTH ST	RA	1.01	Town of Norwell	Water Dept.	Wellfield	Good	Trails		Article 97
64	11	SOUTH ST	RA	1.00	Town of Norwell	Water Dept.	Wellfield	Good	Trails		Article 97
64	1	SOUTH ST	RA	6.27	Town of Norwell	Water Dept.	Wellfield	Good	Trails		Article 97
64	14	SOUTH ST	RA	143.39	Town of Norwell	Water Dept.	Plant & Well	Good	Trails	Yes: Parking	Article 97
64	35	SOUTH ST	RA	28.50	Town of Norwell	Water Dept.	Wellfield	Good	Trails		Article 97
53	33	SOUTH ST	RA	1.63	Town of Norwell	Water Dept.	Wellfield	Good	Trails		Article 97
64	37	SOUTH ST	RA	4.00	Town of Norwell	Water Dept.	Wellhead	Good	Trails		Article 97
63	7	SOUTH ST	RA	3.40	Town of Norwell	Water Dept.	Wellhead	Good	Trails		Article 97
64	33	SOUTH ST	RA	3.78	Town of Norwell	Water Dept.	Wellfield	Good	Trails		Article 97
74	1	TIFFANY RD	RA	36.00	Town of Norwell	Water Dept.	Watershed	Good	Trails	Yes	Article 97
75	1	TIFFANY RD	RA	1.00	Town of Norwell	Water Dept.	Watershed	Good	Fishing	Yes	Article 97
30	81	RIDGE HILL RD	RB	14.21	Town of Norwell	Water Dept.	Watershed	Good	Trails		Article 97
30	82	300 WASHINGTON ST	RB	2.10	Town of Norwell	Fire Dept.	Watershed	Good	Trails		Article 97
64	34	SOUTH ST	RA	41.60	Town of Norwell	Water Dept.	Watershed	Good	Trails	Yes	Article 97
		<b>TOTAL ACRES</b>		<b>601.16</b>							

**Town Owned Conservation Lands (as recorded with the Assessors):**

1	1	PROSPECT ST	RA	0.38	Town of Norwell	Selectmen	Conservation				NO
1	7	PROSPECT ST	RA	1.00	Town of Norwell	Selectmen					NO
1	11	PROSPECT ST	RA	15.06	Town of Norwell	Selectmen					NO
1	12	PROSPECT ST	RA	10.00	Town of Norwell	Conservation					



Map	Lot	Location	Zoning	Acres	Ownership	Management	Use	Condition	Recreation	Access	Protection
61	30	NORTH RIVER	RA	1.89	Town of Norwell	Conservation	Conservation	Good	No	No	Article 97
61	29	NORTH RIVER	RA	3.70	Town of Norwell	Conservation	Conservation	Good	No	No	Article 97
62	69	STONY BROOK LN	RA	5.20	Town of Norwell	Conservation	Conservation	Good	Picnic/Scenic View	Yes: Parking	Article 97
62	35	OLD MEETING HOUSE LN	RA	3.00	Town of Norwell	Conservation	Conservation	Good	No	No	Article 97
62	71	OLD MEETING HOUSE LN	RA	1.00	Town of Norwell	Conservation	Conservation	Good	No	No	Article 97
66	4	WILDCAT LN	RA	14.39	Town of Norwell	Conservation	Conservation	Good	Potential Trails	Yes	Article 97
66	5	WILDCAT LN	RA	0.56	Town of Norwell	Conservation	Conservation	Good	Potential Trails	Yes	Article 97
66	8	PLEASANT ST	RA	6.33	Town of Norwell	Conservation	Conservation	Good	Potential Trails	Yes	Article 97
68	42	WILDCAT LN	RA	22.03	Town of Norwell	Conservation	Conservation	Wetlands	Nature	Yes	Article 97
68	4	WILDCAT LN	RA	5.00	Town of Norwell	Conservation	Conservation	Wetlands	Nature	Yes	Article 97
73	4	STETSON SHRINE LN	RA	25.00	Town of Norwell	Conservation	Conservation	Good	No	No	Article 97
73	3	STETSON SHRINE LN	RA	34.00	Town of Norwell	Conservation	Conservation	Good	No	No	Article 97
73	1	STETSON SHRINE LN	RA	1.00	Town of Norwell	Conservation	Conservation	Good	No	No	Article 97
77	70	RIVER ST	RA	4.15	Town of Norwell	Conservation	Conservation	Wetlands	No	No	Article 97
<b>TOTAL ACRES</b>				<b>1015.47</b>							
<b>Town Owned Conservation Lands (Recorded by the Conservation Commission)</b>											
6	3	MT BLUE ST	RA	16.00	Town of Norwell	Conservation	Conservation/Recreat	Good	Trails	Yes: Parking	Con. Comm
6	19	MT BLUE ST	RA	12.00	Town of Norwell	Conservation	Conservation/Recreat	Good	Trails	Yes	No
6	20	MT. BLUE ST	RA	50.00	Town of Norwell	Conservation	Wetlands	No	No	No	No
7	1	MT BLUE ST	RA	0.30	Comm. of Mass./Wompatuck St.Pk.	DCR					
7	7	SUMMER ST	RA	1.60	Town of Norwell	Selectmen					
7	10	MT BLUE ST	RA	2.20	Town of Norwell	Conservation	Wetlands	No	No	No	No
9	32	SUMMER ST	RA	4.17	Town of Norwell	Conservation	Conservation/Recreat		Potential Trails	Yes	Con. Comm
11	69	LAURELWOOD DR	RA	19.68	Town of Norwell	Conservation	Watershed	No	No	No	Con. Comm
12	5	GROVE ST	RB	1.26	Town of Norwell	Conservation	Water Supply	Good	No	No	Con. Comm
20	40	WASHINGTON ST	RB	3.64	Town of Norwell	Conservation	Wetlands	Wetlands	No	No	Con. Comm
24	9	BEERS AV	RB	15.07	Town of Norwell	Conservation	Conservation/Recreat	Good	Trails	Yes: Parking	Con. Comm
24	2	TEABERRY LN	RB	5.00	Town of Norwell	Conservation	Conservation/Recreat		Potential Trails	Yes	Con. Comm
27	142	WASHINGTON ST	RB	3.63	Town of Norwell	Conservation	Conservation/Recreat		Trails	Yes	Con. Comm
28	3	PROSPECT ST	RA	29.89	Town of Norwell	Conservation	Conservation/Recreat		Trails	Yes: Parking	Con. Comm
28	7	JACOBS LN	RA	0.34	Town of Norwell	Conservation	Conservation/Recreat		Trails	Yes	Con. Comm
28	9	JACOBS LN	RA	2.80	Town of Norwell	Conservation	Conservation/Recreat		Trails	Yes: Parking	Con. Comm
36	20	GROVE ST	RA	1.30	Town of Norwell	Conservation	Watershed/wetlands	Wetlands	No	No	Con. Comm
38	5	SCHOOL ST	RA	0.70	Town of Norwell	Conservation	Wetlands	Wetlands	No	No	Con. Comm
38	54	SCHOOL ST	RA	5.00	Town of Norwell	Conservation	Wetlands	Wetlands	No	No	Con. Comm
46	37	CENTRAL ST	RA	8.00	Town of Norwell	Conservation	Wetlands	Wetlands	No	No	Con. Comm
50	117	WINTER ST	RA	7.20	Town of Norwell	Conservation	Wetlands	Wetlands	No	No	Con. Comm

Map	Lot	Location	Zoning	Acres	Ownership	Management	Use	Condition	Recreation	Access	Protection
51	68	PARKER ST	RA	2.37	Town of Norwell	Conservation	Wetlands	Wetlands	No	No	Con. Comm
54	38	SOUTH ST	RA	11.20	Town of Norwell	Conservation	Wetlands	Wetlands	No	No	Con. Comm
56	37	FOREST ST	RA	0.51	Town of Norwell	Conservation	Conservation	Good	No	No	Con. Comm
57	29	FOREST ST	RA	4.70	Town of Norwell	Conservation	Conservation/Recreat	Good	Pot. Trails	Yes	Con. Comm
57	14	CIRCUIT ST	RA	4.60	Town of Norwell	Conservation	Conservation		No	No	Con. Comm
58	6	FOREST ST	RA	1.10	Town of Norwell	Conservation	Conservation/Recreat		Trails	Yes: Parking	Con. Comm
58	49	JORDAN LN	RA	1.00	Town of Norwell	Conservation	Conservation/Recreat		Trails	Yes: Parking	Con. Comm
59	1	CIRCUIT ST	RA	5.50	Town of Norwell	Conservation	Conservation	Good	No	No	Con. Comm
61	28	NORTH RIVER	RA	6.40	Town of Norwell	Conservation	Salt Marsh		No	No	Con. Comm
62	28	OLD MEETING HOUSE	RA	2.50	Town of Norwell	Conservation	Wetlands	Good	No	Yes	Con. Comm
62	27	OLD MEETING HOUSE	RA	1.00	Town of Norwell	Conservation	Wetlands	Good	No	Yes	Con. Comm
67	56	CIRCUIT ST	RA	12.23	Town of Norwell	Conservation	Wetlands		No	No	Con. Comm
67	29	JOHN NEIL DR	RA	1.00	Town of Norwell	Conservation	Wetlands		No	No	Con. Comm
68	6	WILDCAT LN	RA	8.60	Town of Norwell	Conservation	Conservation/Recreation		Trails	Yes: Parking	Con. Comm
69	20	CIRCUIT ST	RA	9.10	Town of Norwell	Conservation	Conservation	Good	No	No	Con. Comm
71	4	NORTH RIVER	RA	3.50	Town of Norwell	Conservation	Salt Marsh		No	No	Con. Comm
72	3	NORTH RIVER	RA	2.10	Town of Norwell	Conservation	Salt Marsh		No	No	Con. Comm
72	5	NORTH RIVER	RA	4.00	Town of Norwell	Conservation	Salt Marsh		No	No	Con. Comm
73	10	NORTH RIVER	RA	47.75	Town of Norwell	Selectmen	Salt Marsh		No	No	Con. Comm
73	7	STETSON SHRINE LN	RA	120.00	Town of Norwell	Conservation	Conservation/Recreation		Trails, Picnic, Scenic	Yes: Parking	Con. Comm
73	5	NORTH RIVER	RA	9.30	Town of Norwell	Conservation	Conservation/Recreation		Trails, Picnic, Scenic	Yes: Parking	Con. Comm
73	2	STETSON SHRINE LN	RA	4.00	Town of Norwell	Selectmen	Salt Marsh		No	No	Con. Comm
74	8	TIFFANY RD	RA	0.36	Town of Norwell	Selectmen	Salt Marsh		No	No	Con. Comm
75	1	TIFFANY RD	RA	1.00	Town of Norwell	Conservation	Watershed	(Water Dept)	No	No	Con. Comm
75	57	RIVER ST	RA	0.39	Town of Norwell	Selectmen	Wetlands		No	No	Con. Comm
76	1	STETSON RD	RA	2.00	Town of Norwell	Conservation	Wetlands		No	No	Con. Comm
76	12	STETSON RD	RA	6.00	Town of Norwell	Selectmen					
76	35	STETSON RD	RA	2.40	Town of Norwell	Selectmen					
77	6	MEADOWBROOK RD	RA	4.60	Town of Norwell	Selectmen					
77	7	MEADOWBROOK RD	RA	1.03	Town of Norwell	Selectmen					
77	27	RIVER ST	RA	1.80	Town of Norwell	Conservation					
77	75	RIVER ST	RA	5.77	Town of Norwell	Conservation					
78	118	BRIGANTINE CIR	RA	32.50	Town of Norwell	Conservation	Salt Marsh		No	No	Con. Comm
78	129	TILL ROCK LANE	RA	3.60	Comm. of Mass	Comm. of Mass	Salt Marsh		No	No	Con. Comm
78	132	BRIGANTINE CIR	RA	1.90	Town of Norwell	Conservation	Salt Marsh		No	No	Con. Comm
78	131	NORTH RIVER	RA	1.90	Town of Norwell	Conservation	Salt Marsh		No	No	Con. Comm
<b>TOTAL ACRES</b>				<b>517.49</b>							
<b>TOTAL ACRES PROTECTED</b>				<b>3466.47</b>							

Map Lot	Location	Zoning	Acres	Ownership	Management	Use
<b>Parcels on Exempt List, not on previous plan, although many are Open Space or directly adjacent to Open Space parcels.</b>						
9 28	SUMMER ST	RA	4	Town of Norwell	Selectmen	
9 32	SUMMER ST	RA	4.17	Town of Norwell	Selectmen	
9 38	SUMMER ST	RA	1.02	Town of Norwell	Conservation.	
9 41	SUMMER ST	RA	1.31	Town of Norwell	Conservation.	
9 42	SUMMER ST	RA	1.21	Town of Norwell	Conservation.	
9 43	SUMMER ST	RA	1	Town of Norwell	Conservation.	
10 14	SUMMER ST	RA	1	Town of Norwell	Selectmen	
10 15	SUMMER ST	RA	0.1	Town of Norwell	Selectmen	
10 16	SUMMER ST	RA	0.6	Town of Norwell	Selectmen	
10 99A	SUMMER ST	RA	1.33	Town of Norwell	Selectmen	
11 42	SUMMER ST	RA	3.2	Town of Norwell	Conservation.	
11 43	SUMMER ST	RA	1.25	Town of Norwell	Conservation	
11 51	SUMMER ST	RA	1.01	Town of Norwell	Selectmen	
11 1	OLD OAKEN BUCKET RD	RA	6.25	Town of Scituate	Selectmen	
14 1	GROVE ST	RA	10.4	Town of Norwell	Selectmen	
14 4	GROVE ST	RA	5.1	Town of Norwell	Selectmen	
14 10	GROVE ST	RA	2.5	Town of Norwell	Water Dept.	
20 34	WASHINGTON ST		3.64	Town of Norwell	Conservation	
22 20	GROVE ST		1.38	Town of Norwell	Selectmen	
27 112	DORIS AVE		0.07	Town of Norwell	Selectmen	
27 38	PROUTY AVE		0.09	Town of Norwell	Selectmen	
27 39	LEIGH ROAD		0.08	Town of Norwell	Selectmen	
27 66	DUNCAN DRIVE		1.1	Town of Norwell	Selectmen	
27 94	DUNCAN DRIVE		0.11	Town of Norwell	Selectmen	
27 43	JACOBS TRAIL		0.08	Town of Norwell	Selectmen	
27 108	DORIS AVE		0.12	Town of Norwell	Recreation Comm.	
27 83	JUDITH ST		0.35	Town of Norwell	Conservation	
29 26	4 JACOBS LANE		0.85	Town of Norwell	Conservation	
30 120	WASHINGTON ST		14.21	Water Dept.	Water Dept.	
32 102	WASHINGTON ST		3	Town of Norwell	Selectmen	
32 104	WASHINGTON PARK DR		0.39	Town of Norwell	Selectmen	
33 14	HIGH ST		1	Town of Norwell	Selectmen	
34 1	WASHINGTON ST		19	Town of Norwell	Selectmen	
35 35	LORING DRIVE		7.46	SSNSC	Selectmen	
36 13	BOWKER ST		0.24	Town of Norwell	Non-Profit	
38 9A	MT BLUE ST		6.86	Town of Norwell	Selectmen	CPA 2011
38 75	31 HAWTHORNE LA		4.82	Town of Norwell	Conservation	

Map Lot	Location	Zoning	Acres	Ownership	Management	Use
38 83	MT BLUE ST		6.86	Town of Norwell	Conservation	
39 6	LINCLON ST		5.5	Town of Norwell	Conservation	
40 16	MAIN ST		3.19	Town of Norwell	Selectmen	
43 7	MT BLUE ST		1.3	Town of Norwell	Selectmen	
43 9	MT BLUE ST		1.32	Town of Norwell	Selectmen	
44 2	NORWELL AVE		1	Town of Norwell	Selectmen	
44 3	NORWELL AVE		1.1	Town of Norwell	Selectmen	
46 43	CENTRAL ST		2.97	Town of Norwell	Selectmen	
46 45	OLD OAKEN BUCKET RD		1	Town of Norwell	Selectmen	
49 36	OLD OAKEN BUCKET RD		1	Cushing Tomb	Selectmen	
51 38	PARKER ST		2.2	Town of Norwell	Selectmen	
51 39	PARKER ST		2.8	Town of Norwell	Selectmen	
51 6	WINTER ST		0.25	Town of Norwell	Selectmen	
51 36	PARKER ST		1.04	Town of Norwell	Selectmen	
51 40	PARKER ST		1.02	Town of Norwell	Conservation	
53 51	SOUTH ST		0	Town of Norwell	Selectmen	
53 52	SOUTH ST		6.25	Town of Norwell	Selectmen	
53 12	MAIN ST		3.09	Town of Norwell	Recreation Comm.	
53 50	SOUTH ST		7.91	Town of Norwell	Conservation	
53 24	MAIN ST		6.3	Town of Norwell	School Comm.	
55 3	MAIN ST		2	Town of Norwell	Selectmen	
55 4	MAIN ST		2.28	Town of Norwell	Selectmen	
58 23	RIVER/FOREST ST		3.6	Town of Norwell	Selectmen	
58 7	FOREST ST		1	Town of Norwell	Conservation	
58 48	JORDAN LN		1	Town of Norwell	Conservation	
61 63	MAIN ST		0.5	Town of Norwell	Selectmen	
62 29	NEAL GATE ST		8.08	Town of Norwell	Selectmen	
63 3	214 SOUTH ST		1.12	NSRWA	NSRWA	
64 13	SOUTH ST		37.05	Town of Norwell	Selectmen	
64 38	SILVER BROOK ROAD		3	Town of Norwell	Conservation	
65 17	PLEASANT ST		31.6	Town of Norwell	Conservation	
65 24	WILDCAT LN		3	Town of Norwell	Selectmen	
65 25	WILDCAT LN		3.3	Town of Norwell	Selectmen	
65 35	235 WILDCAT LN		1.36	Town of Norwell	Selectmen	
65 36	WILDCAT LN		1.37	Town of Norwell	Selectmen	
65 53	CENTENNIAL WAYE		8.7	Town of Norwell	Conservation	
65 54	CENTENNIAL WAYE		3.19	Town of Norwell	Conservation	
65 10	GEORGE RD		0.1	Town of Norwell	Selectmen	

Map	Lot	Location	Zoning	Acres	Ownership	Management	Use
68	2	WILDCAT LN		3	Town of Norwell	Selectmen	
68	3	WILDCAT LN		3.6	Town of Norwell	Selectmen	
68	14	SOUTH EAST EXPRESS WAY		0.16	Town of Norwell	Selectmen	
68	18	PINE ST		0.4	Town of Norwell	Selectmen	
68	19	PINE ST		2	Town of Norwell	Selectmen	
68	22	PINE ST		0.44	Town of Norwell	Selectmen	
68	40	PINE ST		2.7	Town of Norwell	Selectmen	
68	11	PINE ST		1.99	Town of Norwell	Selectmen	
68	13	PINE ST		3.63	Town of Norwell	Conservation	
69	24	RIVER ST		2.4	Town of Norwell	Selectmen	
70	55	RIVER ST		0.6	Town of Norwell	Selectmen	
70	62	PHEASANT RUN		2.51	Town of Norwell	Selectmen	
71	4	NORTH RIVER		3.5	Town of Norwell	Selectmen	
71	6	RIVER ST		3	Town of Norwell	Selectmen	
71	11	RIVER ST		12.58	Mass Audubon Society Inc.	Mass Audubon Society Inc.	
71	37	CHITTENDEN LANE		0.26	Easement	Conservation	
72	2	RIVER ST		1.5	Town of Norwell	Selectmen	
73	6	ON EXPRESS WAY		14.6	C/M	C/M	

## UNPROTECTED LANDS IN NORWELL

Private & Non-Profit Organization Lands of Conservation and/or Recreation Interest							
Map	Lot	Location	Zoning	Acres	Ownership	Management	Use
72	6	83 STETSON SHRINE LN	RA	44.00	STETSON KINDRED OF AMERICA	Same	Recreation/Conservation
3	25	GROVE ST	RA	28.12	WEYMOUTH HEIGHTS CLUB	Boy Scouts	Recreation/Conservation
				<b>72.12</b>			
<b>Privately Owned lands in Chapter 61</b>							
53	28	SOUTH ST	RA	17.00	ACTON, JOHN & TERESA	Agricultural	Agricultural
53	26	SOUTH ST	RA	5.90	ACTON, JOHN & TERESA	Agricultural	Agricultural
77	25	RIVER ST	RA	6.30	BARTLETT, NOMINEE TRUST	Recreation	Recreation
48	39	MILL LN LOT 210	RA	6.40	PRENTISS, WENDELL C & JUDITH S	Agricultural	Agricultural
51	12	WINTER ST	RA	1.75	BENNETT, ROBERT E & JULIA W	Agricultural	Agricultural
47	11	MILL LN	RA	40.00	BENNETT, ROBERT E & JULIA W	Recreation	Recreation
70	4A	GREEN ST	RA	9.30	CLARK, PETER H & CANDACE J	Agricultural	Agricultural
39	32A	BOWKER ST	RA	5.13	CLAWSON, ROBERT F & PRISCILLA	Agricultural	Agricultural
40	32A	HOOP POLE LN	RA	19.19	DIRUBBO DAVID & CATRINA	Agricultural	Agricultural
41	17	MAIN ST	RA	4.00	DOLAN DEBORAH C & CARLETON SAR	Forestry	Forestry
56	29	MAIN ST	RA	19.40	DOLAN, DEBORAH C & CARLETON SAR	Forestry	Forestry
56	26	MAIN ST	RA	6.80	DOLAN, DEBORAH C & CARLETON SAR	Forestry	Forestry
56	31	MAIN ST	RA	2.60	DOLAN, DEBORAH C & CARLETON SAR	Forestry	Forestry
45	27	MAIN ST	RA	2.55	DOLAN, DEBORAH C & CARLETON SAR	Agricultural	Agricultural
45	29	LINCOLN ST	RA	2.96	DOLAN, DEBORAH C & CARLETON SAR	Agricultural	Agricultural
56	28	MAIN ST	RA	3.50	DOLAN, DEBORAH C & CARLETON SAR	Agricultural	Agricultural
45	30	LINCOLN ST	RA	9.00	DOLAN, DEBORAH C & CARLETON SAR	Agricultural	Agricultural
45	28	LINCOLN ST	RA	21.50	DOLAN, DEBORAH C & CARLETON SAR	Agricultural	Agricultural
45	34	LINCOLN ST	RA	51.70	DOLAN, DEBORAH C & CARLETON SAR	Recreation	Recreation
76	34	STETSON RD	RA	10.45	GILMOUR, DONNA R	Forestry	Forestry
50	15	101 SATUIT MEADOW LN	RA	4.19	GILPIN, JULIANNE DONLEY TRUSTEE	Agricultural	Agricultural
74	26A	COMMON ST	RA	7.98	GINGRAS, BARBARA S	Agricultural	Agricultural
35	21	PROSPECT ST	RA	71.75	HORNSTRA, FARM NORWELL LLC	Agricultural	Agricultural
38	9A	MT BLUE ST	RA	9.00	HARROW,	Recreation	Recreation
37	6	PROSPECT ST	RA	29.34	JENSEN, MAUREEN V TRUSTEE	Agricultural	Agricultural
39	46A	BOWKER ST	RA	21.83	KELLY JAMES P & EILEEN L	Forestry	Forestry
47	33	CROSS ST	RA	6.12	KOPACZ, JOHN E & MARTHA	Agricultural	Agricultural
49	1	283 WINTER ST	RA	59.99	KOPACZ, JOHN E & MARTHA	Agricultural	Agricultural
49	62	CROSS ST	RA	11.41	KOPACZ, JOHN E & MARTHA	Agricultural	Agricultural
49	65	CROSS ST	RA	1.19	KOPACZ, JOHN E & MARTHA	Agricultural	Agricultural

Map	Lot	Location	Zoning	Acres	Ownership	Management	Use	Condition	Recreation	Access	Protection	
44	44A	NORWELL AVE	RA	7.53	MARSH, JOHN M & CAROL N	Agricultural	Agricultural	Pasture	Trails	No	Chapter 61A	
42	28A	MT BLUE ST	RA	9.10	MASON, PHILIP W & PAMELA W	Agricultural	Agricultural	Cropland	Recreation Fields	No	Chapter 61A	
39	7A	LINCOLN ST	RA	5.23	MCCOUEEN, MICHAEL & ANNE	Agricultural	Agricultural	Hay Fields	Recreation Fields	No	Chapter 61A	
6	1A	MT BLUE ST	RA	19.00	MEACHAM, BARBARA	Agricultural	Agricultural	Vineyard	Recreation Fields	No	Chapter 61A	
72	8	STETSON SHRINE LN	RA	6.96	MEYER, RICHARD R TRUSTEE	Agricultural	Agricultural	Forestry	Trails	No	Chapter 61A	
40	25A	HOOP POLE LN	RA	10.26	OSBORNE, GARY H & JOAN	Forestry	Forestry	Forestry	Trails	No	Chapter 61	
23	23	PROSPECT ST	RA	18.06	PARKER, GILLIAN A	Recreation	Recreation	Woodland	Trails	No	Chapter 61B	
48	37	WINTER ST LOT 21C	RA	6.51	BENNETT, ROBERT E & JULIA W	Agricultural	Agricultural	Field	Recreation Fields	No	Chapter 61A	
48	38	WINTER ST LOT 21B	RA	1.00	BENNETT, ROBERT E & JULIA W	Agricultural	Agricultural	Field	Recreation Fields	No	Chapter 61A	
1	2A	GROVE ST	RB	49.79	SPENCE, WILLIAM F & SUSAN C	Agricultural	Agricultural	Woodland	Trails	No	Chapter 61A	
14	14	GROVE ST	RB	15.20	SPENCE, WILLIAM F & SUSAN C	Agricultural	Agricultural	Woodland	Trails	No	Chapter 61A	
14	18	GROVE ST	RB	7.70	SPENCE, WILLIAM F & SUSAN C	Agricultural	Agricultural	Woodland	Trails	No	Chapter 61A	
14	17	PROSPECT ST	RB	10.00	SPENCE, WILLIAM F & SUSAN C	Agricultural	Agricultural	Woodland	Trails	No	Chapter 61A	
71	5	RIVER ST	RA	7.5	ST OURS, FREDERICK H	Agricultural	Agricultural	Field	No	No	Chapter 61A	
71	2A	RIVER ST	RA	98.5	ST OURS, FREDERICK H	Agricultural	Agricultural	Crops	Recreation Fields	No	Chapter 61A	
56	32A	FOREST ST	RA	12.14	THOMSON, ALAN	Forestry	Forestry	Woodland	Trails/Recreation Fields	No	Chapter 61	
57	4	CIRCUIT ST	RA	1.52	WHITTAKER, GEORGE J & JEAN M	Agricultural	Agricultural	Forestry	No	No	Chapter 61A	
57	47A	CIRCUIT ST	RA	8.28	WHITTAKER, GEORGE J & JEAN M	Agricultural	Agricultural	Wetlands	No	No	Chapter 61A	
57	42A	CIRCUIT ST	RA	13.62	WHITTAKER, GEORGE J & JEAN M	Agricultural	Agricultural	Fields	Recreation Fields	No	Chapter 61A	
47	35A	WINTER ST	RA	14.50	WILDEROTER, STANLEY B & JANE	Forestry	Forestry	Woodland	Trails	No	Chapter 61	
5	11A	MT HOPE ST	RA	17.54	ZOLLIN, HENRY	Agricultural	Agricultural	Cropland	Recreation Fields	No	Chapter 61A	
				<b>808.17</b>								

**Town Owned Lands managed by Recreation Department**

27	98	PROUTY AVE	RA	0.35	Town of Norwell	Recreation Comm.	Recreation	Good	Playground	Yes; Parking	None	
69	32	GREEN ST	RA	7.69	Town of Norwell	Recreation Comm.	Recreation	Good	Trails	Yes; Parking	None	
73	7	2 MEADOW FARMS WAY	RA	120.00	Town of Norwell	Recreation Comm.	Recreation	Good	Trails	Yes; Parking	None	
				<b>128.04</b>								

Map	Lot	Location	Zoning	Acres	Ownership	Management	Use	Condition	Recreation	Access	Protection	
<b>(Other than Recreation Commission Jurisdiction Lands)</b>												
17	29	81 HIGH ST	RB	15.40	Town of Norwell	School Dept.	Recreation	Cole Elementary School	Programs, Gym & Playground	Yes; Parking	None	
67	5	293 PINE ST	RA	2.00	Town of Norwell	Council of Aging	Recreation	Council of Aging	Elderly Programs	Yes; Parking	None	
55	8	334 MAIN ST	RA	13.00	Town of Norwell	School Dept.	Recreation	Middle School	Gym, Future Fields & Programs	Yes; Parking	None	
55	7	322 MAIN ST	RA	32.00	Town of Norwell	School Dept.	Recreation	Sparrell School	Programs & Gym	Yes; Parking	None	
55	57	MAIN ST	RA	5.73	Town of Norwell	Board of Selectmen	Recreation	Osborne Fields	Softball Fields	Yes; Parking	None	
71	37	CHITTENDEN LN	RA	0.26	Town of Norwell	Board of Selectmen	Recreation	River Public Access	Non-motor Boats River Access	Yes; Parking	None	
46	39	102 OLD OAKEN BUCKET RD	RA	27.90	Town of Norwell	School Dept.	Recreation	Vinal Elementary School	Programs, Gym & Playground	Yes; Parking	None	
69	2	PINE ST	RA	18.00	Town of Norwell	Board of Health	Recreation	Centennial Park	2 Soccer fields, 1 Basketball Court	Yes; Parking	None	
53	35	18 SOUTH ST	RA	94.53	Town of Norwell	School Dept.	Recreation	High School & Library	Gym, Tennis courts, Ath. Fields, Programs	Yes; Parking	None	
40	23	345 MAIN ST	RA	12.90	Town of Norwell	Board of Selectmen	Recreation	Town Hall	Programs, Gym, Volleyball Courts	Yes; Parking	None	
58	50	RIVER ST	RA	8.00	Town of Norwell	Board of Selectmen	Recreation	Garfield Park	Playground	Yes; Parking	None	
40	24	MAIN ST	RA	3.00	Town of Norwell	Board of Selectmen	Recreation	Town Hall	Former Soccer Fields	Yes; Parking	None	
61	56	BRIDGE ST	RA	0.37	Town of Norwell	Board of Selectmen	Recreation	Town Landing	Boating: River Access	Yes; Parking	None	
48	1	673 MAIN ST	BA	1.40	Town of Norwell	Board of Selectmen	Recreation	Cushing Memorial Center	Community Ctr, Programs	Yes; Parking	None	
				<b>234.49</b>								
				<b>1242.82</b>	<b>NB: This number includes all information above.</b>							

**TOTAL ACRES (Unprotected)**  
*Reviewed and found with Mar 12 Assessors' Information*  
*Changes made based on Mar 12 Assessors' Information*  
*Not within Mar 12 Assessors' Information*  
*Changes to Names based on Mar 12 Assessors' Information*  
*Additions Based on Mar 12 Assessors' Information*

# 6 COMMUNITY VISION

Norwell has been through the public Open Space and Recreation planning process previously completing Plans in 1977, 1987, 1997, 2005, and a two-year update in 2010. The Open Space and Recreation community vision for Norwell has remained relatively constant throughout the development of the previous Plans. Norwell residents and community leaders have consistently sought to maintain the Town's unique rural character, protect ecologically and historically valuable open space, including the Town's water supply, and provide quality recreational opportunities for its residents. The 2012 Plan reflects these fundamental principles and overall community vision with slight adjustments as necessary to address the changing needs and desires of Town residents.

The 2012 Plan Committee was charged with evaluating previous plans, and creating an updated plan that would span the next seven years and ensure the open space and recreation needs of the community continue to be addressed. This 2012 Plan continues to build on the progress made by prior Plans, as well as reflect priority changes and shifts in community goals and objectives with respect to open space and recreational resources. The overall response to the public outreach effort associated with this Plan indicates that recreational resources merit more attention to match the interests and expectations of today's population.

## A. DESCRIPTION OF PROCESS

The 2012 Plan Committee conducted a comprehensive range of activities intended to evaluate and rank the importance of open space and recreational resources, including the following community outreach efforts:

- Updated, distributed, analyzed, and incorporated into the 2012 Plan a survey questionnaire to gauge public opinion.
- Reviewed and prioritized actions and recommendations outlined in previous Norwell Open Space and Recreation Plans, the Norwell Master Plan and Open Space and Recreation Plans from other similarly situated towns.
- Worked diligently with Town employees to access and incorporate best available data and information.
- Site visits with Town representatives and actively involved residents.
- Requested support information from state agencies and other organizations.
- Interviewed and requested feedback from local and regional conservation organizations.



*"A man is rich in proportion to the number of things he can afford to let alone."*

— Henry David Thoreau

*Photo above: Eastern Screech Owl at Town Hall by Linda Murphy*

*Photo left: View of the North River with Norris Reservation and boat house at the bottom right by Cary Wolinsky*

- Held open meetings to discuss open space and recreational needs for the draft Plan:
  - Held regularly scheduled Open Space and Recreation Plan meetings (generally weekly) over the course of approximately 15 months.
  - Presented to Norwell Community Preservation Committee during four separate meetings.
  - Town Meeting Warrant request for associated expenses on May 7, 2012.
  - Norwell School Committee presentation followed by a question and answer session.
  - Formally presented the draft maps and action items, and solicited feedback from current conservation commissioners during a regularly scheduled meeting.
  - Introduced an advanced draft Plan to the general public at a televised Selectman’s meeting on June 6, 2012.
  - Solicited public participation from June 6-13, 2012, through postings on Town Hall’s corridors, including large full color draft maps and action plans. Comment boxes and an email address were provided for comments.
  - Posted all of the materials for public review and comments on Town websites and used Town e-mail subscription list for collecting comments and photo entries.

The 2012 survey/questionnaire largely was based on a similar survey conducted for the 2005 Plan, in order to retain comparability and identify shifts in public opinion over time. The 2012 survey was ultimately a more comprehensive version with several additional questions that related to recreational needs. Committee members distributed roughly 250 paper surveys. Residents were asked to complete the surveys and either submit their responses through a survey link set up for online completion, drop off the completed survey at Town Hall or send it to the Conservation Commission by mail or in person.

The survey was announced and distributed in the following locations during the Fall of 2011/Winter of 2012:

- The Norwell Mariner and The Patriot Ledger published articles with a contact address, e-mail and web link
- Recreation Department direct web links
- Conservation Commission and Town websites
- Public school websites and weekly newsletters
- Wicked Local online
- Local realtor websites
- Posted Town Hall and Conservation Commission office
- Town Meeting, Fall 2011, committee members handing out survey and links
- Town Libraries— paper copies and link materials

In total, there were 357 returned surveys, including both paper and electronic. This return rate represents 3.4% of the 2010 population. The general comments and open answers were of particular interest, revealing a variety of opinions that added insight to the data compiled from the survey answers. The survey results suggested that, at least among survey respondents, visions, goals and attitudes toward open space and recreation in Norwell have may have shifted slightly over the past few years. More attention over the Town’s ability to provide reliable recreation services and access was the most obvious theme. Most comments pertaining to recreation were related to lack of workable and usable sports facilities and fields. The other resounding feedback related to the lack of sidewalks and safe places for walking and bike rides. See Appendix A, Open Space Survey and Results for the full version of question and answers to our survey.

## **B. STATEMENT OF OPEN SPACE & RECREATION GOALS**

The Plan Committee has determined that the vision of the community remains the same as it has for the past 20 years: to retain its unique and beautiful semi-rural character while maintaining a healthy environment and water supply. The four original goals stated in previous plans remain today but have been prioritized to take into account public responses to the survey and other resident feedback during the completion of the 2012 Plan. The 2012 Plan Committee added an Over-Arching Goal that includes objectives that apply to more than one of the four primary goals or are independent of those goals. In addition, the priorities of the goals were shifted slightly to reflect feedback from current Norwell residents, and account for progress with regard to past priorities. This merited a reconfiguration of the goals, resulting in the Recreation-related goal moving up in priority. This slight shift should not be misconstrued as devaluing any of the other goals and objectives—they are all important and critical to the Town’s future. The shift toward the Recreation goal reflects Norwell residents’ changing opinions and completion of a portion of the other goals since the 2005 plan. Norwell’s 2012 Open Space and Recreation Goals and Objectives are similar to the 2005 Plan’s goals and objectives with several additional objectives. The 2012 Plan Goals are summarized as follows:

### **2012 Open Space and Recreation Goals:**

1. Support and Enhance Passive and Active Recreation in Balance with Nature
2. Protect the Quality and Quantity of Norwell’s Water Supply
3. Protect Natural Resources and Promote Biodiversity
4. Protect Norwell’s Scenic Quality and Historic Resources
5. Sustain and Protect the Town’s Quality of Life as an Over-arching Goal

# 7 NEEDS ANALYSIS

The Plan Committee determined the open space and recreation needs of Norwell through a combination of examining past Open Space and Recreation and Town Master Plans and a robust effort to seek public input into Norwell's current needs. The thorough public outreach effort included announcements in the local papers, online notifications, Norwell cable TV news, and Norwell subscription email news services. The Committee also made the draft documents available for public review and comments at town hall and online, invited town and community leaders to participate in regular NOSRP meetings and solicited resident feedback in a survey designed to collect data on the Town's open space and recreational needs and desires. The Plan stressed public participation and outreach efforts because it understands that collaboration among the diverse interests both within Norwell and among neighboring towns is necessary to achieve the ambitious goals and objectives set forth in this Plan.

The survey was particularly instructive in identifying Norwell residents' current thinking about open space and recreation. One of the clear messages from the survey results is that Norwell residents want to ensure that recreation facilities and opportunities receive sufficient support. Sixty-six percent of survey respondents said the most common usage of open space areas in Norwell was for organized sports for their children. Aside from the Norris Reservation, the most utilized open space properties in Norwell were the Osborne athletic fields (56% of respondents indicated usage) and the High School (56%). When asked what types of areas residents would use if more were available, respondents' answers showed a preference for recreational areas: bicycle paths and sidewalks (70%), playing fields (51%) and athletic fields (49%).

In addition to active recreational opportunities, survey respondents continued to show an appreciation for and desire to protect and enhance Norwell's open space and conservation areas. As stated above, the most utilized open space property in Norwell is the Norris Reservation, with 76% of survey respondents indicating they used Norris. Respondents expressed that important factors to the perception of Norwell's character are its open fields and farmland (73% of respondents), historical buildings and landmarks (63%), and woods, marshes, bogs and wetlands (48%). Finally, 63% of respondents expressed a concern that Norwell's "open space is in danger from development." The complete survey questionnaire and results are found in Appendix A.



*"Plans are only good intentions unless they immediately degenerate into hard work."*

*— Peter Drucker, Author*

*Photo above: Cardinal at Captain Vinal Way by John Galvin*

*Photo left: Fogg Forest by Karen Driscoll*

The Plan Committee would like to thank all residents for their thoughtful participation in the public outreach process. The feedback helped the Committee understand how Norwell residents envision their Town, and guided the prioritization of goals and objectives and development of action items for this seven-year Plan.

No needs analysis would be complete without mentioning a fundamental need that affects the potential accomplishment of all goals and objectives set forth in this Plan—the need for an Norwell Open Space and Recreation Committee (NOSRC) to continue to exist to carry out this Plan. After the last full plan in 2005, the NOSRC was discontinued, and, as a result, valuable institutional and planning knowledge was dispersed and the goals and objectives laid out in the 2005 Plan were not addressed in an efficient and effective manner. There needs to be an entity that is responsible for carrying out the Plan, and it makes most sense for an Open Space and Recreation Committee to do it.

Norwell's 2012 Open Space and Recreation Plan will only be as good as its implementation. For this reason, the 2012 Plan Committee strongly recommends that the Town create a standing Norwell Open Space and Recreation Committee to coincide with the seven-year duration of this Plan. The primary responsibility of the new committee would be to ensure implementation of the Plan by working to carry out the Action Items identified in Chapter 9 of this Plan. The proposed committee would work closely with already established Town commissions, boards and departments, as well as Norwell's citizenry, to achieve the goals and objectives set forth in the 2012 Plan and the overarching goal of setting aside 30% of Norwell as open space in perpetuity as proposed by the 2005 Norwell Open Space & Recreation Committee.

As previously mentioned, after the last major revision of the NOSR Plan was completed, the NOSRC was discontinued and no standing committee was created. As a result, the Town did not realize the full potential of the 2005 Plan. If identified Action Items were accomplished, it was due primarily to individual initiative rather than a coordinated strategy. Many of the Action Items identified in 2005 remain as Action Items today. The 2012 Plan Committee believes the most important factor in preventing this from happening again is to have a standing NOSR Committee going forward.

The 2012 Plan Committee suggests the following strategy for establishing a successful standing NOSR Committee:

- The standing open space and recreation committee should be made up of members representing, at a minimum, the following groups:

Conservation Commission (NCC), Community Preservation Committee (CPC), Recreation Department, Water Commission, Historical Commission, Planning Board, and a fixed number of At Large members. Norwell's Conservation Agent should be a member.

- The standing committee would be organized as a subcommittee of the Norwell Conservation Commission and would report regularly (at least 2x per year) to the NCC. The standing committee would also report regularly (at least 2x per year) to CPC.
- NOSR Committee members would serve 3-year terms, appointed by the NCC.
- The NOSR Committee would be responsible for implementing the Plan until 2019.
- The NOSR Committee would hold regular meetings to ensure progress.
- The NOSR Committee would identify Action Items that do not come within the direct responsibility of other Town commissions, boards or departments and focus on achieving those to avoid redundancy with other groups and their work.
- For those Action Items that may be within the purview of other Town commissions, boards or departments, the NOSR Committee would work collaboratively with those commissions, boards and departments to achieve those Items. There will be some overlap with the NCC, CPC, Recreation, and Historical, but the NOSR Committee will have the capacity to take on and guide long-term projects that groups like NCC and CPC may not have time to address (e.g., modernizing GIS data and documentation of Town conservation holdings).
- Ultimately, the NOSR Committee would work with all Town commissions, boards and departments to achieve the goal of 30% of Norwell set aside in perpetuity as open space.
- Once the 30% goal is achieved, the NOSR Committee would focus on enhancing, maintaining and promoting Norwell's open space and providing access.
- The NOSR Committee would serve as a liaison between various commissions, boards and departments on open space and recreation matters to ensure continuity and completion.
- The NOSR Committee would liaison with neighboring Towns' open space and recreation committees and conservation organizations to identify possible ways for the towns to collaborate on open space issues that are mutually beneficial.
- The NOSR Committee would serve as educational and informational resource on open space and recreation areas in Town.
- The NOSR Committee would identify and apply for grant funding for open space and recreation needs in town, separate from CPC funding.

## A. COMMUNITY & RECREATION NEEDS

Norwell residents are fortunate to have numerous recreational opportunities available to them. The Norwell Recreation Department develops and oversees numerous recreation programs for residents of all ages and even non-residents when space is available. Activities sponsored by the Recreation Department provide a variety of leisure experiences from preschoolers to elders; from playgroups, sports and games, arts and crafts, summer activities, educational courses, music, drama, fitness, wellness, and field trips for all ages.

Each season the Department fields a number of calls from residents, newcomers or those considering a move to Norwell asking for Recreation Department information and a brochure. The most common facility inquiries are about artificial turf fields, Town hockey rink or swimming pool, none of which Norwell currently has. Although residents seem satisfied with program offerings, the 2011-12 Open Space and Recreation survey indicated a growing dissatisfaction with available facilities and a desire for more active, sports-oriented facilities. For example, 66% of respondents said they use open space and recreation areas most often when taking their children to organized sports.

Many survey respondents expressed a desire to develop artificial turf fields to improve playability in wet conditions and maintain a competitive balance when competing against teams from other towns with the advantage of turf home fields. The five needs most frequently identified by survey respondents were: more sports facilities (49% of respondents), improvement to existing park facilities (37%), more linear space (paths/trails/sidewalks) and more passive/green space (both 33%), improved maintenance of existing facilities and fields (28%), and improvement/addition of more running trails (23%). By way of comparison, the "Massachusetts Outdoors 2006 Statewide Comprehensive Outdoor Recreation Plan (SCORP) mentions several similar needs for the Southeastern Region (which includes Norwell), including the importance of maintaining existing facilities, restoring and improving existing outdoor recreation areas, and purchasing new outdoor recreational areas. SCORP's rank order of recreation priorities in the Southeastern Region, grouped by activity type, was water-based, passive, trail-based, field-based, and wilderness. Norwell's survey rank order of priorities was trail-based, field-based, and passive recreation.

The Recreation Department also recognizes the growing elderly population in Norwell and is interested in partnering with the Council on Aging and other community groups to better determine senior recreational needs and to develop programs to target this population.

Efforts to make more conservation and recreation areas accessible to all populations will be a major component of serving the recreational needs of Norwell's elderly. The 2012 Plan addresses the access needs of the community in the ADA Access Self-Evaluation in Appendix G. The greatest challenge to meeting the diverse needs and desires of all Norwell residents is identifying and securing sufficient and consistent funding sources. Cooperative partnerships must be encouraged to plan, develop and implement cost-effective strategies for meeting these needs.

### Walking Paths

Norwell is fortunate to have many conservation areas that offer walking trails, but many Town-owned areas are under-utilized or unknown to residents. Many survey respondents said that they would like more information, maps, and signage available about areas with public trails and access. Walking within open space and existing pathways were common activities that survey respondents mentioned. Fifty-nine percent of survey respondents said they use open space areas for walking. A large number of respondents (71%) said that they would use open space and recreation areas more if there were more paths. Based upon survey responses, new pathways within existing parks and recreational lands would increase usage. Many people added comments that sidewalks connecting public facilities (schools, parks, playgrounds) and along busy roadways, including in and around Norwell Center, were desired.

### Playing Fields

Recreational fields for active, sports-based recreation are in great demand in Norwell. A consultant should be retained to prepare an Athletic Facility Master Plan, which could identify cost effective strategies for the creation of new fields and facilities and renovating the existing ones. The over-scheduling of most fields creates over usage issues for turf management and maintenance. Limiting factors for new facility development for active recreation are most often cost of land, availability of land, slope, water table, wetlands, and poor drainage soils. The need for more recreational athletic fields was highlighted by the highest number of respondents (49%) a nearly 20% increase over the 2005 Plan survey. Top priority should be given to developing a master plan to address upgrading all existing fields to safe conditions and to set aside irrigation and maintenance funds. Irrigation has been installed at the Middle School fields, High School Football and Varsity Soccer fields, Osborne Soccer and Softball fields, and Woodworth Park Little League fields 1 & 2.

In the 2005 Plan and the 2010 Update, the Athletic Fields Committee and the Recreation Commission projected that three additional fields were needed to meet usage demands, growing participation of various sports leagues and the need for field rotation. That goal of additional



Photo: Bob Woodill, Conservation Commissioner, and David Osborne, Conservation Commission chairman, constructing kiosk off Edgewood Park by W.D. Grafton III

fields was not accomplished, and now the needs are projected to be 4-5 additional fields. Every youth sports organization and program has expanded their participation levels and Norwell is using every athletic field resource at maximum levels. This need is again consistent with the Massachusetts Outdoors 2006 SCORP, which also found neighborhood parks, playgrounds and golf courses—field based activities—to be the most needed resource in the Southeast Region.

Norwell has developed most of the athletic facilities at schools. Other athletic facilities have been built in areas that were old farms (Woodworth Park Little League/Softball fields and Osborne Fields); an old landfill (Centennial Park on Pine Street); and a previous forest (East field behind the Town Offices building). Each of those properties comes with limiting factors. Woodworth Park has strict Historic New England restrictions; Centennial Park is on a very old landfill with Board of Health & DEP oversight; and East Field is on the Middle School's septic system. Land acquisition for new athletic fields should target other old farms, nurseries and open fields.

Norwell's athletic fields require attention to poor drainage and over usage. In wet seasons, many games are cancelled. Improved playing fields and

maintenance remains a priority recreational goal for the next seven years. As much as 47% of survey respondents identify the importance of this need. An artificial turf field is considered by many to be a possible solution.

### Pathways

In 2009, the Norwell Planning Board voted to form the Norwell Pathway Committee to explore the expansion of pedestrian connections throughout Norwell. The committee has worked diligently since its formation on Phase I—connecting Norwell Middle School to Norwell High School. In 2012, the bid was approved for the project and CPC funds were appropriated. Construction began in the Spring of 2012 and was completed in October of 2012.

The 2012 survey asked residents what would cause them to use open space and recreation areas more, and the number one answer was “bicycle paths” (70% of respondents), a 13% increase over the 2005 Plan survey. Similarly, a reoccurring theme that emerged through the Master Planning process was that Norwell should create more ways to walk and bike safely, to link neighborhoods and improve retail areas. Additionally, one of the goals of all previous Open Space and Recreation Plans was to create a new bicycle path through Town that would link several parcels of conservation land and the public schools. The current Pathway Committee has recently completed the first section of a pathway linking the Middle School and High School and been diligently assessing the potential for new pathways that would link conservation areas, recreation areas, schools, and retail centers. The Plan Committee recommends that the new Greenbush commuter rail station located in Scituate just over the town border be added to any new proposal.

Goals of the Pathway Committee include:

- Continue Additional Phases of Pathway Connections including: Norwell Middle School to the town center, Norwell High School to Cole School via Route 53; Vinal School to Queen Anne's Corner; and the town center to Vinal School. The order of each of the phases will depend upon the many complicated factors of pathway development.
- Connect Areas of Interest in Norwell to each other including schools, libraries, Norwell Center, Norris Reservation, churches, parks, playgrounds, athletic fields, The Science Center, and the Council on Aging.
- Pathways in Norwell connecting to pathways in neighboring communities such as, Wompatuck State Park, Greenbush commuter line and beaches in Scituate, and retail/ entertainment in Hanover.
- Keeping the community informed of the Pathways process through public forums, newspapers and Town meetings

- Create Signage, Crosswalks, and possible sidewalks on Grove and Main Streets

## B. RESOURCE PROTECTION

### Water Supply

According to the results of the Master Planning process, citizens felt that protecting the Town’s water supply was the second most important issue that should be addressed in the next 20 years (first was relieving the tax burden). Norwell maintains its own water supply, and while the Town currently draws less than its permitted level, it will face a water shortage at build-out, as suggested by the Metropolitan Area Planning Council. As a result, all efforts must be made to protect lands that contribute to the health of the Town’s groundwater resources. This could come in the form of outright purchases or conservation restrictions on undeveloped land, and in management practices on already developed land that prevent unwanted pollutants from entering the groundwater supply.

Additionally, public awareness about water conservation and water pollution prevention is a proven way to protect water resources. The Norwell Water Department has partnered with the North and South Rivers Watersheds Association (NSRWA) to educate Norwell residents about water conservation. A portion of the Water Department budget supports the work of the Greenspaces MA Coalition, a part of the Massachusetts Bays Estuary Association, through the NSRWA. The Coalition has created guidance on mowing, pesticide alternatives, fertilizing alternatives, composting, lawn watering, automatic irrigation systems, planting beds, low maintenance plants, managing storm water, rain gardens, and urban gardening. This guidance is placed into water bills and is published in a 20-page reference guide that has been and is circulated through the Town.

### Greenways

“Greenways” are defined as protected continuous open space corridors that contain diverse natural resources, historic sites and landscapes, and opportunities for recreational trails. These corridors help protect unique land and water resources, create peaceful places for passive recreational activities such as walking in the woods and picnicking, in addition to providing creative outdoor classrooms and learning places. “Most importantly” as the authors of a *Creating Greenways: A Citizen’s Guide* point out, “Greenways link these special places together...satisfying a diverse set of environmental and social needs by connecting open areas, making them more accessible and interesting for people, or more life-sustaining for plants and wildlife, and by connecting people with nature and with each other”. In addition, the Norwell Master Plan promotes the

creation of a Green Network of natural and cultural resources and open space and recreation opportunities through the protection of unfragmented greenways. The establishment of this network will require private stewardship agreements, conservation restrictions and land acquisition.

There are two potential “Greenways” in Norwell that epitomize these concepts by providing uniquely beautiful scenery along walking trails through land masses that also provide critical wildlife habitat functions. The first, and most important, should encompass the Third Herring Brook from Church Hill to Wompatuck State Park because it drains the largest and least-disturbed area, and also because it contains the wells and recharge areas for most of Norwell’s drinking water. The second Greenway could be developed along the North River and Second Herring Brook from Stetson Meadows to Black Pond. These areas provide great aesthetic value but also important environmental services such as flood control, filtering and recharge of water supplies, and absorption and treatment of contaminated runoff. These two Greenways could be the focus of a potential Area of Critical Environmental Concern. See Map 7-4: Natural & Scenic Resources Action Plan.

Conservation areas encompass a variety of natural environments and sensitive areas for wildlife. Protecting them in their natural state helps maintain the integrity of many ecological systems. Using existing public lands as building blocks for envisioned greenways, Norwell can create a system of trails linked to walkways providing ideal settings for hiking, nature classrooms and relaxation. The extent of groundwater protection area zones A, B and C throughout Norwell can also be considered a foundation for a greenway corridor to ensure that the residents of Norwell continue to benefit from clean water, healthy populations of fish and wildlife, and beautiful contiguous natural settings.

Creating new greenways provides numerous environmental, social/cultural and economic benefits to towns. The details of each benefit are described as follows:

- Environmental benefits include protecting and linking natural resources and open areas. This increases habitat value exponentially over that realized by isolated islands of open space. They preserve environmentally sensitive areas and help protect endangered species and habitat. Greenways provide shade and help absorb sound from streets and construction. They increase water quality by providing natural buffers, and reducing flooding, erosion and stream sedimentation.
- Social benefits such as low cost recreational and outdoor access, shaping the growth of the community, interaction with neighbors

and community, creating traffic free routes between cultural centers, and preserving and enhancing community character are all realized. Greenways connecting schools provide unique and dynamic outdoor classroom opportunities.

- Economic benefits include attracting recreation and tourism based traffic such as bird watching, bicycling, and cross-country skiing that increases the value of adjacent and nearby properties.

Interestingly, the 2012 survey respondents support the benefits offered by Greenways. When asked about what type of open space that the Town should pursue, the three highest ranked responses were woodland preservation (70% of respondents), followed by agricultural fields (57%) and parcels next to conservation lands (57%). These responses reflect residents' interest in maintaining Norwell's rural character and perhaps either an understanding that larger parcels of undeveloped land can provide unfragmented habitat or that large parcels may provide improved recreational opportunities.

### C. MANAGEMENT NEEDS

#### Land Acquisition Approach

Historically, the NCC has led the negotiations on most if not all of the Town's conservation land purchases and has made many important acquisitions with little or no cost to the Town. By passing the Community Preservation Act, the Town increased its available funding for open space acquisition. Since approving the CPA at Town Meeting, the Community Preservation Committee (CPC) has taken the lead in reaching out to landowners and brokering negotiations. Norwell has benefited from the diligent efforts of members of the NCC and the CPC in identifying and acquiring open space in Town for conservation and recreation purposes.

As part of the planning process to create the 2005 Plan, the NOSRP Committee convened all of the Town boards involved in land protection to present its vision that "In order to retain the semi-rural character and preserve the ecological integrity of Norwell, the Town should aim to protect 30% of its total area as open space in perpetuity." This was based upon a study performed in Duxbury by a Land Acquisition Task Force. The 2005 NOSRP Committee identified strategies to fulfill this new vision, including using a ranking guide with criteria similar to the Plymouth County Preservation Committee and establishing an ad-hoc study group to prioritize parcels to be acquired for open space. The 2012 Plan Committee suggests building on the 2005 Plan vision by establishing an action item to implement protection of 30% of the Town's open space through a new committee to implement the goals and objectives identified in this Plan. The lack of a dedicated Open Space and



*Photo: Shoe Maker Trail  
by Marie Molla*

Recreation Committee is one of the most significant reasons that many of the goals, objectives, and action items identified in the 2005 Plan have not been achieved. A dedicated Open Space and Recreation Committee could increase coordination among town departments and commissions, as well as private landowners and community groups, at all critical points for open space, from property identification and acquisition through maintenance and promotion. Additionally, the current Plan Committee recommends that this new committee perform a thorough review of all Chapter 61/61A/61B parcels to ensure that the Town is fully aware of these properties, and that the Town has strategies in place to exercise its right of first refusal should the classification of these properties change.

#### Conservation Commission

Almost 30% of Norwell is wet. These wetlands are protected under the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131, s.40), The Rivers Protection Act (Chapter 258 of the Acts of 1996) and The Wetlands Protection Act Regulations (310 CMR 10.00) that collectively provide the state's guidelines for usage, development and restoration to minimize impacts to the state's natural resources. At the municipal level, towns administer these acts and regulations through appointed Conservation Commissions and have the option of adopting a Town

Wetland Bylaw and associated regulations. Combined, these acts, bylaws and regulations prevent the alteration of wetlands without permission from a town's Conservation Commission.

The Norwell Conservation Commission is an appointed volunteer board consisting of seven members who work with the assistance of a full time Conservation Agent and part-time administrative assistants. The Agent's duties include meeting numerous legal deadlines and filings, management of the Commission's 2,000 acres of conservation land, conducting site visits for each property that files for permitting, finding funding for numerous conservation related projects, reviewing building permits that potentially impact wetlands, certifying vernal pools, and updating and implementing the Open Space and Recreation Plan.

### **Land Management Plans**

Norwell owns several special parcels of open space that can support more than one activity. Plans for these areas, prepared historically by volunteer effort, encourage use while preserving natural function and beauty. Following up the successful efforts to create Management Plans for Stetson Meadows, the Donovan Farm, and Jacobs Pond, the 2012 Open Space and Recreation Plan seeks action to create Land Management Plans for Fogg Forest, Miller Woods, Hatch Lots, the combined Donovan/Wildcat Trails, and Cuffee Hill properties.

The 2012 Plan Committee proposes that these Land Management Plans should be consolidated into one booklet and archived digitally for easy reference and access by individuals interested in or assigned to implement the plans. As new management plans are developed and adopted, the final version should be added to the archives. With time, the value of these individual land management plans might go beyond maintenance and improvement and become the basis for a comprehensive town-wide land management plan that would include land acquisition focused on priority ranked properties. Additionally, the health of conservation lands requires implementation of invasive species and forestry management plans.

The health and succession of forests in general are at risk due a combination of stresses. Some forests within Norwell's open space and conservation lands are aging and under duress from environmental pollution, invasive species and deer foraging. As forests age, the large trees block sun light vital to the succession of saplings and smaller trees stunting their growth. This pressure combined with environmental pollution such as acid rain, invasive species such as the Hemlock wooly adelgid and deer foraging that targets the new growth of emerging trees, shrubs and plants reduces the understory of forests. The net result is that town forests are under duress and increasingly composed of older

trees that are progressively more vulnerable and not being replaced by new trees. This is an unhealthy scenario and requires the attention of a forestry professional. To preserve the composition of Norwell's forest for the long-term, development and implementation of a town-wide forest management plan is an important action item.

### **Conservation Restrictions**

Conservation Restrictions are legally binding agreements between land owners and public agencies, typically a land trust or a municipal department such as the conservation commission. Conservation restrictions are mutually beneficial to the public agency as well as the landowner, who continues to own and maintain the land but agrees to development restrictions and potentially makes the land open to the public in exchange for lower real estate tax payments. The public agency benefits from conserving the land and establishing public access.

For many residents, the true value of their land is in its natural beauty and its sense of history and place, as much as in its financial value. Mass Land notes that for many people the land they live on is where they grew up, raised their own family, explored nature, worked in the woods, and took walks. To meet a family's financial needs while filling a desire to preserve nature and keep their land safe from future development, some landowners limit the types of activities that happen on the land in the future so all or some of it will stay in its natural, undeveloped state. There are many forms of conservation restrictions, some permanent and some with defined time limits. In addition, land owners may explore deed restrictions to achieve their objectives. Conservation restrictions in perpetuity provide the greatest level of preservation. Knowing the options and types of conservation restrictions is the first step toward deciding a valuable piece of property's future.

Conservation restrictions divide interests in land among two or more parties with the landowner retaining ownership of the property and the land conservation organization, such as a land trust or a public agency, holding the conservation restriction. The conservation organization is responsible for enforcing the terms of the conservation restriction to ensure that the conservation values of the property are protected in perpetuity.

Conservation restrictions have a number of significant benefits as a method of protecting land. They are particularly useful when the landowner wishes to continue to own or use the property but also wants to ensure that the conservation values will be protected in perpetuity. In addition, a conservation restriction is highly adaptable to the needs and wishes of the landowner and the conservation resources of the property.



Photo: Fogg Forest by Karen Driscoll

By leaving ownership in private hands, conservation restrictions also help to maintain the local tax base. A conservation restriction may be written to prohibit all activities that may alter the natural condition of the property, or it may allow agriculture, forestry or other uses that are consistent with protection of the conservation values of the property. It may even permit limited development (such as an additional house or construction of a barn), but must specify the type, extent and location of such development. For example, if a new structure or septic system is to be permitted within the conservation restriction, a suitable building envelope must be identified within the restricted area. The specific terms of each conservation restriction must be tailored to the property that is being protected. Landowners who place conservation restrictions on their property are not required to allow public access or public use of the land unless they wish to do so.

There are five categories of conservation restrictions. The details for each can be found in Massachusetts General Law, Chapter 184, Sections 31-33. Below is a summary:

1. The conventional conservation restriction, which is perpetual and for which the donor-landowner may be seeking a charitable deduction for federal income tax, gift and estate tax purposes.

2. Second, historic preservation, watershed or agricultural preservation restrictions discussed above.
3. Third, the perpetual conservation restriction required by a government agency in the permitting process; e.g., pursuant to the increased density/open space bonus provisions provided for in Section 9 of Chapter 40A of the General Laws. Income tax charitable deductions are not available for these conservation restrictions, and they require approval by the Secretary of Environmental Affairs.
4. Fourth, development rights restrictions, which are purchased by a governmental agency or private, non-profit organization; for example, under the Aquifer Land Acquisition Program or the Open Space Program.
5. Fifth, other restrictions not falling into one of the first four categories; e.g., restrictions for a term of years.

There may be tax benefits for the landowner: When a conservation restriction is donated outright or purchased for less than its fair market value (called a “bargain sale”), the landowner may be eligible for a federal income tax deduction. To qualify as a tax-deductible gift, a conservation restriction must be in perpetuity, and be accepted and recorded by a public agency or qualified conservation organization such as a land trust. In addition, the conservation restriction must provide at least one of the following public benefits listed in Section 170(h) of the Internal Revenue Code:

- Preservation of relatively natural habitat for fish, wildlife or plants;
- Preservation of open space for the scenic enjoyment of the general public, or pursuant to a federal, state or local conservation policy;
- Preservation of land for outdoor recreation by, or the education of, the general public; or
- Preservation of historically important land areas.

The value of a conservation restriction is calculated as the difference between the value of the land before and after the imposition of the restriction. For example, a lot worth \$100,000 may only be worth \$20,000 if a conservation restriction is placed on it that prohibits construction of any kind. The value of the gift would then be the value before the restriction minus the value with the restriction, or \$80,000. A qualified appraiser must determine these values in a manner that meets IRS requirements. Note that conservation restrictions that are required as the result of a regulatory process are not usually eligible for tax deductions. A great deal of the information contained in this section is from the Mass Land Website and the Massachusetts Conservation Restriction Manual.

In the past, the Norwell Community Preservation Committee as well as the Norwell Conservation Commission had evaluated using one of

the local land trusts to hold conservation restrictions on the properties the Town acquires through CPA funding and through Commission acquisition. The Maxwell Trust, Ltd. primarily focuses on protecting land in Scituate. They have expressed an interest in working with the Town of Norwell CPC. The Wildlands Trust of Southeastern Massachusetts focuses, as the name says, on lands in Southeastern Massachusetts but has also expressed an interest in working with the NCC and Community Preservation Committee. The 2012 Plan Committee suggests that the creation of a Norwell-based land trust be explored, while simultaneously a renewed effort is made to establish working relationships with other land trusts, non-profit organizations, corporations, and residents that might be interested in establishing conservation restrictions on their land in Norwell. As part of this effort, the Committee suggests a thorough review of Norwell's Assessor's records, Conservation Commission records, including orders of conditions and Town Meeting records, to establish the full and accurate number of conservation restrictions that exist in Town. The updated list will provide guidance on potential new conservation restrictions that might be adjacent to other conservation lands that could expand unfragmented habitat and protect it in perpetuity.

The Plan Committee also understands that nearby towns, including Scituate and Marshfield, are cooperating by holding Conservation Restrictions on behalf of neighboring towns. Norwell should explore the availability and appropriateness of such Conservation Restriction arrangements with adjacent towns in the future.

#### **Open Space Residential Design Bylaw**

Norwell has primarily relied on on-site wastewater management and one-acre zoning to maintain its rural character. However, zoning bylaws that require new homes to be built on lots of one acre or more with the intent of controlling sprawling development actually encourage poorly designed subdivisions that consume and fragment large tracts of land. Although the lots may be large, the wildlife habitat and other environmental, recreational and aesthetic elements that open space provides, are usually consumed by lawns, driveways and other paved surfaces that contribute to environmental degradation and diminish community character. Conventional subdivision zoning offers little flexibility in the planning process and often leads to time-consuming, costly and antagonistic proceedings. ([Greenneighborhoods.org](http://Greenneighborhoods.org)).

In response to these issues, Norwell in 2008 adopted the "Open Space Residential Design" (OSRD) bylaw to promote better site design, create more attractive developments, and preserve open space. The OSRD allows developers to create half-acre lots with reduced street frontage requirements instead of the standard one acre minimum. In exchange, the developer



*Photo: Webster Cranberry Bogs by Karl Swenson*

agrees to deed restrict 50% of the available upland as open space. The open space is required to be made available for public passive recreation, which is a substantial benefit to the Town. Also, the developable portion of the land is used more efficiently as the length of roadway and size of storm water basins are reduced with no effect on the number of units built. Recently, the Town secured approximately 35 acres of upland as deed restricted open space in the Wildcat Hills OSRD development.

#### **D. POTENTIAL CHANGE OF USE**

Maintaining a presence and preparing strategies for potential land use changes is an essential component of open space and recreation planning. Accurate records are necessary for effective ranking and decision-making. In addition, the involvement of a new entity dedicated to conservation, open space and recreation goals and objectives and organizing prior land management planning intentions into a consistent archive would greatly benefit the Town's interests. Most importantly, identifying individuals who can build relationships with families, corporations, land trusts, and non-profit organizations interested in conserving land is a key element to future potential change of use.

Town-owned land not held under Article 97 should be evaluated to see if some lands could be better managed or developed to meet Town goals. Town land that abuts neighborhood areas could be developed for small community parks. Other lands could be developed for bridle paths or more walking trails. Town land with unique or rare environmental features could be transferred to the NCC to be held under Article 97. It would greatly benefit the Town to conduct a thorough title search to settle land ownership questions and review management and use status.

Chapter 61, 61A and 61B properties are afforded favorable taxation rates to maintain the intended classification and utilization of those properties as forest land; products, agricultural and horticultural land; and recreation, wild or open land. When the owners of these properties consider other options such as development, the Town is granted the right of first refusal. The country is currently experiencing difficult economic times, which amplifies the pressure on landowners to consider maximizing the short-term monetary value on their lands. Subsequently, the Town's reliance on accurate reporting on these properties is crucial for strategic planning and budgeting to conserve these properties. During the review process of the 2012 plan, it became apparent that there are 17 properties with use codes that indicate Chapters 61, 61A or 61B classification that have mixed use on the property including 15 single family homes, one lumber yard and one camp. This mixed use strategy allows land owners to benefit from reduced tax rates on a portion of their property and while retaining the ability to use the remainder without constraint to the classification requirements. The town also benefits by maintaining the usage and the right of first refusal for 120 days after the landowner initiates intent to change the classification. As there is a tax benefit to landowners, it would seem that there is a financial incentive for landowners to ensure that their land is properly recorded. Ensuring that all of these variables are accurately accounted and coordinated into a useable strategy is essential for the Town to maintain a presence in the potential change of use of these properties.

Finally, conservation restrictions and easements may be established on entire properties or portions of a property. In some cases, conservation restrictions and easements are established through a landowner's initiation as part of a strategy to conserve the land in perpetuity. In other cases, an effective outreach strategy is required to nurture the process. In still other cases, conservation restrictions and easements are established as special conditions in the development process. There is some tax related benefit to land owners to establish conservation restrictions and easements but the nature of the process is dominated by other variables such as the development of the remainder of a property or the landowner's personal interest in conserving the land. The 2005 Plan stated that the

Conservation Commission reported as many as 15 required conservation restrictions of which only 11 are recorded with the Assessor's Office as of 2012. In addition, there may be more unrecorded conservation restrictions and easements that would be found through a thorough title search of land ownership. Identifying and mapping the full body of conservation restrictions and easements would be extremely helpful to future strategic land management planning.

Moving forward, the 2012 Plan Committee recommends a town-wide review of conservation, open space and recreation properties, updated records and maps, and initiation of a strategic land management plan drawing from this comprehensive process. The 2012 Plan Committee supports the 2005 Committee's vision that was presented to the Town on November 30, 2004, which includes protection of 30% of Town lands. To meet this goal, the Town needs to protect approximately 700 additional acres. Some of this goal will be met through the review process and proper recordings of past transactions, and the remainder will be met through strategic planning, outreach and future transfer and acquisition of properties.

# 8 GOALS & OBJECTIVES

Norwell's past Open Space and Recreation Plans generated four fundamental goals with associated objectives focused on protecting the Town's natural resources, water supply, and promoting recreation while maintaining the Town's unique aesthetic quality of life. These fundamental goals remain in the 2012 Plan, with a slight shift in priorities. The prioritized goals and objectives of the 2012 Plan (highest to lowest priority) remain consistent with the Town's Master Plan and are reflective of the consensus observed from the Town residents' survey results and comments, as well as other feedback during the planning process. The 2012 Plan Committee add an over-arching goal with objectives that are appropriate to facilitate, enhance and support the Town's four fundamental goals.

One goal change in the 2012 Plan relates to priorities. Based on survey feedback and other feedback during the planning process, the Plan Committee modified the ranking of the four fundamental goals. Recreation has been elevated to the highest priority—to Goal #1 from #4. It is apparent from survey responses that Norwell residents believe that Recreation has not received sufficient resources to facilitate needed upgrades and additions, such as artificial turf fields. Moreover, survey respondents were concerned about the Town's commitment to providing the on-going maintenance of current recreation facilities needed to meet the increased usage by Norwell residents.

Goal Two Water Resources was the number one priority in 2005 (now #2) as the town is completely reliant on groundwater sources for its water supply. The 2012 Plan Committee identified Water Resources as vulnerable and vital to resident's welfare. Subsequently, the committee retained its high level of prioritization. Goal Three Natural Resources and Goal Four Scenic Quality and Historic Resources each fell back by one priority level from their 2005 order as a result of the reordering. As previously stated, this shift in priorities should not be misconstrued as a devaluing any of the other goals and objectives—they are all important and critical to the Town's future. The shift toward the Recreation goal reflects Norwell residents' changing opinions and completion of a portion of the other goals since the 2005 plan.

Goal Five is an Over-Arching Goal focused on incorporating the objectives and action items of each of the four primary goals into a town-wide approach to channel and maximize effective Town participation



*“Architects cannot teach nature anything.”*

— Mark Twain

*Photo above: A doe in the Jacobs Lane hay field by Ginny Cubellis*

*Photo left: Sunlight shines through a pine forest by Jeremy Clegg*

into a united, strategic approach. The fulfillment of all four goals and the over-arching goal will be achieved through cooperation at all levels of Town government, the involvement and leadership of dedicated residents, and strategic partnerships with other local and regional organizations. By improving workflow, collaboration, documentation, and planning, the entire Town benefits from the addition of open space and improved recreation activities.

## **OPEN SPACE & RECREATION GOALS AND OBJECTIVES**

### **GOAL 1: Support and Enhance Passive and Active Recreation in Balance with Nature**

- A. Support and Enhance Recreation Opportunities, Including Upgrading Existing Facilities to Comply with ADA Standards
- B. Preserve, protect and acquire land for active recreation, such as playing fields
- C. Improve Public Awareness of and Involvement in Recreation Resources
- D. Preserve, Protect, and Acquire Land and/or Easements/Restrictions for Recreation and Open Space
- E. Enhance North River Access

### **GOAL 2: Protect the Quality and Quantity of Norwell's Water Supply**

- A. Acquire Land and/or Easements/Restrictions to Protect Water Supply Quality, Quantity and Recharge
- B. Promote Water Conservation through Public Education, Conservation Plans, and Prevention of Storm water Runoff and Water Diversions
- C. Protect Drinking Water Quality Through Best Management Practices Available

### **GOAL 3: Protect Natural Resources and Promote Biodiversity**

- A. Preserve 30 % of Norwell as Open Space (continuation of 2005 goal)
- B. Engage Citizens and Seek to Increase Awareness and Appreciation of the Environment, Land Conservation and Natural Resource Issues
- C. Improve Education and Outreach Efforts with Better Management of Current Town-Owned Properties
- D. Acquire Land and/or Easements/Restrictions to Protect Natural Resources and Biodiversity
- E. Protect Unique Habitats and Natural Communities as Open Space to Support Endangered, Threatened and Rare Plant and Animal Species
- F. Explore and/or Promote a Town Land Conservation Trust and Expanded Regional Land Trust Collaboration

- G. Explore and Investigate Assigning an Area of Critical Concern (ACEC) to Areas in Norwell, Based on BioMap2 and Unique Special Habitat Features

### **GOAL 4: Protect Norwell's Scenic Quality and Historic Resources**

- A. Identify Scenic and Rural Resources
- B. Acquire Land, Conservation or Historical Restrictions on Identified Properties
- C. Preserve Other Identified Resources Through Public Education or Legal Restrictions
- D. Promote Historical Knowledge to Norwell Residents
- E. Promote an Historically-Appropriate Development That Maintains Norwell's Scenic Qualities

### **GOAL 5: Over-arching—Sustain and Protect the Town's Quality of Life as an Overall Town Initiative**

- A. Maintain a Standing Open Space & Recreation Committee
- B. Update Norwell's Tracking of Land Parcels Designated for Conservation or Recreation Purposes
- C. Engage in Strategic Planning for Acquiring Properties for Recreation, Open Space and Conservation Purposes
- D. Increased Accessibility
- E. Promote Community Gardens, Agriculture and Forestry
- F. Develop a Brochure or Educational Piece Regarding Other Available Options, Restrictions and Tax Related Benefits
- G. Develop a Feasibility Study for Fundraising, Grants and Other Sources
- H. Collaborate with Neighboring Towns' Open Space & Recreation Committees

# 9

## SEVEN-YEAR ACTION PLAN & ACTION PLAN MAPS

### A. REVIEWING ACCOMPLISHMENTS

The Town of Norwell has completed many of the action items outlined in its 1997-2002 Plan. Unfortunately, the same results cannot be said for the last 10-year span. The 2005 NOSRP committee was discontinued after the final plan was completed and no group was left in place to actively work on and accomplish the goals outlined in the 2005 Plan. Despite the lack of a centralized group dedicated to advancing the 2005 goals, objectives, some action items were addressed through the individual efforts of volunteers, committed municipal departments and Community Preservation Act funding programs.

In order to ensure a consistent approach for open space and recreation matters in Town, one of the priority action items for the 2012 Plan is to recommend the establishment of an Open Space and Recreation Committee for the duration of this seven-year Plan. The singular goal of this committee will be to work to accomplish the prioritized goals and objectives set out in this Plan, through the accomplishment of the listed action items.

Previous accomplishments at open space and recreation properties such as the Donovan Farm Property, Jacob's Farm, Jacob's Pond, and Stetson Meadows include facility maintenance, trail extensions, and the addition of resting benches. Signage and benches are rustic and fit in well with Norwell's rural character and the commission land program. These achievements are due largely to the dedication and determination of Norwell's senior volunteer trail workers. This volunteer team of workers are primarily responsible for keeping all eight of the Town's woodland trail systems maintained and open.

#### Community Preservation Act

The Community Preservation Act (CPA) is a state law that towns can elect to adopt locally. Norwell first passed the CPA in 2002. For the towns that have adopted the CPA, the law imposes a surcharge on local property taxes that goes into a fund that can be used to implement four municipal goals for which the Commonwealth of Massachusetts will provide matching funds. Norwell passed the CPA at the full 3% allowable



“Everyone must take time to sit and watch the leaves turn.” – Elizabeth Lawrence

*Photo above: Eastern Box Turtle off Parker Street by W.D. Grafton III*

*Photo left: View of North River from Norris Reservation by Judy Enright*



Photo: David Osborne, Conservation Commission chairman, and Bob Woodill, Conservation Commissioner, installing Hatch Lots street signage off Grove Street by W.D. Grafton III

surcharge, and as of June 2012, Norwell has received \$4,253,924.00 in state matching funds to spend on approved projects that meet CPA guidelines, requirements and the municipal goals, which relate to the following:

1. Open Space
2. Historic Preservation
3. Affordable Housing
4. Recreation initiatives

Through the Community Preservation Act, Norwell has acquired 41.76 acres of land since 2002: two parcels totaling 7.8 acres on River Street, 12.1 acres on South Street, 15.06 acres on Prospect Street and 6.8 acres on Mt. Blue Street. Norwell also has funded many recreation projects, including the rehabilitation of the North River and Jacob's Pond access points, the creation of a new boardwalk around Hatch Pond at the Cole School, and in 2012,

the commencement of work on Phase 1 of a town-wide Bike Path. CPA funds also are being used to support a needs assessment for town athletic fields.

A Community Preservation Committee (CPC), a nine-member board of Town representatives that reviews proposals asking for CPA Funding, administers the CPA. The CPC determines a project's legality, and uses the CPA regulations and the Open Space and Recreation Plan as guides to determine whether or not a project will help achieve municipal goals. The CPC will then bring the proposal before Town Meeting, and only Town Meeting can approve the expenditure of CPA Funds. Competition for state land grants and state budgetary cuts eliminating funds that may have previously been used to enhance the Town's parks and recreation facilities present challenges for Norwell's capacity to maintain and extend the park system. Despite those constraints, the Town in 2010 approved Community Preservation Funds for the construction of a new parking lot along with street and trailhead signage at the Hatch Lots by the Conservation Commission. The work began in 2011 and was completed in 2012.

In September 2012, the CPC finalized the purchase of a 16-acre property associated with "Cuffee's Lane," and reviewing a 10-acre property on Grove Street that is available with potential for active recreation development. A recent State Senate and House decision expanded the

original municipal goals to include preservation of athletic fields. This decision broadens the scope of recreational projects that the CPC can consider for funding.

#### Acquired Lands

Since the completion of the 2005 Plan, Norwell has remained on pace in making open space and conservation land additions, but the Town needs a more strategic and coordinated approach to reach the goal of protecting 30% of town lands proposed by the 2005 Norwell Open Space & Recreation Plan committee.

Since 2005, 189 acres of open space have been set aside as protected through Town Meeting approvals and an additional 38.68 acres were required as part of development donations for a total of 227.68 acres. These land acquisition efforts were achieved through individual efforts and case-by-case projects under the conservation permitting process. Interested individuals working to acquire open space for Norwell requested the necessary funds at Town Meetings and the Norwell Conservation Commission added five properties totaling 38.68 acres as part of the permitting process. These six properties include 3.68 acres on Grove Street (block 3/lot 29), 5.5 acres on Lincoln Street (block 39/lot 6), 4.82 acres on Hawthorne Street (block 38/lot 75), 7.91 acres on South Street (block 53/lot 45A), and 5.77 acres on River Street (block 77/lot 75), 11 acres off Summer Street (at end of Cowings Cove).

These additions will help the Town reach the goal of protecting 30% of the Town's area, but do not necessarily meet the objective of protecting unfragmented wildlife corridors. With pending development pressure, the need for a strategic approach becomes paramount as well as a better public understanding about the comprehensive value of open space. With regard to open space, protecting large tracts of unfragmented space composed of mixed terrain including wetlands and uplands, is critical for wildlife health. It is difficult to initiate and gain support for such goals unless the community is fully aware of the value of open space. One commonly held misperception is that development helps towns gain revenues. This is contested in numerous studies when the complete fate of a development project is considered. A number of completed studies and reports about the benefits of open space, including the "Vision 2020: A Partnership for Southeastern Massachusetts" by the Metropolitan Area Planning Council, show that there are nearly no costs involved with adding open space while developed properties require town expenditures to provide services. Often, the monetary value of open space, in addition to the ecological and recreation value, exceeds the developed value of that same property. For more details, see Appendix K, Studies and Reports Supporting Open Space Saves Towns Money.

**Regional and Resource Maps and Action Plan Maps**

In addition to the narrative text, this Plan includes eight Regional and Resource maps and four Action Plan maps corresponding to the Plan’s four primary goals. Map Works, Inc., a professional mapping service very familiar with the Norwell area, prepared the updated maps, with significant input from Plan Committee members and knowledgeable and experienced residents. Maps 1 to 6-3 display existing conditions, highlighting unique themes. Maps 7-1 to 7-4 illustrate, to the extent possible, some of the action items associated with each of the prioritized goals and objectives.

**8. MAPS**

REGIONAL AND RESOURCE	1	REGIONAL CONTEXT
	2	ZONING
	3	SOILS
	4	UNIQUE FEATURES
	5	WATER RESOURCES
	6-1	RECREATION LAND AND FACILITIES
	6-2	TOWN OWNED PROTECTED LAND
	6-3	OPEN SPACE INVENTORY
ACTION PLAN	7-1	RECREATION ACTION PLAN
	7-2	WATER PROTECTION ACTION PLAN
	7-3	HABITAT ACTION PLAN
	7-4	NATURAL & SCENIC RESOURCES ACTION

**B. FUNDING SOURCES**

**Federal**

1. EPA: Watershed Protection Grants
2. NOAA: Habitat Restoration
3. U.S. Fish & Wildlife: Habitat Preservation

**State**

1. DEP: Aquifer Land Acquisition Grants, Storm water Mitigation Grants #319 and Water Quality #604 Grants
2. DCR: Greenway & Trails Demonstration Grants,
3. DCS: Land and Water Conservation Grants and Self Help Grants
4. CZM: Coastal Access and Coastal Pollution Remediation (CPR) Grants
5. EOE: Outdoor Classroom Grants
6. DFWELE: Riverways Program Grants
7. Mass. Environmental Trust (MET): Biodiversity, Education, Monitoring and Habitat Restoration Grants
8. Clean Water State Revolving Loan Funds
9. EOE: Smart Growth Technical Assistance Grant
10. Mass Wildlife: Upland Habitat Management Program and Ecological Restoration Program
11. Mass DOT: Transportation Enhancements (TE)

**Town Funding and Other Resources**

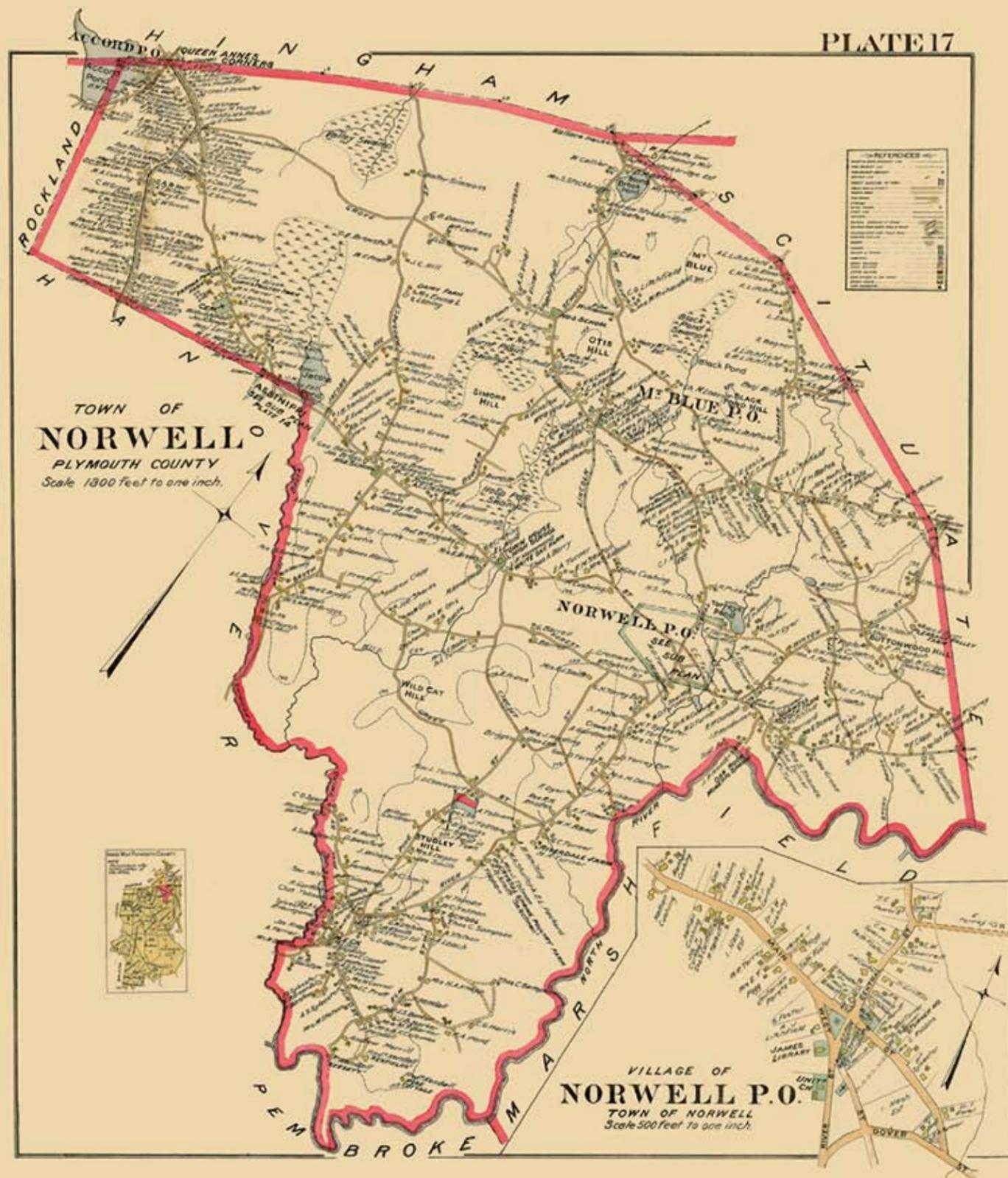
1. CPA Funding
2. Other Town Funding
3. Senior Tax Relief Program
4. Tax Relief (tax delinquent or unbuildable properties)

**Private Funding, Joint Funding and Other Resources**

1. Agricultural Preservation Restriction: MA Department of Agricultural Resources- Agricultural Preservation Restriction Program (Farmers Only)
2. Easements: DCR-The Forest Legacy Program
3. Foundation Grants
4. Fundraising Events
5. Land Donations
6. Land Trust Funds
7. Partnering: USFWS-National Coastal Wetlands Grant Program
8. Volunteers

**Resources**

1. Massachusetts Land Trust Coalition: “Find the Right Grant for Your Project.” <http://www.massland.org/library-39>



REGIONAL & RESOURCE MAPS

- 1 REGIONAL CONTEXT
- 2 ZONING
- 3 SOILS
- 4 UNIQUE FEATURES
- 5 WATER RESOURCES
- 6-1 RECREATION LAND AND FACILITIES
- 6-2 TOWN OWNED PROTECTED LAND
- 6-3 OPEN SPACE INVENTORY

ACTION PLAN MAPS

- 7-1 RECREATION ACTION PLAN
- 7-2 WATER PROTECTION ACTION PLAN
- 7-3 HABITAT ACTION PLAN
- 7-4 NATURAL & SCENIC RESOURCES ACTION PLAN

Map of Norwell in 1903  
Courtesy of Bill Petty

## OPEN SPACE & RECREATION ACTION PLAN: GOALS AND OBJECTIVES

- GOAL 1:** Support and Enhance Passive and Active Recreation in Balance with Nature
- GOAL 2:** Protect the Quality and Quantity of Norwell's Water Supply
- GOAL 3:** Protect Natural Resources and Promote Biodiversity
- GOAL 4:** Protect Norwell's Scenic Quality and Historic Resources
- GOAL 5:** Over-Arching—Sustain and Protect the Town's Quality of Life as an Overall Town Initiative

### RESPONSIBLE PARTIES LEGEND

AFC	Athletic Fields/Facilities Committee
BOA	Board of Assessors
BOH	Board of Health
BOS	Board of Selectmen
CBC	Capital Budget Committee
COD	Commission on Disabilities
CPC	Community Preservation Committee
CC	Conservation Commission
COA	Council on Aging
HC	Historical Commission
NHESP	Natural Heritage and Endangered Species Program
TNC	The Nature Conservancy
NSRWA	North & South Rivers Watershed Association
OSRC	Open Space and Recreation Committee
PC	Pathways Committee
PB	Planning Board
RC	Recreation Commission
SC	School Committee
SSNSC	South Shore Natural Science Center/YMCA
TTOR	Trustees of Reservations
WC	Water Commission
ZBA	Zoning Board of Appeals

*Photo left: Donovan Farm Fields  
by Jeremy Clegg*



## GOAL 1: Support and Enhance Passive and Active Recreation in Balance with Nature

Objective	#	Action	Responsible Parties and Collaborators	Time Frame	Funding Source
A. Support and Enhance Recreation Opportunities, Including Upgrading Existing Facilities to Comply with ADA Standards	1	Improve and maintain existing playgrounds and athletic fields including a long term capital budget and/or bonding plan.	See Key on Page 131 BOS, CBC, PC, SC, RC, AFC, OSRC, SO		Capital Budgets, Articles, Bonding, CPA funds, Grants, Donations, Independent Sports Organizations, Nonprofits, Businesses, Individuals
	2	Foster cooperative relationships with town departments and recreation organizations to enhance facilities, programs, responsibilities and schedules for the maintenance and improvement of recreational areas. Identify gaps or needs. <b>Reactivate a committee to move this action forward.</b>	BOS, SC, RC, AFC, OSRC, SO	On-going	
	3	Build new (or modify existing) athletic fields to meet the needs demonstrated in the "Norwell Schools 2000-2005" campaign, which identified needing three or four additional athletic fields. In 2012, the need has increased to four or five.	BOS, CBC, CPC, AFC, SC, RC, OSRC, SO	On-going	
	4	Feasibility plan to investigate developing 6+ acres off of South St (abutting NHS) for athletic fields or facilities that can be utilized by the schools or members of the community.	BOS, SC, CPC, CBC, RC, OSRC, AFC	2013-2019	
	5	Feasibility plan to investigate developing the Recreation's 20+/- acres on Wildcat Lane into athletic fields or facilities. Other ideas include trails, a sledding hill, disc golf (Frisbee), 9-hole golf (short holes or pitch n' putt might use 20-25 acres), an ice rink, etc.	RC, CPC, BOS, CBC, AFC, SC, OSRC	2012-2014	
	6	Develop a master plan for recreation and athletic facilities. Determine the needs, priorities, feasibility and funding resources for adding new active recreation facilities. These include, but are not limited to: artificial turf field(s), grass fields (with or without irrigation), an ice rink, and/or a swimming pool. (Requested in the 2012 Open Space and Recreation Survey and Plan)	SC, BOS, RC, OSRC, AFC	2013-2015	
	7	Build new recreational facilities to meet needs determined in the Town studies including one to two artificial turf playing fields, one to four grass fields (with or without irrigation), an ice rink, and/or a swimming pool.	SC, BOS, RC, OSRC, AFC	2013-2015	

## GOAL 1: Support and Enhance Passive and Active Recreation in Balance with Nature, cont.

Objective	#	Action	Responsible Parties and Collaborators	Time Frame	Funding Source	
<b>A. cont. Support and Enhance Recreation Opportunities, Including Upgrading Existing Facilities to Comply with ADA Standards Support and Enhance Recreation Opportunities</b>	<b>8</b>	Implement an operational maintenance plan for efficient use of fields and facilities, in order to reduce excessive wear.	SC, RC, AFC	2013-2019	Capital Budgets, Articles, Bonding, CPA funds, Grants, Donations: Independent Sports Organizations, Nonprofits, Businesses, Individuals	
	<b>9</b>	Develop a larger, ADA accessible dock/pier at Jacob's Pond for fishing and boating (i.e. canoes and kayaks).	CC, RC, BOS, CBC, OSRC	2012-2013		
	<b>10</b>	Identify a "community recreation area" that can be used for a picnic pavilion and play area. (Jacob's Pond area, Norwell Center, Wildcat, or other)	CC, RC, BOS, CBC, SC, OSRC	2013-2014		
	<b>11</b>	If an existing school, town building or facility is being considered for reuse or development, investigate the feasibility of adding a turf or athletic field, community recreation center, ice rink or aquatic facility to that project.	SC, RC, BOS, CBC, AFC, OSRC	2012-2019		
	<b>12</b>	Encourage or require (wherever possible) adequate open space, park or recreation facilities in new residential and commercial developments. Encourage private developers to add amenities such as playgrounds, trails, tennis/basketball courts, softball fields, etc.	PB, BOS, CC, RC	2012-2019		
	<b>13</b>	Enhance the quality and variety of recreational opportunities (both passive and active) for all age groups and abilities in the Town of Norwell including the growing population of people over the age of fifty.	RC, COA, SC, CC, BOS	On-going		
	<b>14</b>	Continue efforts to upgrade facilities in order to make recreation programs and facilities accessible and compliant with the ADA.	SC, RC, CC, COA, COD, ADA Coordinator	On-going		
	<b>15</b>	Investigate the use of retention areas in residential subdivisions for ice-skating in the winter.	CC, PB, BOS, WC	2012-2013		
	<b>B. Preserve, Protect and Acquire Land for Active Recreation, such as Playing Fields</b>	<b>16</b>	Continue to maintain, improve and acquire land for active recreation (i.e. athletic fields). Engage in strategic planning for acquiring, improving and maintaining properties for recreation.	BOS, CBC, CPC, AFC, SC, RC, OSRC, SO		On-going

## GOAL 1: Support and Enhance Passive and Active Recreation in Balance with Nature, cont.

Objective	#	Action	Responsible Parties and Collaborators	Time Frame	Funding Source	
<b>C. Improve Public Awareness of and Involvement in Recreation Resources</b>	<b>17</b>	Establish community groups to help maintain trails on town-owned conservation lands and to use for planning assistance for playgrounds, athletic fields and trails.	CC, REC, SC, OSRC, BOS, AFC	On-going	Departmental Budgets, Capital Budgets, Articles, Bonding, CPA funds, Grants, Donations, Independent Sports Organizations, Nonprofits, Businesses, Individuals	
	<b>18</b>	Continue the "Pathways Committee" to further the development of a town-wide bicycle and pedestrian path system that links schools, recreation facilities, commercial areas, the commuter rail station and other neighboring towns' trail systems.	PC, PB, CC, RC, CPC, SC	On-going		
	<b>19</b>	Create and distribute a map highlighting town-owned areas with open public access: such as recreation areas, trails, access points to the North River and other areas of interest.	CC, CPC, PB, PC, RC, OSRC	2012-2013 On-going Updates		
	<b>20</b>	Continue management plans for Fogg Forest, Miller-Woods, Hatch Lots, Cuffee Hill, Jacob's Pond, Wildcat/Donovan, and Stetson Meadows.	CC	On-going		
	<b>21</b>	Create, improve and maintain signage to increase awareness of and access to conservation and recreation areas.	CC, RC, OSRC, PC	On-going		
	<b>22</b>	Develop and implement a communication plan that includes all available media to continue to raise awareness of Town recreation opportunities, facilities and programs.	CC, RC, OSRC, PC	On-going		
	<b>23</b>	Appropriate or secure funds through grants or donations from public or private entities to publish use aids; such as conservation maps, trail maps and public education guides and publish that information on the town's website: <a href="http://www.townofnorwell.net">www.townofnorwell.net</a>	CC, RC, OSRC, PC	2013-2014		
	<b>D. Preserve, Protect, and Acquire Land and/or Easements/Restrictions for Recreation and Open Space</b>	<b>24</b>	Acquire and preserve lands to be designated and protected for conservation, recreation (active and passive) and open space.	CC, BOS, CPC, PB, OSRC, RC		On-going
		<b>25</b>	Investigate and develop a strategy for the usage of upland tax title properties to develop active recreation areas within neighborhoods to community-wide usage.	Treasurer/Collector, BOS, PB, BOA		2012-2013

## GOAL 1: Support and Enhance Passive and Active Recreation in Balance with Nature, cont.

Objective	#	Action	Responsible Parties and Collaborators	Time Frame	Funding Source
E. Enhance North River Access	26	Improve public access, parking, and signage along the North River by acquiring land and promoting existing access points. Also, make sure they meet ADA compliance.	CC, OSRC, COD, ADA Coordinator	On-going	Departmental Budgets, Capital Budgets, Articles, Bonding,
	27	Do title search of Scituate and Norwell boundaries to potentially restore clamming, picnicking, swimming and fishing on Scituate beaches, as prior Norwell generations did.	CC, PB, BOA	On-Going	CPA funds, Grants, Donations: Independent Sports Organizations, Nonprofits, Businesses, Individuals

## GOAL 2: Protect the Quality and Quantity of Norwell's Water Supply

A. Acquire Land and/or Easements/Restrictions to Protect Water Supply Quality, Quantity and Recharge	28	Identify areas for future potential well sites, as well as parcels for acquisition that will protect the aquifer or that are contiguous to Zones II and III.	WC, CPC	On-going	Departmental Budgets, Capital Budgets, Articles, Bonding, CPA funds, Grants, Donations: Independent Sports Organizations, Nonprofits, Businesses, Individuals
	29	Revise and adapt local bylaws to optimize and limit impervious surfaces and nitrogen loading in the Aquifer Protection Overlay District.	WD, PB, ZBA	On-going	
	30	Determine lawful claim of all municipal properties with uncertain ownership to ascertain which parcels are protected for water supply purposes in perpetuity.	WC, BOA, Town Counsel, CC	2012-2015	
	31	Create and implement Public Outreach initiatives and educational materials that promote using water conservation measures, such as NSRWA "GreenScapes" Program that teaches homeowners how to create beautiful landscapes while protecting water resources.	WC, NSRWA	2012, then annually	
B. Promote Water Conservation through Public Education, Conservation Plans, and Prevention of Storm water Runoff and Water Diversions	32	Analyze possibility of a bylaw limiting the square footage of lawns that can be installed as part of new construction	WC, PB, ZBA	2012-2014	
	33	Evaluate implementing a permitting process for private irrigation wells.	WC, BOH	2012-2016	
	34	Analyze Public Outreach initiatives regarding the road salt problem and develop alternative options.	WC, BOH, BOS, Department of Public Works	2012 and annually	

## GOAL 2: Protect the Quality and Quantity of Norwell's Water Supply, cont.

C. Protect Drinking Water Quality Through Best Management Practices Available	35	Distribute information on Best Management Practices for landowners within water supply areas.	WC, NSRWA	2012 and annually	Departmental Budgets, Capital Budgets, Articles, Bonding, CPA funds, Grants, Donations: Independent Sports Organizations, Nonprofits, Businesses, Individuals
	36	Recommend Integrated Pest Management (IPM) planning tools to farms near well sites and post IPM information on the town website.	WC	2012 and annually	
	37	Approach Hanover and Hingham to develop a plan to protect groundwater resources that affect wells located in the town of Norwell.	WC	2012 then going	
	38	Amend the Aquifer Protection Overlay District to include the Aaron River Reservoir (Cohasset) and Tack Factory Pond (Scituate) watersheds.	WC, PB, ZBA	2012-2017	
	39	Display information on NPDES Phase II storm water regulations in the Town Hall and the Library, as well as on the Town's website.	Highway Department, WC, Public Library	2012 and annually	
	40	Initiate a Town-wide surface water and hydrology/hydrogeology flow direction study.	WD, NSRWA, Regional Land Trusts	2012-2017	

## GOAL 3: Protect Norwell's Natural Resources and Promote Biodiversity

A. Preserve 30 % of Norwell as Open Space (continuation of 2005 goal)	41	Protect an additional 700 acres to meet this goal (3 out of every 10 acres of developable land)	All Departments; Citizens of Norwell	2012-2019	Departmental Budgets, Capital Budgets, Articles, Bonding, CPA funds, Grants, Donations: Independent Sports Organizations, Nonprofits, Businesses, Individuals
	42	Promote town awareness for benefits of Open Space and Recreation	All Departments; Citizens of Norwell	2012-2019	
	43	Reach out to residents in order to seek new land acquisition opportunities.	All Departments; Citizens of Norwell	2012-2019	
	44	Reach out to the Town Departments and Boards in order to coordinate and collaborate on new land acquisition opportunities.	All Departments	2012-2019	
	45	Investigate property ownership, tax default, non-buildable space, and questionable land as part of a strategic plan to acquire lands as open space.	All Departments	2012-2019	

### GOAL 3: Protect Norwell's Natural Resources and Promote Biodiversity, cont.

Objective	#	Action	Responsible Parties and Collaborators	Time Frame	Funding Source
<b>A. Preserve 30 % of Norwell as Open Space (continuation of 2005 goal) cont.</b>	<b>46</b>	Adopt, modify a parcel ranking system, to identify priority parcels, for land acquisition or conservation purposes. Utilize GIS updated data layer for this process to conserve parcels (e.g.) acquisitions, restrictions, easements or classifications.	All Departments	2012-2019	Departmental Budgets, Capital Budgets, Articles, Bonding, CPA funds, Grants, Donations: Independent Sports Organizations, Nonprofits, Businesses, Individuals
	<b>47</b>	Establish NOSRC acquisition committee to execute strategic outreach to land owners.	All Departments; Citizens of Norwell	2012-2019	
<b>B. Engage Citizens and Seek to Increase Awareness and Appreciation of the Environment, Land Conservation and Natural Resource Issues</b>	<b>48</b>	Create management plans for stream corridors or "Greenways".	CC, OSRC, CPC	2012-2019	
	<b>49</b>	Explore the possibility of a Film Documentary on Norwell's Trails and Trail Maintenance made by Norwell Citizens.	CC, OSRC, CPC	2012-2014	
<b>50</b>	Create a recreation trail scorecard with identifiable standards and then initiate and encourage school group projects to grade the trails throughout Norwell.	OSRC, Norwell Schools	2012-2015		
<b>51</b>	Create a recreation field scorecard and database to assist in maintaining recreation fields throughout town.	OSRC, Norwell Schools	2012-2015		
<b>52</b>	Explore hiring a facilities/maintenance specialist—whose responsibility is the recreational facilities in town OR organize a committee with decision-making power: Research receiving funding from Friends of Norwell Sports & Recreation.	OSRC, Norwell Schools	2012-2015		
<b>53</b>	Develop trail maps, marking systems and other public awareness documents to promote and educate residents on the use of lands.	CC, OSRC, CPC	2012 - On-going		
<b>54</b>	Complete the construction of the path system in the Black Pond Bog areas, including linking the newly acquired Cuffee's Lane Property.	CC, OSRC, CPC	2012 - On-going		

### GOAL 3: Protect Norwell's Natural Resources and Promote Biodiversity, cont.

Objective	#	Action	Responsible Parties and Collaborators	Time Frame	Funding Source
<b>D. Acquire Land and/or Easements/Restrictions to Protect Natural Resources and Biodiversity</b>	<b>55</b>	Acquire lands or conservation restrictions on parcels that are contiguous with existing open space, have unique environmental features, will buffer sensitive ecological resources or provide nonfragmented habitat for wildlife. Special priority should be placed on parcels that correspond to the Master Plan designated "Greenways" and parcels that will protect unfragmented wildlife corridors.	CC, OSRC, CPC, WC	On-going	
	<b>56</b>	Determine lawful claim of all municipal properties with uncertain ownership to ascertain which parcels are protected for natural resources purposes in perpetuity.	CC, BOA, Town Counsel	On-going	
	<b>57</b>	Partner with NSRWA to hold bi-annual informational seminars for private and non-profit landowners on land protection strategies and tools.	OSRC, NSRWA	2013, then bi-annually	
	<b>58</b>	Collaborate with Scituate to acquire parcels for habitat protection on First Herring Brook.	CC, WC, OSRC, NSRWA	On-going	
	<b>59</b>	Collaborate with Norwell property owners to acquire properties for habitat protection on the Second Herring Brook.	OSRC, CC, NSRWA, Private owners, TTOR	2012-2019	
	<b>60</b>	Collaborate with Hanover to acquire parcels for habitat protection on Third Herring Brook.	CC, WC, OSRC, NSRWA	On-going	
	<b>61</b>	Create outreach materials for landowners that will present possible options and benefits of land preservation.	OSRC, CC	2012-2014	
	<b>62</b>	Develop and generate a feasibility study for the Third Herring Brook Trail (w/NSRWA) from South Shore Natural Science Center (SSNSC) to the YMCA.	OSRC, CC, NSRWA, SSNSC	2012-2019	
	<b>63</b>	Work with TTOR in protecting the greenway along the Second Herring Brook and the North River.	OSRC, CC, NSRWA; Private owners, TTOR	2012-2019	

### GOAL 3: Protect Norwell's Natural Resources and Promote Biodiversity, cont.

Objective	#	Action	Responsible Parties and Collaborators	Time Frame	Funding Source
<b>E. Protect Unique Habitats and Natural Communities as Open Space to Support Endangered, Threatened and Rare Plant and Animal Species</b>	<b>64</b>	Synthesize existing information to prioritize lands for protection based on unique community habitats and species. Overlays should include NHESP BioMap2, living waters, potential vernal pools, priority habitats, the NSRWA North River mapping project and other relevant reports and Open Space and Recreation criteria.	CC, OSRC, NSRWA	On-going	Departmental Budgets, Capital Budgets, Articles, Bonding, CPA funds, Grants, Donations: Independent Sports Organizations, Nonprofits, Businesses, Individuals
	<b>65</b>	Develop bio-inventories of unique habitats and species, and create management plans for the following special feature areas: Third Herring Brook, Black Pond, areas abutting Wompatuck State Park, and the North River.	CC, Norwell schools; SSNSC; NSRWA; Norwell Residents	On-going	
	<b>66</b>	Complete a town-wide survey to certify the reported 55 potential vernal pools with the NHESP's latest data layer.	CC, SSNSC, NHESP	On-going	
	<b>67</b>	Continue to investigate, promote, educate, and certify other potential vernal pools not on the latest data layer.	All Town Residents, CC, SSNSC, NHESP	On-going	
	<b>68</b>	Conservation land on River Street needs to be evaluated on its classifications, presumed to be a wet meadow.	CC, SSNSC, NHESP	2012-2014	
	<b>69</b>	Protect natural communities and wetlands through invasive species management program. (i.e., Work with forestry experts to protect the Hemlock Hardwood swamp from the infestation of the Hemlock Woolly Adelid). Same applies to all other invasive species.	CC		
	<b>70</b>	Ask Maxwell Trust to expand their work into Norwell to investigate the feasibility of developing a Land Trust in Norwell.	OSRC, CC, Maxwell Conservation Trust, Ltd., Other land trusts	2012-2014	
<b>G. Explore and Investigate Assigning an Area of Critical Concern (ACEC) to Areas in Norwell, Based on BioMap2 and Unique Special Habitat Features</b>	<b>71</b>	Initiate additional review thresholds within unique and special habitat areas, such as Important Bird Areas (IBAs) around the North River. Focus on endangered and threatened species, species of concern (i.e., the Eastern Box Turtle), and species of conservation interest in Massachusetts (i.e., the Marsh Wren).	Norwell Citizens OSRC, Town Counsel; MA Department of Conservation and Recreation/ ACEC office; Massachusetts Audubon Society	2012-2019	

### GOAL 4: Protect Norwell's Scenic Quality and Historic Resources

Objective	#	Action	Responsible Parties and Collaborators	Time Frame	Funding Source
<b>A. Identify Scenic and Rural Resources</b>	<b>72</b>	Continue to support the Norwell Community Preservation Committee in its identification of scenic and rural sites in Norwell.	All Departments, Citizens of Norwell	On-going	Departmental Budgets, Capital Budgets, Articles, Bonding, CPA funds, Grants, Donations: Independent Sports Organizations, Nonprofits, Businesses, Individuals
	<b>73</b>	Continue to update Norwell's Survey of Historic Resources.	HH, Historical Society	On-going	
	<b>74</b>	Identify priority areas for protections that preserve the scenic and rural qualities of Norwell.	HC, CC	2012-2014	
	<b>75</b>	Identify priority areas that preserve the archeological resources of Norwell.	HC, PB	2012-2014	
	<b>76</b>	Continue to support the Community Preservation Act for the acquisition of open space, as well as funding recreation, historical resources and affordable housing initiatives.	All Departments, Citizens of Norwell	On-going	
<b>B. Acquire Land, Conservation or Historical Restrictions on Identified Properties</b>	<b>77</b>	Protect scenic and historic landscapes and structures by acquiring conservation, agricultural or historical restrictions on identified resources.	HC, CC	2012-2014	
	<b>78</b>	Create outreach materials on how historical preservation benefits Norwell's scenic quality.	HC	On-going	
	<b>79</b>	Create additional outreach materials related to scenic roads.	HC, PB	2012-2014	
<b>C. Preserve Other Identified Resources Through Public Education or Legal Restrictions</b>	<b>80</b>	Study the appropriateness of Local Historic Districts in Norwell.	Local Historic Districts Study Committee, HC	2012-2014	
	<b>81</b>	Protect and preserve town cemeteries that are identified as priority resources.	HC, Cemetery Committee	2012-2016	
	<b>82</b>	Encourage a Mt. Auburn-like cemetery plan for the new cemetery.	HC, Cemetery Committee	2012-2013	
<b>D. Promote Historical Knowledge to Norwell Residents</b>	<b>83</b>	Improve public awareness of Norwell's historical features.	HC	On-going	
	<b>84</b>	Create, improve and maintain signage to improve awareness of historical features, specifically Cuffee's Lane on Mt. Blue Street.	HC, Historical Society	On-going	

## GOAL 4: Protect Norwell's Scenic Quality and Historic Resources, cont.

Objective	#	Action	Responsible Parties and Collaborators	Time Frame	Funding Source
D. cont. Promote Historical Knowledge to Norwell Residents	85	Create and promote "Donovan to Wildcat Trail" signage indicating an old Native American trail. (In the Wildcat file with Chris, from Todd, shows an old Indian path).	HC, Historical Society	On-going	Departmental Budgets, Capital Budgets, Articles, Bonding, CPA funds, Grants, Donations: Independent Sports Organizations, Nonprofits, Businesses, Individuals
E. Promote an Historically-Appropriate Development That Maintains Norwell's Scenic Qualities	86	Study the zoning of the Town Center to determine architectural guidelines for a zoning overlay.	PB	2012	
	87	Support the Conservation and Recreational Residential Design bylaw to promote a new development that fits into Norwell's semi-rural character.	PB	On-going	

## GOAL 5: Over-Arching: Sustain and Protect the Town's Quality of Life as an Overall Initiative

A. Maintain a Standing Open Space & Recreation Committee	88	Investigate options, including bylaw, to formally create a standing OSRC to execute a land acquisition and transfer strategy	CC, CPC, NOSRC	2012	
	89	Provide (at least) annual updates to various town departments and committees	OSRC	2012, then annually	
	90	Participate in other Town committees and liaison positions.	BOS, CPC, SC, RC, AFC	On-going	
	91	Explore creating a Land Trust or Friends of the Open Space Committee, which help fund conservation and recreation projects in conjunction with ongoing new developments, constructions, and maintenance projects.	OSRC	2012-2019	
B. Update Norwell's Tracking of Land Parcels Designated for Conservation or Recreation Purposes	92	Update town's parcel data layer (GIS project), including accurately identifying high priority parcels.	CC, CPC, OSRC, BOA	2012-2015	
	93	For those land parcels with uncertainty, determine which town department owns, and is responsible for managing, the parcels.	CC, CPC, OSRC, BOA	2012-2014	
	94	Investigate transfer of land parcels between departments where appropriate (i.e., if town owns property for recreation purposes but it cannot be used for recreation due to wetlands)	CC, CPC, OSRC	2012-2015	

## GOAL 5: Over-Arching: Sustain and Protect the Town's Quality of Life as an Overall Initiative, cont.

B. cont. Update Norwell's Tracking of Land Parcels Designated for Conservation or Recreation Purposes	95	Analyze, organize and verify Conservation hard copy files and convert to electronic format, including at least the order of conditions and conservation restrictions.	CC, CPC, OSRC	2012-2019	
	96	Create a comprehensive conservation restriction and easement list that can be usable by the Town.	CC, BOA		
	97	Develop a standard procedure for town-acquired property to properly register, deed and post its information online for general ease of use, including all classifications and restrictions.	Town Departments, CC, BOA	2012-2013	
	98	Coordinate with BOA to ensure that Assessor has up-to-date and accurate information regarding town-owned conservation properties, recreation properties, conservation restrictions, easements and special classifications.	CC, CPC, OSRC, BOA	On-going	
	99	Conduct a thorough title search of Town records, (i.e., Order of Conditions, Town Meeting Records and Deed Records) to settle land ownership questions and to determine management and use status to plan for acquisitions.	CC, CPC, OSRC, BOA	On-going	
C. Engage in Strategic Planning for Acquiring Properties for Recreation, Open Space and Conservation Purposes	100	Hold stakeholder meetings prior to (or after) property acquisition to determine best use of property for Norwell.	CC, CPC, OSRC, BOA	On-going	
	101	Develop standard procedure for when town takes Tax and Title property to evaluate property for use as recreation, open space, and conservation land.	CC, CPC, OSRC, BOA	2012-2013	
	102	Analyze and review recent Open Space and Recreation town survey to identify any trends in Norwell citizens' attitudes towards future open space, recreation, or conservation goals.	OSRC	On-going	
103	Establish a OSRC acquisition committee to strategically plan for the transfer of 61a, and 61b properties. Present options when this occurs and execute transfer as directed. (i.e., Whiting Fields on Main Street has been mentioned by Norwell residents specifically).	CC, CPC, OSRC	On-going	On-going	

## GOAL 5: Over-Arching: Sustain and Protect the Town's Quality of Life as an Overall Initiative, cont.

Objective	#	Action	Responsible Parties and Collaborators	Time Frame	Funding Source
<b>C. cont. Engage in Strategic Planning for Acquiring Properties for Recreation, Open Space and Conservation Purposes</b>	<b>104</b>	Transfer Town lands with unique and rare environmental features and values to the Conservation Commission.	CC, CPC, OSRC, BOA	On-going	Departmental Budgets, Capital Budgets, Articles, Bonding, CPA funds, Grants, Donations, Nonprofits, Businesses, Individuals
<b>D. Increased Accessibility</b>	<b>105</b>	Strive to make Norwell more accessible for walking and biking (i.e., sidewalks, trails, paths).	CC, CPC, OSRC, BOA	On-going	
	<b>106</b>	Work to increase ADA accessibility of town's open space, recreation, and conservation areas.	COD, ADA Coordinator; OSRC, CC	On-going	
<b>E. Promote Community Gardens, Agriculture and Forestry</b>	<b>107</b>	Develop a brochure or educational piece regarding the law on chapters 61, 61a and 61b properties.	CC, CPC, OSRC	On-going	
	<b>108</b>	Explore the option of hiring a full or part time conservation ranger or forester.	CC, CPC, OSRC	2013-Ongoing	
<b>F. Develop a Brochure or Educational Piece Regarding Other Available Options, Restrictions and Tax Related Benefits</b>	<b>109</b>	Develop a brochure or educational piece regarding the laws on other available options, particularly article 97, conservation restrictions and easement.	CC, CPC, OSRC	2012-2013	
<b>G. Develop a Feasibility Study for Fundraising, Grants and Other Sources</b>	<b>110</b>	Plan and strategize on the best ways to raise money for initiatives, departments and special projects. This includes grant writing (both state and federal), and any other opportunities to move forward on town and school projects.	Town Departments, OSRC	2013-forever	
<b>H. Collaborate with Neighboring Towns' Open Space &amp; Recreation Committees</b>	<b>111</b>	Contact neighboring towns' OSRC's to set up meetings to determine if collaboration would be mutually beneficial.	OSRC, Neighboring Towns	2012-2013	
	<b>112</b>	Create South Shore Conservation Network	Town Conservation Agent	2012-Ongoing	
	<b>113</b>	Convey conservation restrictions to a third party for all Open Space and Recreation lands acquired with CPA funds.	CPC, CC	2013-Ongoing	

## Possible Funding Sources - for Any Projects or Grants

### PUBLIC FUNDING SOURCES

#### Federal

1. EPA: Watershed Protection Grants
2. NOAA: Habitat Restoration
3. U.S. Fish & Wildlife: Habitat Preservation

#### State

1. ACEC: American Council of Engineering
2. Clean Water State Revolving Loan Funds
3. CZM: Coastal Access and Coastal Pollution Remediation (CPR) Grants
4. DCR: Greenway & Trails Demonstration Grants,
5. DCS: Land and Water Conservation Grants and Self Help Grants
6. DEP: Aquifer Land Acquisition Grants, Stormwater Mitigation Grants #319 and Water Quality #604 Grants
7. DRWEL: Riverways Program Grants
8. EOE: Outdoor Classroom Grants
9. EOE: Smart Growth Technical Assistance Grant
10. Mass DOT: Transportation Enhancements (TE)
11. Mass Wildlife: Upland Habitat Management Program and Ecological Restoration Program
12. MET (Massachusetts Environmental Trust): Biodiversity, Education, Monitoring and Habitat Restoration Grants

#### Town Funding and Other Resources

1. CPA Funding
2. Other Town Funding
3. Senior Tax Relief Program
4. Tax Relief (tax delinquent or unbuildable properties)

#### Private Funding, Joint Funding and Other Resources

1. Agricultural Preservation Restriction: MA Department of Agricultural Resources- Agricultural Preservation Restriction Program (Farmers Only)
2. Easements: DCR-The Forest Legacy Program
3. Foundation Grants
4. Fundraising Events
5. Land Donations
6. Land Trust Funds
7. Partnering: USFWS—National Coastal Wetlands Grant Program
8. Volunteers

#### Resources

1. Massachusetts Land Trust Coalition- "Find the Right Grant for Your Project." <http://www.massland.org/library-39>

# 10 PUBLIC COMMENTS

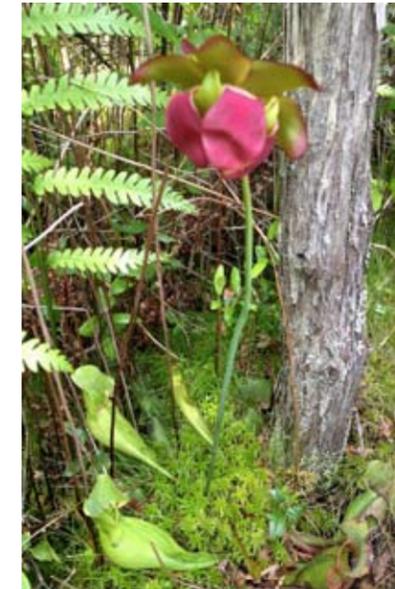
The 2012 NOSRP Committee solicited a wide array of public comments to ensure that the Plan incorporated the best available information regarding the Town's natural and recreation resources merged with public feedback. To acquire the most representative public feedback possible, the Committee used print media, Internet links, public meetings, open house events with the school system and Board of Selectmen, a comprehensive survey, and outreach to state and local governmental departments, as well as non-governmental organizations.

The NOSRP survey was a productive source of public comments regarding Open Space and Recreational needs in Norwell. The three issues that generated the most comments were: (1) the creation of pathways and sidewalks; (2) the improvement of athletic fields and recreational facilities; and (3) finding ways to better protect Open Space and Natural Resources.

Another significant source of feedback came from comments received from state and local governmental departments, as well as non-governmental organizations. The Plan Committee provided draft versions of the Plan to many stakeholder groups and received comments and letters that provided valuable information, which was incorporated into the plan when appropriate. The groups that provided feedback and letters of support are listed below:

- 1 Commonwealth of Massachusetts Executive Office of Environmental Affairs, Division of Conservation Services
- 2 Metropolitan Area Planning Council
- 3 Norwell Board of Selectmen
- 4 Norwell Conservation Commission
- 5 Norwell Planning Board
- 6 Norwell Recreation Commission
- 7 Norwell Water Department
- 8 Norwell Community Preservation Committee
- 9 North and South Rivers Watershed Association
- 10 The Wildlands Trust of Southeastern Massachusetts
- 11 Maxwell Conservation Trust, Ltd.
- 12 First Herring Brook Watershed Initiative
- 13 Massachusetts Audubon Society
- 14 New England Forestry Foundation
- 15 Massachusetts Associations of Conservation Commissions
- 16 The Nature Conservancy

The Plan Committee is appreciative of the time taken by individuals and organizations to review the draft Plan and provide valuable feedback.



*“Everybody needs beauty as well as bread, places to play in and pray in, where nature may heal and give strength to body and soul,” – John Muir*

*Photo above: Blooming Pitcher Plant at Black Pond Bog by Melissa Halatsis*

*Photo left: Mill Pond by Jeremy Clegg*



*The Commonwealth of Massachusetts*  
*Executive Office of Energy and Environmental Affairs*  
100 Cambridge Street, Suite 900  
Boston, MA 02114

Deval Patrick  
GOVERNOR

Timothy Murray  
LIEUTENANT GOVERNOR

Richard K. Sullivan, Jr.  
SECRETARY

Tel: (617) 626-1000  
Fax: (617) 626-1181

July 3, 2012

Marynel Halatsis  
Open Space and Recreation Committee  
345 Main Street  
Norwell, MA 02061

Re: Open Space and Recreation Plan

Dear Ms. Halatsis:

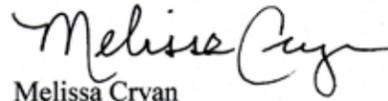
Thank you for submitting the draft Open Space and Recreation Plan for Norwell to this office for review and compliance with the current Open Space and Recreation Plan Requirements. This plan was particularly thorough and has been conditionally approved through July 2019. Conditional approval will allow the town to participate in DCS grant rounds through July 2019, and a grant award may be offered to the town. However, no final grant payments will be made until the plan is completed.

Once the following items are addressed, your plan will receive final approval:

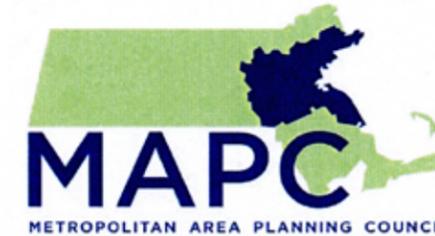
1. Growth and Development Patterns – the Infrastructure section should include information on the town's transportation systems.
2. Water Resources – please add a section on flood hazard areas.
3. Vegetation – information on public shade trees is needed.
4. Environmental Challenges – additional information on forestry issues and environmental equity is needed. Environmental equity refers to taking a look at the distribution of open space and recreation resources in the community and identifying any areas that are lacking in them for future planning.
5. Section 5 – please note that land dedicated to recreation purposes is also protection under Article 97. Also, the table that lists town-owned conservation and recreation properties should include a column on the type of grant (if any) used to purchase or renovate the land.
6. Seven-Year Action Plan – the goals and objectives should be listed in some sort of priority order.
7. Letters of review from the regional planning agency, planning board, and chief municipal officer must be included.

Congratulations on undertaking such an important task. Please contact me at (617) 626-1171 or melissa.cryan@state.ma.us if you have any questions or concerns, and I look forward to reviewing your final plan.

Sincerely,



Melissa Cryan  
Grants Manager



Smart Growth & Regional Collaboration

September 13, 2012

Marynel Wahl Halatsis  
Norwell Conservation Commission  
345 Main Street  
Norwell, MA 02061-0295

Dear Ms. Halatsis:

Thank you for submitting the "Norwell Open Space and Recreation Seven Year Plan (2012-2019) to the Metropolitan Area Planning Council (MAPC) for review.

The Division of Conservation Services (DCS) requires that all open space plans must be submitted to the regional planning agency for review. This review is advisory and only DCS has the power to approve a municipal open space plan. While DCS reviews open space plans for compliance with their guidelines, MAPC reviews these plans for their attention to regional issues generally and more specifically for consistency with *MetroFuture*, the regional policy plan for the Boston metropolitan area.

The following are MAPC's recommendations for amendments to the Norwell Open Space and Recreation Plan:

**Surrounding Communities** – While the plan does include a good description of regional resources, within the discussion of the regional context, there should be mention made of the open space planning activities and open space plans of surrounding communities. Connections between those communities and the open space needs and objectives of Norwell should be explored. We encourage all communities to consult with their neighbors concerning their open space plans and initiatives especially since open space parcels and similar resources often occur near municipal boundaries and can be influenced by the actions of neighbors.

**Consistency with MetroFuture**

*MetroFuture* is the official regional plan for Greater Boston, adopted consistently with the requirements of Massachusetts General Law. The plan includes goals and objectives as well as 13 detailed implementation strategies for accomplishing these goals. We encourage all communities to become familiar with the plan by visiting the web site at <http://www.metrofuture.org/>.

The Norwell Open Space and Recreation Plan does not specifically mention *MetroFuture*. We encourage communities to include a brief paragraph about *MetroFuture* in Chapter III under Regional Context. Ideally this paragraph should explain ways in which Norwell's Open Space and Recreation Plan will help to advance some of the goals and implementation strategies that relate specifically to open space, recreation, and the environment generally.

60 Temple Place, Boston, MA 02111 • 617-451-2770 • Fax 617-482-7185 • [www.mapc.org](http://www.mapc.org)

Jay Ash, President • Michelle Ciccolo, Vice-President • Marilyn Contreas, Secretary • Grace S. Shepard, Treasurer • Marc Draisen, Executive Director

In the case of Norwell's plan, this shouldn't be too hard to do since we see many positive connections between your plan and *MetroFuture*, particularly in regard to Strategy 7A: *Bring Strategic and Regional Perspectives to Local Open Space Planning*. The Norwell plan includes a discussion of regional resources as well as many action items that reference the need to work with surrounding communities on protecting regional resources including water supply initiatives. These are consistent with *MetroFuture*.

For further information on the implementation strategies related to environmental issues, please see <http://www.metrofuture.org/strategy/11>.

**Community Preservation Act:** Adoption of the Community Preservation Act (CPA) is a key strategy recommended by *MetroFuture*. We note that Norwell has adopted the CPA. You are undoubtedly aware of the fact that state matching funds for CPA communities have declined precipitously in recent years. However, reforms to the program and potential additional funding were passed by the Legislature and signed by the Governor in July. Up to \$25 million in additional funding will be available to cities and towns in the fall of 2013, bringing the state match up to an estimated 48% from its current 23%. Reforms include broadened eligibility of recreational facilities, the option to exempt up to the first \$100,000 of commercial property value from the CPA surcharge, and the ability to use municipal revenue beyond the property tax surcharge toward eligibility for state matching funds. More detailed information on all of these changes can be found at [http://www.communitypreservation.org/2012\\_Section\\_by\\_Section.pdf](http://www.communitypreservation.org/2012_Section_by_Section.pdf), or by contacting MAPC's Government Affairs staff.

Norwell's Open Space and Recreation Plan is very thorough and it should serve the town well as it continues its efforts to preserve open space and provide for the recreational needs of its residents.

Thank you for the opportunity to review this plan.

Sincerely,



Marc D. Draisen  
Executive Director

cc: Melissa Cryan, Division of Conservation Services  
James M. Boudreau, MAPC Representative, Town of Norwell



OFFICE OF BOARD OF SELECTMEN  
**TOWN OF NORWELL**

345 MAIN STREET P.O. BOX 295  
NORWELL, MASSACHUSETTS 02061

(781) 659-8000  
FAX (781) 659-7795  
[www.townofnorwell.net](http://www.townofnorwell.net)

September 19, 2012

Ms. Marynel Halatsis, Chair  
Norwell Open Space and  
Recreation Committee  
345 Main Street  
Norwell, MA 02061

Re: Norwell Open Space and Recreation Plan (2012-2019)

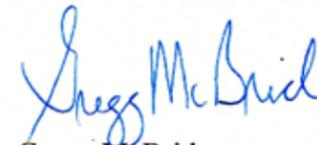
Dear Ms. Halatsis:

The Board of Selectmen thanks the members of the Open Space and Recreation Plan Committee as well as the Norwell Conservation Commission for your efforts to prepare the Norwell Open Space and Recreation Plan 2012-2019. The Board agrees with the content of the report and supports the seven year action plan outlined in the report. The Plan provides for the protection of Norwell's natural resources, water supply, as well as the scenic quality and historic resources. It also encourages additional passive and active recreation. Our residents have a long history of supporting these goals, so we expect that the Plan will enjoy broad support within the community..

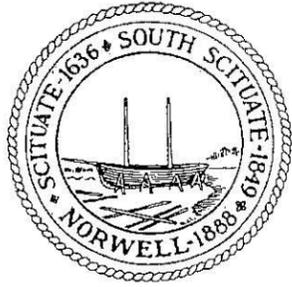
Again, thank you for your efforts. Our community is fortunate to have such dedicated volunteers who have worked so diligently on the Plan.

Very Truly Yours,

NORWELL BOARD OF SELECTMEN



Gregg McBride  
Chairman



**TOWN OF NORWELL  
CONSERVATION COMMISSION**

P.O. Box 295 345 Main Street  
Norwell, MA 02061-0295  
(781) 659 - 8022

October 17, 2012

Norwell Open Space and Recreation Plan Committee  
c/o Marynel Wahl Halatsis  
345 Main Street  
Norwell, MA 02061

Dear Members of the Norwell Open Space and Recreation Plan Committee

The Norwell Conservation Commission thanks you for your outstanding effort and dedication in creating the 2012-2019 Open Space and Recreation Plan. The work you have contributed to write this plan is clearly evident. The plan meets current needs, issues, goals, changing technology and an evolving culture of environmental awareness that is evident throughout the document. Norwell Residents and town employees will be well equipped as they plan use, protection and conservation of our treasured natural resources.

The Commission reviewed the 2012-2019 Open Space and Recreation Plan, and gave feedback to your committee on the draft plan. The Norwell Conservation Commission voted unanimously to endorse this final plan.

Please accept our thanks for all your hard work. We are truly impressed with the evolution of this new plan in adapting to a changing set of priorities and needs in the town of Norwell. This will be a valuable resource for the town as it seeks to conserve and enhance the natural environment for resource protection as well as citizen enjoyment.

Sincerely,

David Osborne, Chairman  
Norwell Conservation Commission



**PLANNING BOARD  
TOWN OF NORWELL**

Post Office Box 295  
Norwell, Massachusetts 02061  
(781) 659 8021

To: Marynel Wahl Halatsis, Chairman  
Norwell Open Space and Recreation Plan Committee  
Re: Norwell Open Space and Recreation  
Seven Year Plan (2012-19)  
Date: October 19, 2012

In a very short period of time, the Open Space and Recreation Plan Committee has worked diligently to produce a comprehensive Norwell Open Space and Recreation Seven Year Plan (2012-19.) The Planning Board appreciates and supports their efforts.

Of particular interest to the Planning Board is the inclusion of the progress made on two fronts: Norwell's adoption of an Open Space Residential Design bylaw, and the re-institution of the Pathways Committee. With the Town's first OSRD currently under construction at Wildcat Hill, public access to a network of trails which link to adjoining trails on town owned land has been achieved. The completion of the first segment of a Pathway from the Middle School to the High School also marks the beginning of neighborhood-to-neighborhood connections throughout the Town.

The Planning Board looks forward to working with a standing Open Space and Recreation Committee in the future as they help implement the goals of the 2012 - 2019 Open Space and Recreation Plan, which is an invaluable resource for the Town.

A heartfelt thank you to the dedicated members of the Open Space and Recreation Plan Committee who personify the spirit of volunteerism that greatly benefits our community.

Sincerely,

Peggy Etzel, Chairman  
Norwell Planning Board



# **norwell recreation**

345 main street, post office box 295  
norwell, massachusetts 02061  
telephone 659-8046



TOWN OF NORWELL  
BOARD OF WATER COMMISSIONERS  
345 MAIN STREET  
P.O. BOX 295  
NORWELL, MA 02061

October 3, 2012

Norwell Open Space and Recreation Committee  
Town Offices Building  
Norwell, MA 02061

Attention: Marynel Wahl Halatsis, Chair

Subject: Open Space and Recreation Plan Support

The Norwell Recreation Commission is impressed with the 2012 Open Space and Recreation Plan and extends our support to the plan. We appreciated being a part of the process and having "active" recreation issues recognized as important enough to make them top priorities and Goal 1. The "active" recreation component in Norwell responded to the survey with considerable citizen interest and support. This validated the Recreation Commission's long history of seeing community recreation as an invaluable asset. We think the plan now reflects an integrated look at the important need to protect and acquire open space and recreation resources in balance with nature. We recognize that the plan can and should become an "active planning" document used by various town boards, commissions and committees to advance its goals and actions, not simply filed away until the next update.

Interestingly we also appreciate that the plan is well written and documented and is a real educational resource. The Open Space and Recreation Plan Committee is very fortunate to have knowledgeable, talented, dedicated members in a variety of areas of expertise who serve the town well.

We sincerely hope and will encourage the citizens of Norwell to embrace the goals and actions of the plan.

In support and appreciation for a plan well-done,

Ginny Maree, Chair  
Norwell Recreation Commission

Members: David Kean  
Denise Nestor  
Patricia Richardson  
Anne Staples

WATER DEPARTMENT  
781-659-8076

Marynel Wahl Halatsis, Chair  
Norwell Open Space and Recreation Plan Committee  
Norwell Conservation Commission  
345 Main Street - P.O. Box 295  
Norwell MA 02061-0295

28 Oct 12

RE: Review of Draft Open Space and Recreation Plan - October 2012

Dear Marynel,

The Town of Norwell Water Department appreciates the opportunity to review and comment on the draft of the Open Space and Recreation (OS & R) Committee's seven-year update of the OS & R Plan. We note that the Plan draws from the Town's Master Plan so that the two documents provide not only a rationale for moving the Town forward, but also provide action items that create the methods by which this result may be accomplished.

We have reviewed Goal 2, Protection of the Quality and Quantity of Norwell's Water Supply, and have made slight technical adjustments to the action items over the course of the Plan's drafting.

We agree with the 13 included action items, and note that the work involves a range of stakeholders that are necessary to complete work on these items. We look forward to partnering with the various collaborators.

As you may know, we are continually searching for sources of high-quality water in the Town, a task which proves more difficult as land is developed, so that targeting additional watershed lands for acquisition near our existing wellfields is of prime importance to the Board of Water Commissioners. We also feel strongly regarding the protection of water supplies in adjacent towns through overlay district zoning of both surface and groundwater up-gradient areas. We look forward to working with the various Town Boards to ensure further protection of not only our own water supplies, but our neighboring towns supplies.

We are also currently engaged in research to isolate the source of high sodium in our South Street Wellfield, which may be emanating from a Commonwealth-managed facility. Once we have data, then we shall need other boards and committees to understand the data, and approach the Commonwealth with the data, and a request for mitigation of the sodium source(s).

Please understand that we anticipate that in the next seven years, more pressure will come from the Commonwealth regarding managing groundwater supplies, and that we may require support from other boards to retain our existing water withdrawal registrations and permits.

We are also interested in embarking on a search for a bedrock water supply within the Town. Please note that this, too will require support from other boards and committees.

We would like to thank the Open Space and Recreation Committee for preparing this document, and look forward to working with the identified stakeholders and Norwell residents to complete the action items. If you have any questions regarding the above information, please contact me.

For the Norwell Water Commissioners,

Steve Ivas, Vice-Chairman

XC: F. Saint Ours, Chairman; P. Dillon, Clerk, and J. McInnis, Superintendent.

File: c:\2012\Norwell Water Commission\OS & R Plan letter - 28 Oct 12.wp



## TOWN OF NORWELL

345 Main Street  
Norwell, MA 02061

*Community Preservation Committee*



Norwell Open Space Committee  
345 Main St  
Norwell MA 02061

Re: Comments on Norwell Open Space Plan

Dear Norwell Open Space Committee:

Thank you for giving the NSRWA to both provide our input and to feedback on the draft Open Space Plan. Overall it is a remarkable document and I commend the Committee on its hard work and applaud your efforts to proactively protect open space in the Town of Norwell. I would like to provide hopefully some constructive comments for your consideration and potential inclusion.

The NSRWA has a long-term goal to restore the Third Herring Brook as habitat for herring through either removal of dams that are no longer serving a public interest and/or providing fish passage on dams that continue to play a public service. As part of our effort to engage the public in appreciating this resource, the NSRWA is also working on determining the feasibility of a hiking/walking/jogging path along the Third Herring Brook to connect the South Shore YMCA along the brook to the South Shore Science Center. The majority of the parcels are already in public ownership however there are key parcels on South Street that will require either easements or outright acquisition in order to complete a path that is off road. Not only would the potential trail connect these two important community based institutions but would also add to the network of pathways that the town of Norwell is currently working on to connect the town's schools.

The NSRWA is also very concerned with the overall health of the Third Herring Brook due to over paving of the subwatershed to the brook. The development of Rt 53 in both Hanover and Norwell and the subsequent impervious cover in the brook's watershed is resulting in changing the hydrology of the brook as well as adding pollution through stormwater. We would recommend a coordinated effort between the towns of Hanover and Norwell to address this issue since it is a shared resource and both communities have drinking water wells proximate to the brook. A study conducted Arnold and Gibbons (1996) define an average range of imperviousness (based on Schueler 1995), with a lower threshold at 10 percent "at which degradation first occurs" to 30 percent "at which degradation becomes so severe as to become almost unavoidable". This leads to a ranking of stream health "which can be roughly characterized as 'protected' (less than 10% impervious surface), 'impacted' (10%-30% impervious surface), and 'degraded' (over 30% impervious surface)." We have estimated that the % impervious coverage in the Third Herring Brook is approaching 20%. Further review should

**The North & South Rivers Watershed Association Inc.**  
P.O. Box 43, Norwell, Massachusetts 02061 (781) 659-8168  
[www.nsrwa.org](http://www.nsrwa.org)

November 29, 2012

Ms. Marynel Wahl Halatsis  
Norwell Open Space and Recreation Committee  
Conservation Commission  
345 Main Street  
Norwell, MA 02061

Dear Ms. Halatsis and members of the Open Space and Recreation Committee,

Thank you for your hard work in updating the Open Space and Recreation Plan for the Town of Norwell. This 7-year update provides excellent guidance for the Community Preservation Committee when considering open space and recreation projects requesting Community Preservation Act funding. It is a valuable tool that outlines important goals and actions that protect our natural resources and meet our recreation needs.

We appreciate your efforts and the many volunteer hours that made the report possible. It is an impressive document with a wealth of information that can be used as a resource for numerous town boards and citizens alike. We look forward to the town implementing the goals and actions defined in the Plan.

Job well done!

Alison M. Demong  
Chair, Community Preservation Committee



be done to evaluate the impervious cover in this important subwatershed and others in Norwell in order to determine what role further acquisition of open space in those subwatersheds could play to reach a more healthy impervious cover percentage. In other subwatersheds, such as the Second Herring Brook, no doubt the % of impervious cover is much less – in that case the plan should incorporate how to maintain less than 10% impervious cover. Of course open space is not the only tool for reaching healthier impervious surface covers in watersheds but it is one tool in the toolbox.

Last but not least we would like to add our voice to support of the recommendation to institute a standing open space committee in the town. Its importance for successfully implementing the open space plan cannot be underestimated. In communities with open space committees we find much more proactive open space acquisitions.

Thank you for your consideration – please feel free to contact us with any questions.

Sincerely,

Samantha Woods  
Executive Director  
NSRWA



September 12, 2012

Marynel Wahl Halatsis  
Norwell Open Space and Recreation Plan Committee Chair  
Town of Norwell Conservation Commission  
345 Main St.  
Norwell, MA 02331

RE: Town of Norwell Open Space and Recreation Plan

Dear Ms. Halatsis:

The Wildlands Trust is pleased to endorse the Town of Norwell's 2012 update of its Open Space and Recreation Plan. (A separate page with some suggested minor revisions to the plan is attached hereto).

The plan is well-researched, conceived, and presented, and it is clear that significant attention was afforded to not just obtaining community input, but ensuring that the final plan is reflective of this feedback. Having the benefit of the community's participation in the preparation of the plan should prove beneficial as the Town transitions into implementing the plan.

The plan provides a detailed and logical blueprint to guide Norwell's open space and recreation planning and preservation efforts over the next seven years. This is vital, as the Town is at a critical juncture in its efforts to preserve its natural resource base and enhance recreational opportunities. The day looms when Norwell and most communities in Southeastern Massachusetts will be fully built out, and there will be no more opportunities to preserve land for the range of values identified in the plan. While that build-out date may not necessarily occur at the conclusion of the plan's seven-year term, it is nonetheless critical that the Town pursue every opportunity during that time frame to implement the plan's preservation vision.

We make particular note of, and enthusiastically endorse, the plan's recommendation that the Town maintain a standing open space committee subsequent to the completion of the updated plan. Our experiences across the region attest to the reality that the work of an open space committee is never done, and this important work cannot be left to already overburdened conservation commissions or other town boards or committees with different charges. The Open Space committee is best positioned to help advance the implementation of the plan's action items.

With the CPA and an approved open space plan in place, Norwell will be ideally positioned to work with Wildlands Trust and other partners toward preserving the town's natural heritage in the years to come. We congratulate all who contributed their time and efforts to updating the plan—well done!

Sincerely,

Karen Grey  
Executive Director



Maxwell Conservation Trust  
292 Clapp Road, Scituate, MA 02066

September 17, 2012

Marynel Wahl Halatsis  
Chair, Norwell Open Sapce and Recreation Plan Committeee  
P. O. Box 295  
Norwell, Ma. 02061

Dear Marynel,

Thank you for sending the Maxwell Conservation Trust a draft copy of your 7 year update to the Open Space plan for the town of Norwell.

We were very impressed with the scope and depth of the update. It is encouraging to see the results of your committee's dedication to this project.

I reviewed the draft and have sent my comments along to Bill Grafton by e-mail earlier today.

Thanks for giving us a chance to review this draft.

Sincerely,

Cynde Robbins, Director  
Maxwell Conservation Trust

Phone 781-545-4167 • Fax 781-545-9023  
[www.maxwellconservationtrust.org](http://www.maxwellconservationtrust.org)

September 6, 2012

Re: Draft Norwell Open Space Plan

Dear Committee Chair Marynel Wahl Halatsis,



Thank you for including the First Herring Brook Watershed Initiative within your public comment process. Although we are no longer active we do maintain contact among our members and remain involved in community environmental issues. Besides conducting an extensive field investigation of our surface water sources (report attached) we advocated for the adoption of the Community Preservation Act, open space acquisition to preserve water/habitat resources and the adoption of stricter water protection bylaws.

Besides having been the Director of the FHBWI, I was a member of the Scituate Open Space Committee and Chairman of the Water Resources Study Committee as well as a participant in the development of the Scituate Open Space and Recreation Plan.

Based on that experience it is very clear that the NORSP and its associated documentation are impressive and very thorough. It is a major effort, but it is the first step toward completing the many goals and actions you have listed. Community support is essential. It takes tremendous energy, patience and commitment to attain success. Unfortunately in Scituate there are some who illogically view open space preservation as an impediment toward economic progress.

The depiction of the Zone A and Outstanding Resource Waters are accurate and clearly show the important water resources that both of our communities share. Maps are great tools but it is important to visit and study water resource areas in the field. As a result of stream flow data collected by FHBWI members Scituate has instituted water conservation regulations that have improved flow to benefit habitat and fish migration. This successful effort was triggered by a condition placed on the town's water permit by the DEP with encouragement from the Commonwealth's Division of Ecological Restoration (formerly Riverways) and NSRWA.

Again, your open space plan looks terrific. I, and members of FHBWI applaud the hard work of your team and wish you the best in meeting your goals.

Sincerely,

Lance Van Lenten  
Former Director  
First Herring Brook Watershed Initiative  
150 Old Oaken Bucket Road  
Scituate, MA 02066



September 21, 2012

Marynel Wahl Halatsis, Chair  
Town of Norwell Open Space and Recreation Plan Committee  
P.O. Box 295  
345 Main Street  
Norwell, MA 02061-0295

Re: Letter of Support for Town of Norwell Open Space and Recreation Plan

Dear Ms. Wahl Halatsis:

Mass Audubon is pleased to support the Town of Norwell's 7-year update to their 2005 Open Space and Recreation Plan.

In reviewing the plan I find it to be very thorough, and appreciate the professional quality. The interspersed quotes enhance the quality of the plan, and the high quality images and maps make it pleasing to read. The town's strategy to collect and incorporate the community's input through public presentations, open meetings, and a survey is commendable.

Other particularly commendable aspects of the plan are as follows:

- Good inventory and analysis
- Strong needs analysis
- Strong goals and objectives, with the detail needed to insure focus and determine progress
- Good open space criteria weighted ranking
- Good content on recreation as well as open space
- Excellent mapping

Mass Audubon finds that the 7-year update to the Town of Norwell's Open Space and Recreation Plan is very well done, and is pleased to support the Town in their efforts to strategically protect open space.

Sincerely yours,

Robert I. Wilber  
Director of Land Protection



New England  
Forestry Foundation

*Conserving New England's forests since 1944*

September 13, 2012

Marynel Wahl Halatsis, Chair  
Norwell Open Space and Recreation Plan Committee  
Norwell Conservation Commission  
345 Main Street – P.O. Box 295  
Norwell, Massachusetts 02061-0295

Re: Review of Draft Open Space and Recreation Plan: 2012-19

Dear Marynel,

I appreciate the opportunity to review and comment on the draft of the committee's seven-year update of the town open space and recreation plan. The document is thorough, very comprehensive, and lays out achievable goals and action items. The fact that it integrates with and expands upon the town's master plan makes it a stronger platform for accessing potential grant programs, both private and public.

I would like to make one suggestion for the committee to consider, if it has not done so already, as an action item to goal #3 of the plan: the establishment of a town forest, either by designating an existing area of town conservation land or by acquiring a new parcel or parcels for that purpose. Norwell has a rich history of utilizing its forest resources for shipbuilding and other industries. Establishing a town forest could create a place for the town to manage important wildlife habitats (such as early successional forests), which are becoming increasingly scarce in the Commonwealth, while providing both recreational opportunities and periodic income for conservation commission needs. The U.S. Forest Service has funds available through the Urban and Community Forest Program that the town could apply for if it should decide to undertake a community forest project.

I commend the committee for its impressive efforts in compiling the draft plan. As noted in the plan, the establishment of a standing open space and recreation committee will be critical to achieving success in achieving the goal of protecting an additional 700 acres of land in the next seven years. I wish you success.

Yours sincerely,

Whitney Beals  
Director of Land Protection



## Massachusetts Association of Conservation Commissions

protecting wetlands, open space and biological diversity through education and advocacy



Southeast Massachusetts Program  
204 Long Pond Road  
Plymouth, MA 02360-2607

tel [508] 732-0300  
fax [508] 732-9198

[nature.org/massachusetts](http://nature.org/massachusetts)

September 19, 2012

Marynel Wahl Halatsis, Chair  
Open Space and Recreation Plan Committee  
Town of Norwell  
P.O. Box 295  
345 Main Street  
Norwell, MA 02061-0295

Marynel Wahl Halatsis, Chair  
Norwell Open Space and Recreation Plan Committee  
Town of Norwell  
345 Main Street  
Norwell, MA 02061

### RE: Town of Norwell Open Space and Recreation Plan, 2012-2019

Dear Ms. Wahl Halatsis:

Dear Ms. Wahl Halatsis,

Thank you for the opportunity to review a copy of the Town of Norwell's Open Space and Recreation Plan (the Plan) for comment prior to its final submittal to the Department of Conservation and Recreation's Division of Conservation Services for acceptance.

The Massachusetts Chapter of The Nature Conservancy has reviewed Norwell's Open Space and Recreation Plan and supports the inclusion of this plan to work in concert with the Norwell Master plan in achieving the town's overall future planning and objectives. The efforts of the Open Space and Recreation Plan Committee to engage the residents and community at large in its endeavor to be inclusive of all of its constituents and multiple goals should be commended.

The Massachusetts Association of Conservation Commissions (MACC) is a 501(c)(3) nonprofit organization dedicated to educating and supporting conservation commissions and promoting land and water protection. MACC works collaboratively with government officials, land trusts and other nonprofit partners, as well as engineers, contractors, landscapers, planners, designers and lawyers.

The Nature Conservancy's mission is to conserve all lands and waters in which life depends. Like your updated plan, that commitment to natural resources includes the needs of people and a respect for communities and cultures. Your efforts to balance the recreational desires of residents with the preservation of natural resources for future generations are commendable. To that end, the second goal of protecting the quality and quantity of water is appropriate and necessary.

The Norwell Open Space and Recreation Plan Committee (the Committee) did a commendable job drafting its latest Plan for 2012 – 2019. The Plan prudently builds upon earlier plans, acknowledging and retaining prior goals while also adapting to new community priorities, based on feedback from residents. For example, the Plan retains an overarching goal to permanently protect 30% of Norwell's land as open space while also recognizing an increased interest in providing more recreational opportunities, both passive and active. Additionally, the Plan recognizes the benefits of creating wildlife corridors, while simultaneously acknowledging the growing desire and need for "human greenways"--trails and bike paths throughout the community providing transportation, exercise and opportunities to enjoy the natural landscape.

As active partners in conservation with the Town of Norwell, and owners of an important and unique New England habitat, Black Pond Bog, we are supportive of the efforts to assess and connect existing open spaces. Further, the desire to work across municipal boundaries to achieve these greenways will better allow for adaptability and movement of species as population pressures and climate change continues to stress their need for suitable habitat. Lastly, the commitment to improve protection through increased public awareness, participation and education is necessary in order to culminate in community ownership and pride.

The Committee recognizes that *implementing* the Plan is critical to meeting its open space and recreation goals. As the Committee notes, creating a standing open space committee is an essential first step. We wish Norwell the best as it prepares to complete this action item!

I thank you for accepting my recent comments and integrating them into the plan where applicable. Your interest in working with and utilizing the Commonwealth's, various land trusts, and all the numerous resources now and in the future will hopefully provide a wide perspective on your future stewardship. We look forward to working with the new and permanent Open Space and Recreation Committee, should it be created, toward our shared goals of protection of our natural environment for all.

Sincerely,

Please contact me if I can be of further assistance.

Michèle A. Girard  
Associate Director and Education Coordinator

Sincerely,

Catharine Shetterly  
SE MA Project Mgr. and  
Community Coordinator  
The Nature Conservancy

# 11

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“We should not forget that it will be just as important to our descendants to be prosperous in their time as it is to us to be prosperous in our time.”

— Theodore Roosevelt

Photo above: Goose head ice formation on Norris Pond by Sheila Platt

Photo left: North End of Jacobs Pond by Steve Ivas

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## APPENDICES

Appendix A	Open Space Survey and Survey Results
Appendix B	Natural Resources Information—The South Shore Natural Science Center Biodiversity List
Appendix C	Massachusetts Bureau of Waste Sites
Appendix D	Conservation Rules and Regulations
Appendix E	Article 97: Constitution of the Commonwealth of Massachusetts
Appendix F	Norwell Open Space Criteria
Appendix G	ADA Access Self-Evaluation and Supporting Documentation
Appendix H	Federal, State, Regional and Municipal Agencies and Nonprofit Organizations Involved with Land Conservation and Recreation
Appendix I	Acts, Orders, Regulations and By-laws Protecting Natural Resources
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Appendix K	Studies and Reports Supporting Open Space Saves Towns Money
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“Plans to protect air and water, wilderness and wildlife are in fact plans to protect man.”

— Stewart Udall, U.S. Secretary of the Interior, 1961-1969

Photo above: Green frog by Jeremy Clegg

Photo left: Water Lily on Jacobs Pond by Jeremy Clegg

# Norwell Open Space Recreation Survey 2011

## 1. Norwell Open Space and Recreation Survey

Norwell's Open Space and Recreation Committee is updating the Town's Open Space and Recreation Plan. Massachusetts requires that all of its towns have approved open space plans before they can receive state funds for acquisition of land. To date, as a result of this process, Norwell has received \$300k+ from the state, which has been used to acquire approximately 200 preserved acres of parks, open space and recreation areas in town. By completing this survey, you will help Norwell plan for its future! If you would rather fill this out online - please do! <https://www.surveymonkey.com/s/NOSRCTownMeetingSurvey>

### 1. What open space, recreation and conservation lands do members of your household use?

(Check off up to the top five (5) choices):

- |  |   |
|--|---|
| <input type="checkbox"/> Behind Town Offices                 | <input type="checkbox"/> Miller Woods                         |
| <input type="checkbox"/> Black Pond Nature Preserve          | <input type="checkbox"/> Norris Reservation                   |
| <input type="checkbox"/> Bowker St (water department)        | <input type="checkbox"/> Norwell High School                  |
| <input type="checkbox"/> Centennial Park/ Pine Street Fields | <input type="checkbox"/> Norwell Middle School                |
| <input type="checkbox"/> Cole School                         | <input type="checkbox"/> Osborne Fields                       |
| <input type="checkbox"/> Cuffy Hill                          | <input type="checkbox"/> Reynolds Playground                  |
| <input type="checkbox"/> Donovan Property                    | <input type="checkbox"/> South Shore Science Center (SS YMCA) |
| <input type="checkbox"/> Fogg Forest                         | <input type="checkbox"/> South St (water department)          |
| <input type="checkbox"/> Gaffield Park                       | <input type="checkbox"/> Stetson Meadows                      |
| <input type="checkbox"/> Grove St (water department)         | <input type="checkbox"/> Town Landing                         |
| <input type="checkbox"/> Hatch Lots                          | <input type="checkbox"/> Town Landing - Chittenden Ln         |
| <input type="checkbox"/> Jacobs Farm                         | <input type="checkbox"/> Vinal School                         |
| <input type="checkbox"/> Jacobs Pond Conservation Area       | <input type="checkbox"/> Wompatuck St Park                    |
| <input type="checkbox"/> Judges Hill                         | <input type="checkbox"/> Woodworth Park Little League         |

Other (please specify)

### 2. What is the name of the park, open space or recreation area that members of your household used most often?

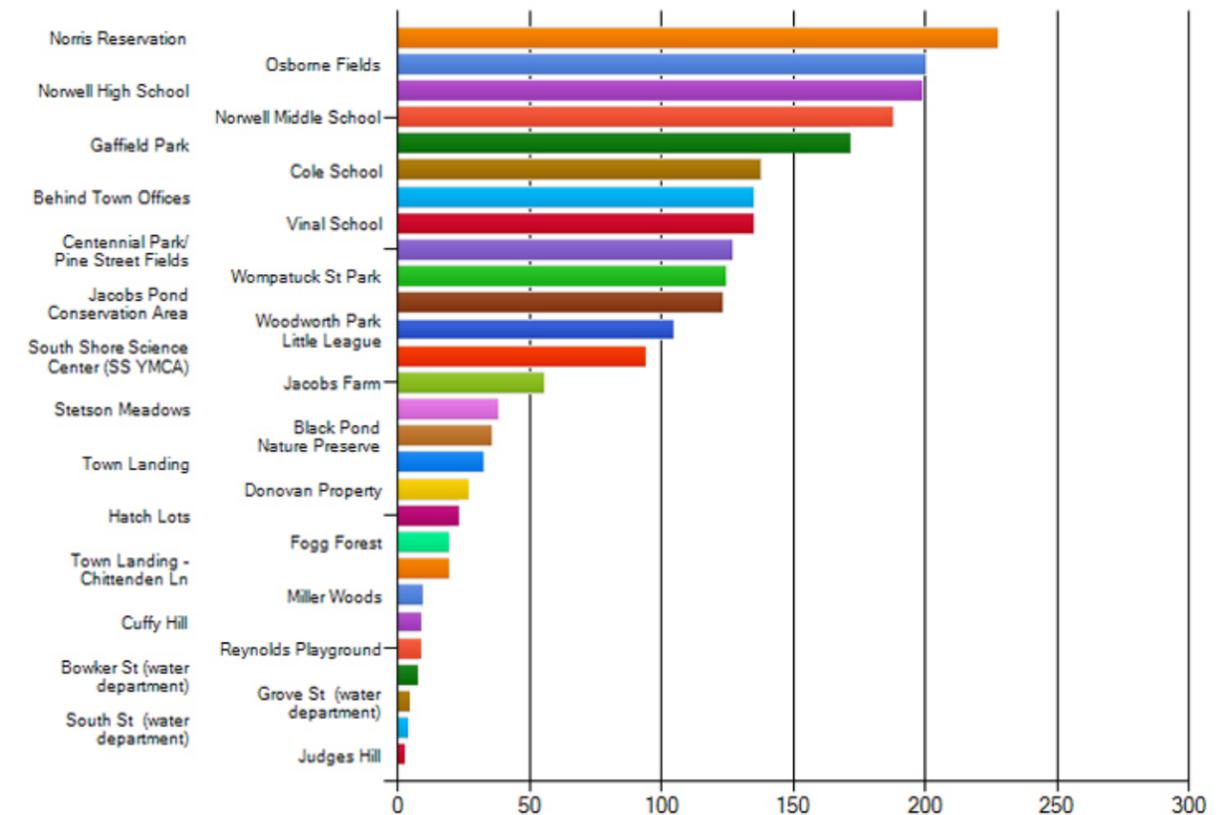
### 3. How often do members of your household use parks, open space or recreation areas in Norwell per MONTH?

Insert an estimated number of days below:

## APPENDIX A

### NORWELL OPEN SPACE & RECREATION SURVEY & SURVEY RESULTS

What open space, recreation and conservation lands do members of your household use?



**4. What time of the week do members of your household use parks, open space and recreation areas?**

- Weekdays only
- Weekends only
- Both weekdays and weekends

**5. What time of the day do members of your household typically use the space?**

- Day time only
- Evenings only
- Both day time and evenings

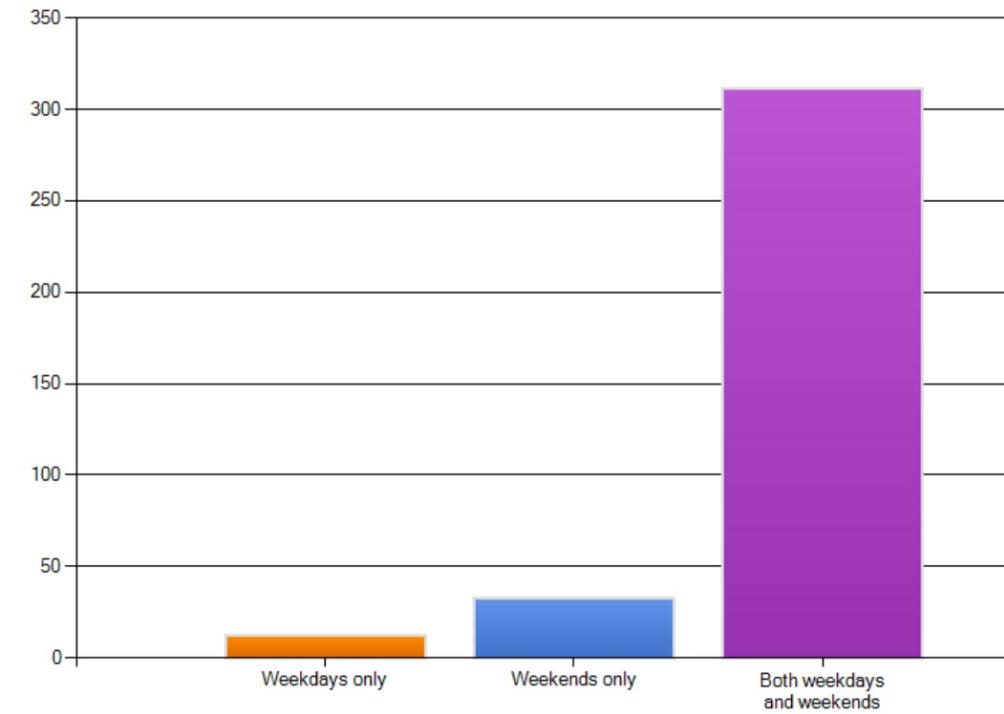
Did you know?!!

In 1676, Mary Ingham, wife of Thomas Ingham Jr. who lived on upper Winter Street was accused of bewitching Mehitable Woodworth and others. She was tried by a jury of 12 men, who brought in a verdict of not guilty.

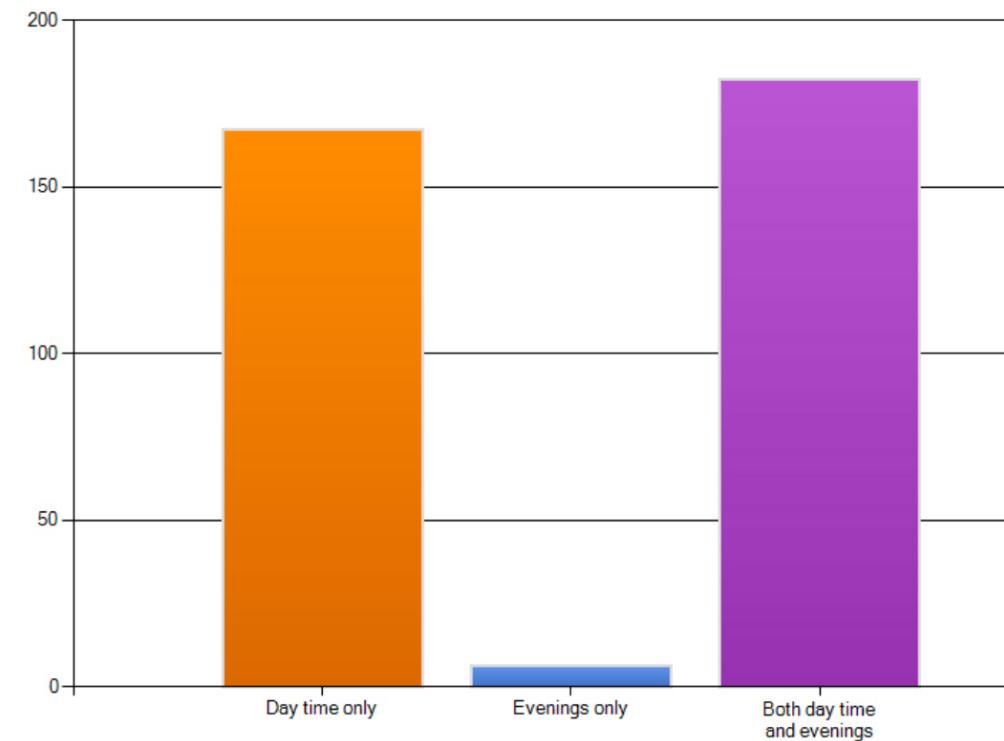
In 1919, Norwell residents engaged in raising poultry requested police support to halt ongoing theft that was plaguing them. This request led to the construction of the State Police station in the center of Town. On November 17, 1949, the safe stolen in the 1878 South Scituate Bond Robbery was discovered in the forest near Green Street. The safe was stolen from the Ephraim Otis House in South Scituate and held bonds worth \$30,000.

Black Pond, a conservation area on Mt. Blue Street was the first Massachusetts conservation property purchased by The Nature Conservancy. Bill Vinal, a well known conservation and educational figure in town, other town representatives and The Nature Conservancy worked together to preserve this ecologically significant property which is surrounded by a quaking bog and a white cedar and red maple swamp.

What time of the week do members of your household use parks, open space and recreation areas?



What time of day do members of your household typically use the space?



# Norwell Open Space Recreation Survey 2011

## 6. How do members of your household use: the parks, open space or recreation areas most often? (Check off up to the top five (5) choices):

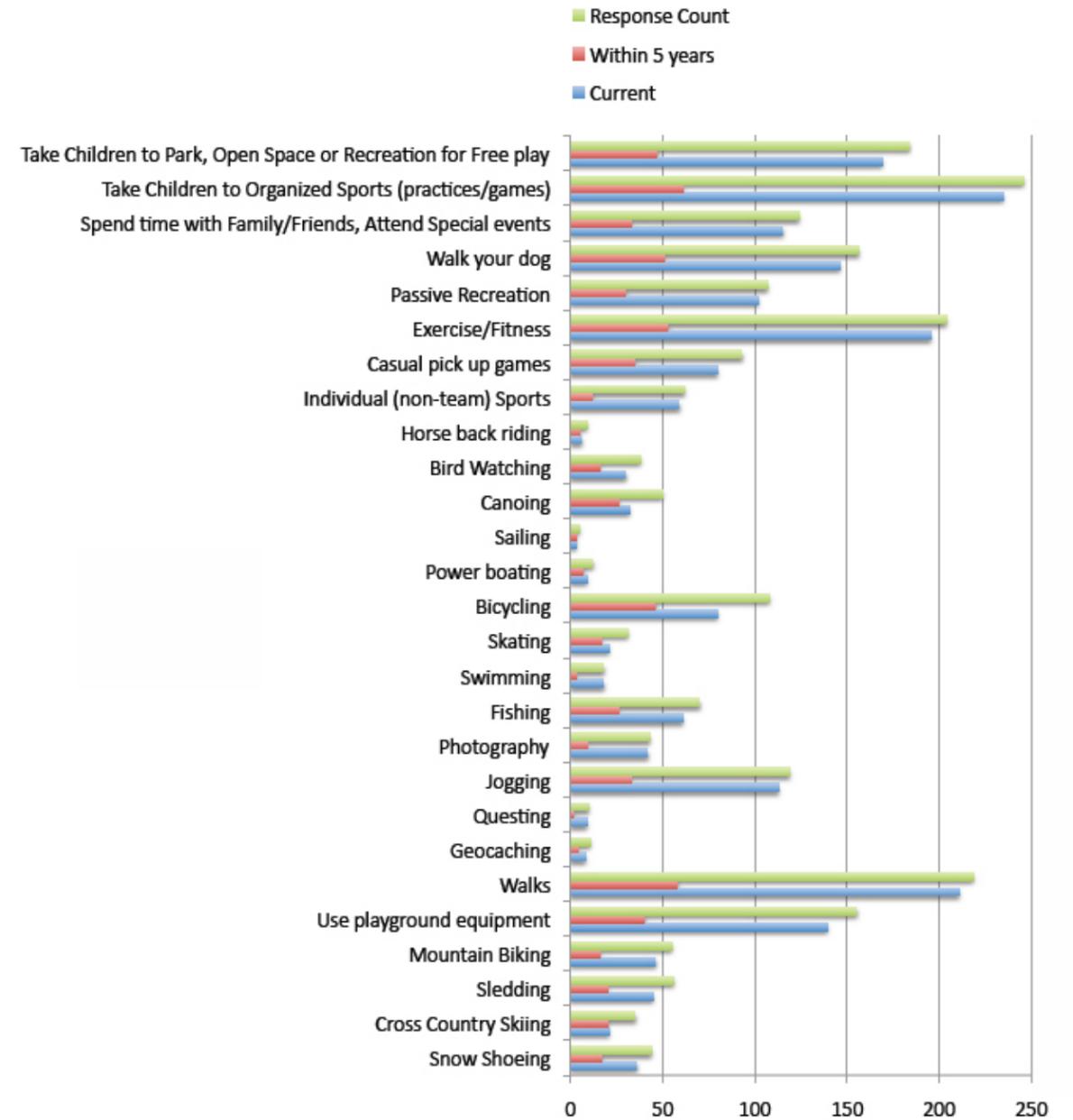
	Current	Within 5 years
Bicycling	<input type="checkbox"/>	<input type="checkbox"/>
Bird Watching	<input type="checkbox"/>	<input type="checkbox"/>
Canoing	<input type="checkbox"/>	<input type="checkbox"/>
Casual pick up games	<input type="checkbox"/>	<input type="checkbox"/>
Cross Country Skiing	<input type="checkbox"/>	<input type="checkbox"/>
Exercise/Fitness	<input type="checkbox"/>	<input type="checkbox"/>
Fishing	<input type="checkbox"/>	<input type="checkbox"/>
Geocaching	<input type="checkbox"/>	<input type="checkbox"/>
Horse back riding	<input type="checkbox"/>	<input type="checkbox"/>
Individual (non-team) Sports	<input type="checkbox"/>	<input type="checkbox"/>
Jogging	<input type="checkbox"/>	<input type="checkbox"/>
Mountain Biking	<input type="checkbox"/>	<input type="checkbox"/>
Passive Recreation	<input type="checkbox"/>	<input type="checkbox"/>
Photography	<input type="checkbox"/>	<input type="checkbox"/>
Power boating	<input type="checkbox"/>	<input type="checkbox"/>
Questing	<input type="checkbox"/>	<input type="checkbox"/>
Sailing	<input type="checkbox"/>	<input type="checkbox"/>
Skating	<input type="checkbox"/>	<input type="checkbox"/>
Sledding	<input type="checkbox"/>	<input type="checkbox"/>
Snow Shoeing	<input type="checkbox"/>	<input type="checkbox"/>
Spend time with Family/Friends, Attend Special events	<input type="checkbox"/>	<input type="checkbox"/>
Swimming	<input type="checkbox"/>	<input type="checkbox"/>
Take Children to Organized Sports (practices/games)	<input type="checkbox"/>	<input type="checkbox"/>
Take Children to Park, Open Space or Recreation for Free play	<input type="checkbox"/>	<input type="checkbox"/>
Use playground equipment	<input type="checkbox"/>	<input type="checkbox"/>
Walk your dog	<input type="checkbox"/>	<input type="checkbox"/>
Walks	<input type="checkbox"/>	<input type="checkbox"/>

Other (please specify)

Did you Know?

Halls' Hill, across from the Church Hill United Methodist Church on River Street, used to be a favorite sledding hill for Norwell children until the early 90s when it was sold for development.

How do members of your household use: the parks, open space or recreation areas most often?



# Norwell Open Space Recreation Survey 2011

## 7. Which sports, if any, do members of your household play in the parks, open space, or recreation areas? (Check off up to the top five (5) choices)

- |   |   |
|---|---|
| <input type="checkbox"/> Baseball                                     | <input type="checkbox"/> Little League    |
| <input type="checkbox"/> Basketball                                   | <input type="checkbox"/> Running          |
| <input type="checkbox"/> Bicycling                                    | <input type="checkbox"/> Sailing/Boating  |
| <input type="checkbox"/> Canoeing/Kayaking                            | <input type="checkbox"/> Skateboarding    |
| <input type="checkbox"/> Cross Country Skiing                         | <input type="checkbox"/> Soccer           |
| <input type="checkbox"/> Dirt Bikes                                   | <input type="checkbox"/> Softball         |
| <input type="checkbox"/> Do not do any outdoor recreations activities | <input type="checkbox"/> Street Hockey    |
| <input type="checkbox"/> Field Hockey                                 | <input type="checkbox"/> Tennis           |
| <input type="checkbox"/> Fishing                                      | <input type="checkbox"/> Track & Field    |
| <input type="checkbox"/> Football/ Flag Football                      | <input type="checkbox"/> Ultimate Frisbee |
| <input type="checkbox"/> Horeshoes                                    | <input type="checkbox"/> Volleyball       |
| <input type="checkbox"/> Ice skating                                  | <input type="checkbox"/> Walking          |
| <input type="checkbox"/> Lacrosse                                     |   |

Other (please specify)

### Did You Know?!!

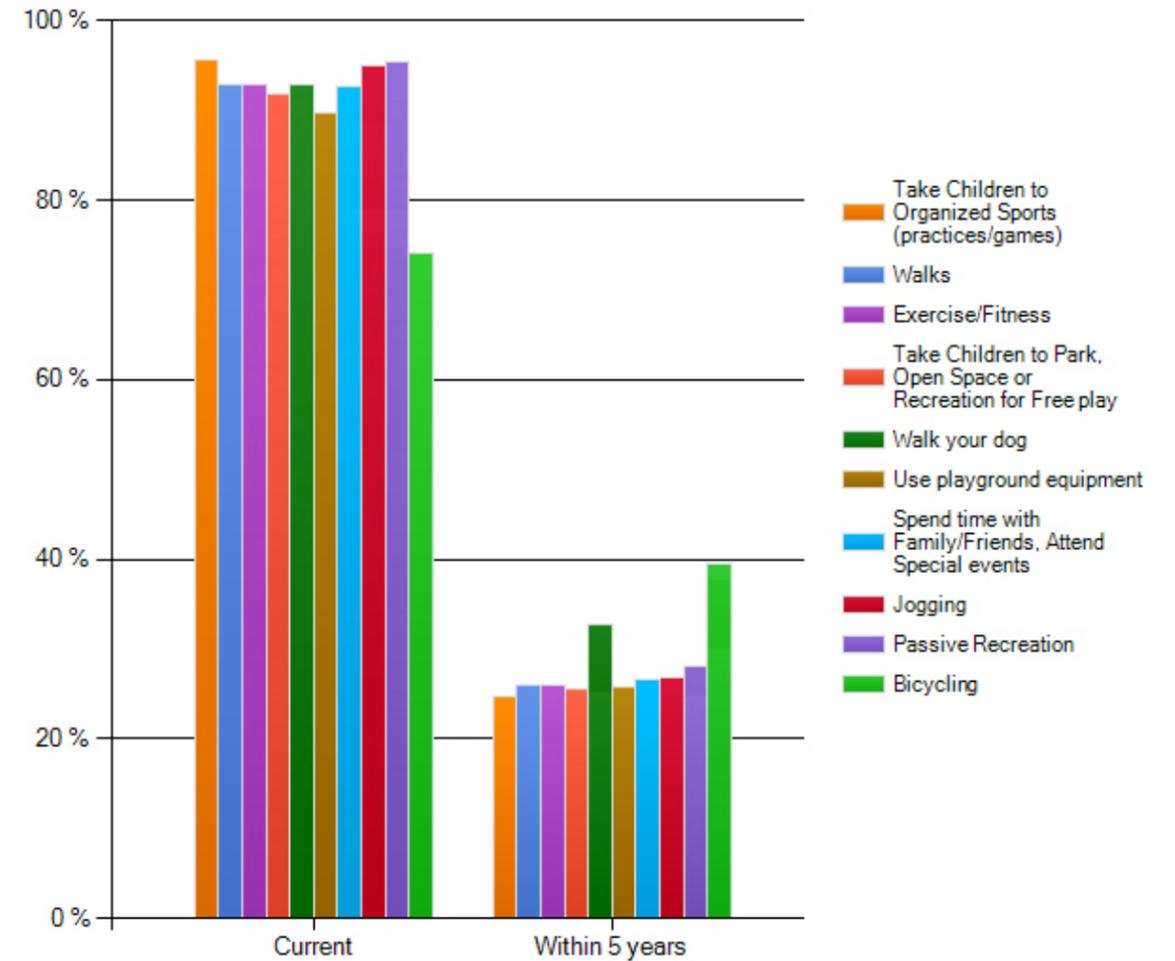
Hoop Pole Hill and Swamp used to be the site of industries involved in brick making and supplying wooden hoops for wooden barrels. The hoops were made from young ash trees, split and sold to barrel manufacturers. You can still find the remains of the brick manufacturing building.

Norwell's first Conservation Agent was Wes Osborne, a well known conservation figure in town. Wes played basketall and baseball for Norwell High and is a Norwell High Hall of Fame inductee.

Did you know that the last ship built on the North River was the Helen Foster which was launched in 1871 at the Chittenden Boat Yard at the end of Chittenden Lane.

Did you know that the North River is the first and only river of the Commonwealth to be designated a Scenic River under the state's Scenic Rivers Act and that both the North and South Rivers are designated as National Natural Landmarks by the Department of the Interior and overseen by the National Park Service?

## How do members of your household use the parks, open space or recreation areas most often?



# Norwell Open Space Recreation Survey 2011

## 8. What nature-related activities do members of your household use parks, open space and recreation areas for?

(Check off up to the top five (5) choices)

- Birding (bird watching)
- Canoeing/Kayaking
- Do not do any outdoor recreations activities
- Fishing
- Hiking
- Landscape painting
- Nature photography
- Outdoor Education/Teaching
- Participate in natural area clean-up or improvement projects
- Plant or animal identification using guidebook (non-birding)
- Take guided nature walks
- Use self-guided tours with aid of brochure or signs
- View scenery without aid of guides or guidebooks, running, bicycling, riding wheelchair, sitting, boating, etc.

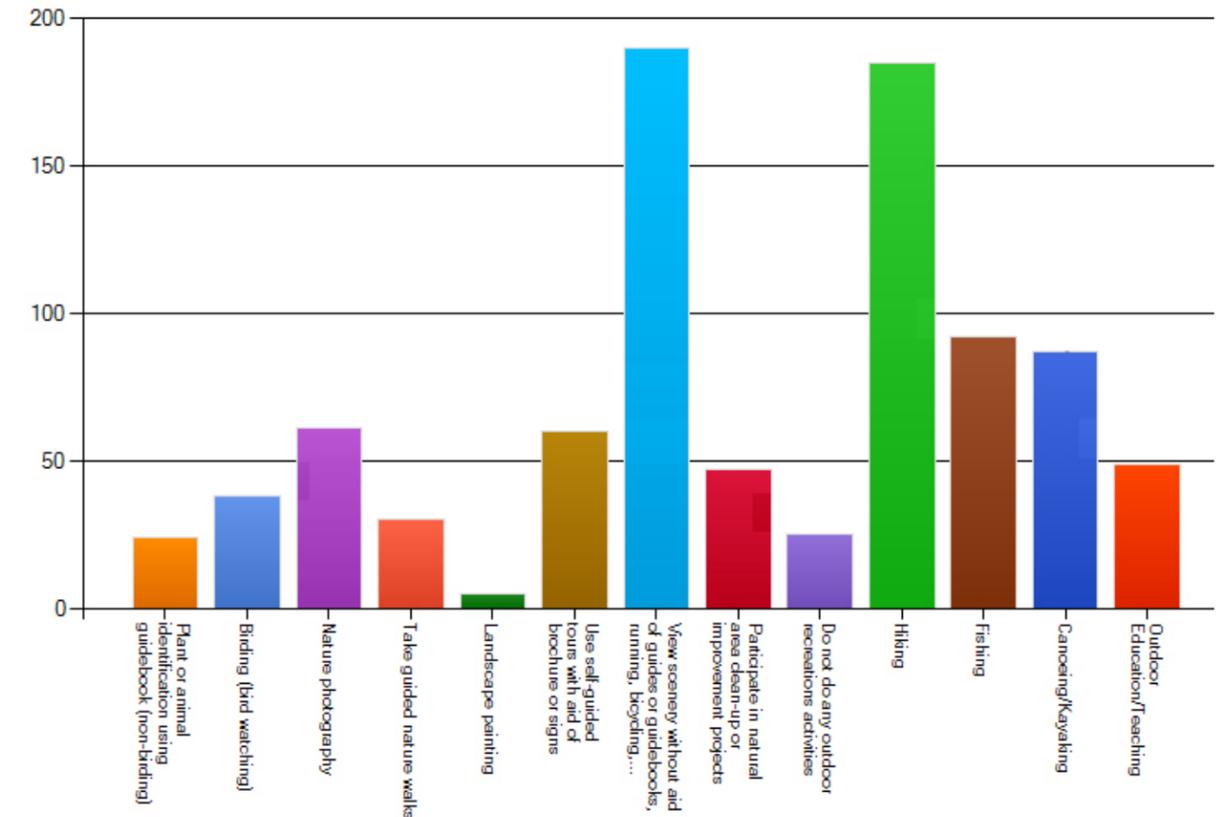
Other (please specify)

Did you know you can kayak the North River from Norwell up to Hanover and visit a freshwater tidal marsh at the headwaters of the North River? Jeff Corwin, well known naturalist and television host on Animal Planet, grew up in Norwell. As a child, he loved to go into the woods and study snakes and amphibians. According to his fifth grade teacher, he also excelled at drama, starring in A Christmas Carol and H.M.S. Pinafore

Steven Tyler, rockstar and American Idol host, was a partner in the Mount Blue Restaurant, now The Tinker's Son.

Susan Tedeschi, well known Blues and Soul artist, grew up in Norwell as did actress Jennifer Coolidge.

What nature-related activities do members of your household use parks, open space and recreation areas for?



# Norwell Open Space Recreation Survey 2011

## 9. Would members of your household use parks, open space or recreation areas more if we had the following? (Check off up to the top five (5) choices):

- Athletic Areas
- Bicycle paths
- Boardwalks
- Detailed maps
- Healthy Trails
- Marked historic trails
- Marked Nature trails
- More foot and bridle paths
- More playground equipment
- More Playing Fields
- More running trails
- Swimming areas

Other (please specify)

## 10. What way do you usually travel to and from our parks, open space or recreation areas?

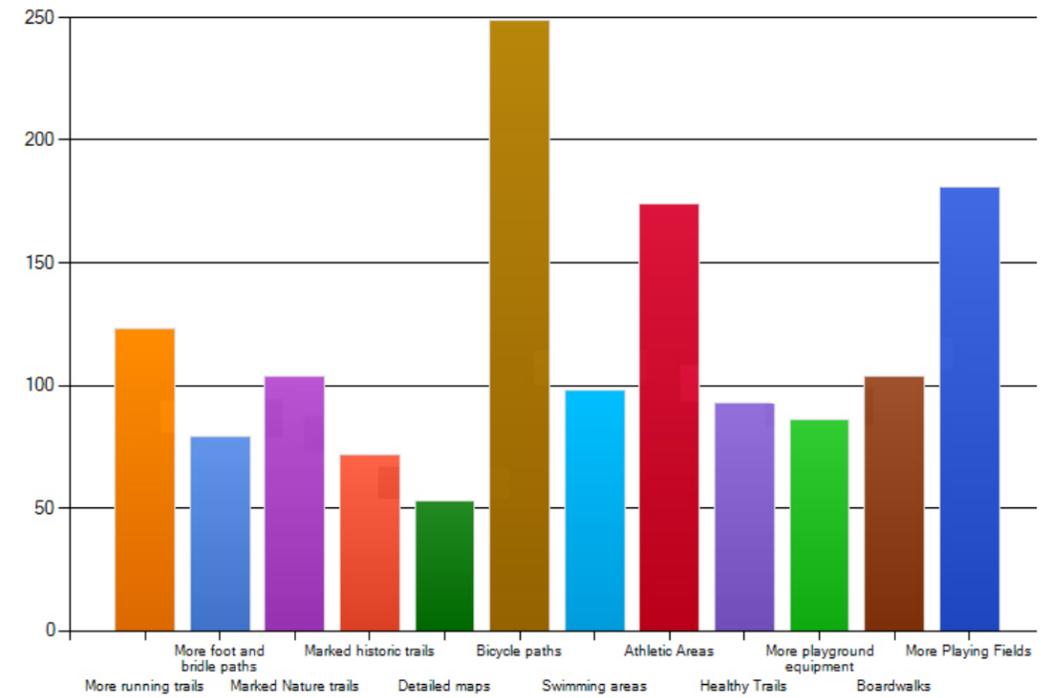
Select as many as apply.

- Bicycle
- Motor vehicle (car, motorcycle, etc)
- Not applicable
- Walk run/jog

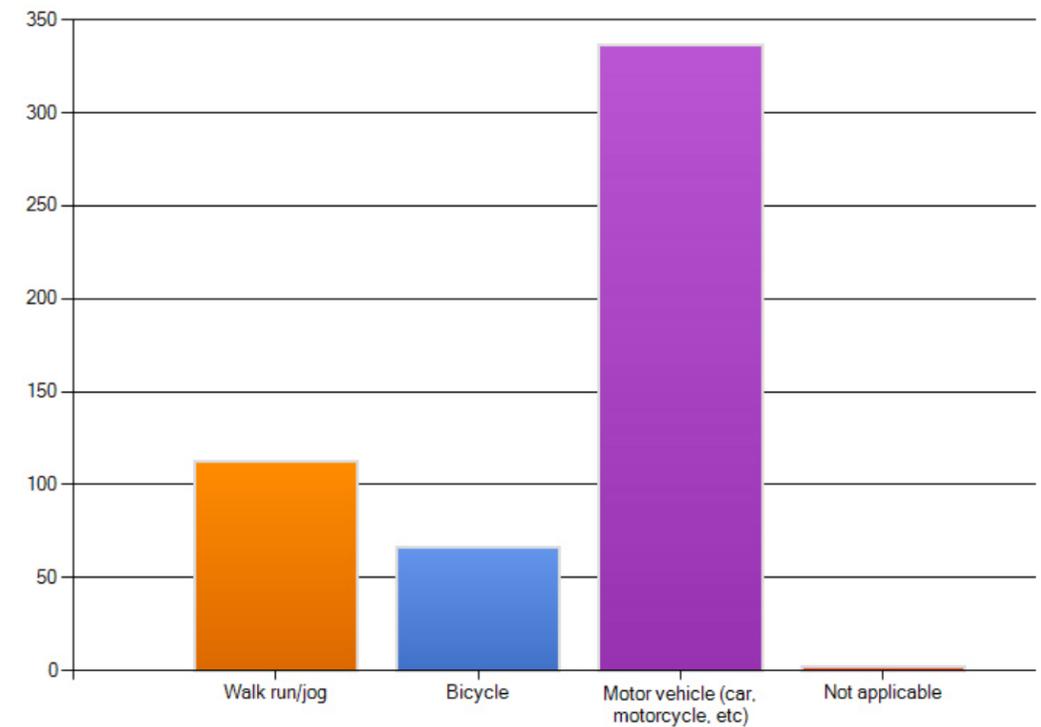
Other (please specify)

Cary Wolinsky, Norwell native, is a National Geographic photographer.

Would members of your household use parks, open space or recreation areas if we had the following?



What way do you usually travel to and from our parks, open space and recreation areas?



# Norwell Open Space Recreation Survey 2011

## 11. What changes, if any, would members of your household like to see in our parks, open space or recreation areas? (Check off up to the top five (5) choices):

- Address dog owners' needs, improve dog control
- Don't Know
- Improve access (Paths/Boat/Trails)
- Improve existing park facilities
- Improve maintenance
- Improve or add programs & special events
- Improve public safety
- Improve signage
- Improve vegetation (landscape)
- More active facilities (sports-oriented)
- More passive facilities (relaxation-oriented)
- No change needed

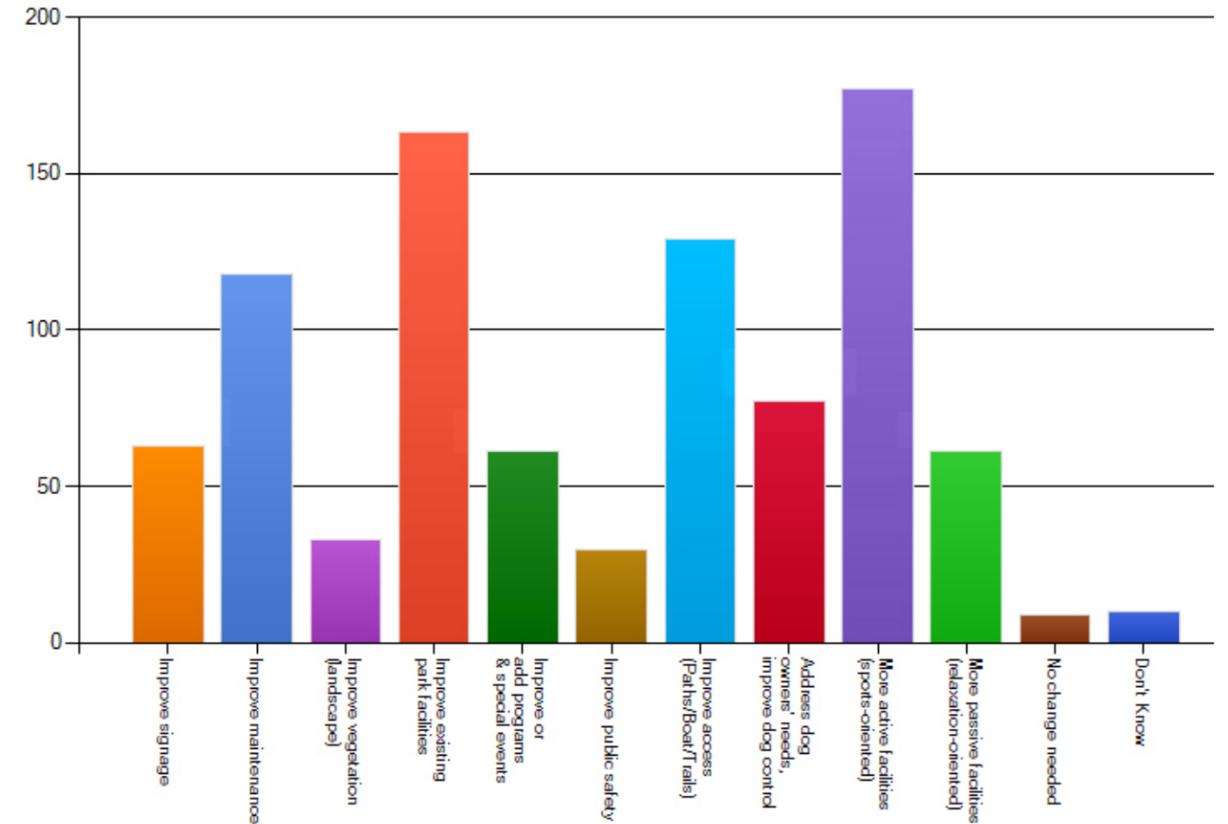
Other (please specify)

### Did you know??!

The residence at 88 Parker Street was once schoolhouse #6 Main Street (near Bridge Street) until 1924. In the 1940s it was bought and moved through the woods to its present location to become Harry Pinson's home. Pinson Lane is named for Harry Pinson, a farmer who owned much of the land on Parker Street.

Henry Norwell, for whom the town was named, lived in the Old Norwell House with his wife. Just a short distance away his mistress and his three children lived in a similar, but smaller house on Old Oaken Bucket Road. After his wife's death, Henry's mistress became his second wife.

What changes, if any, would members of your household like to see in our parks, open space and recreation areas?



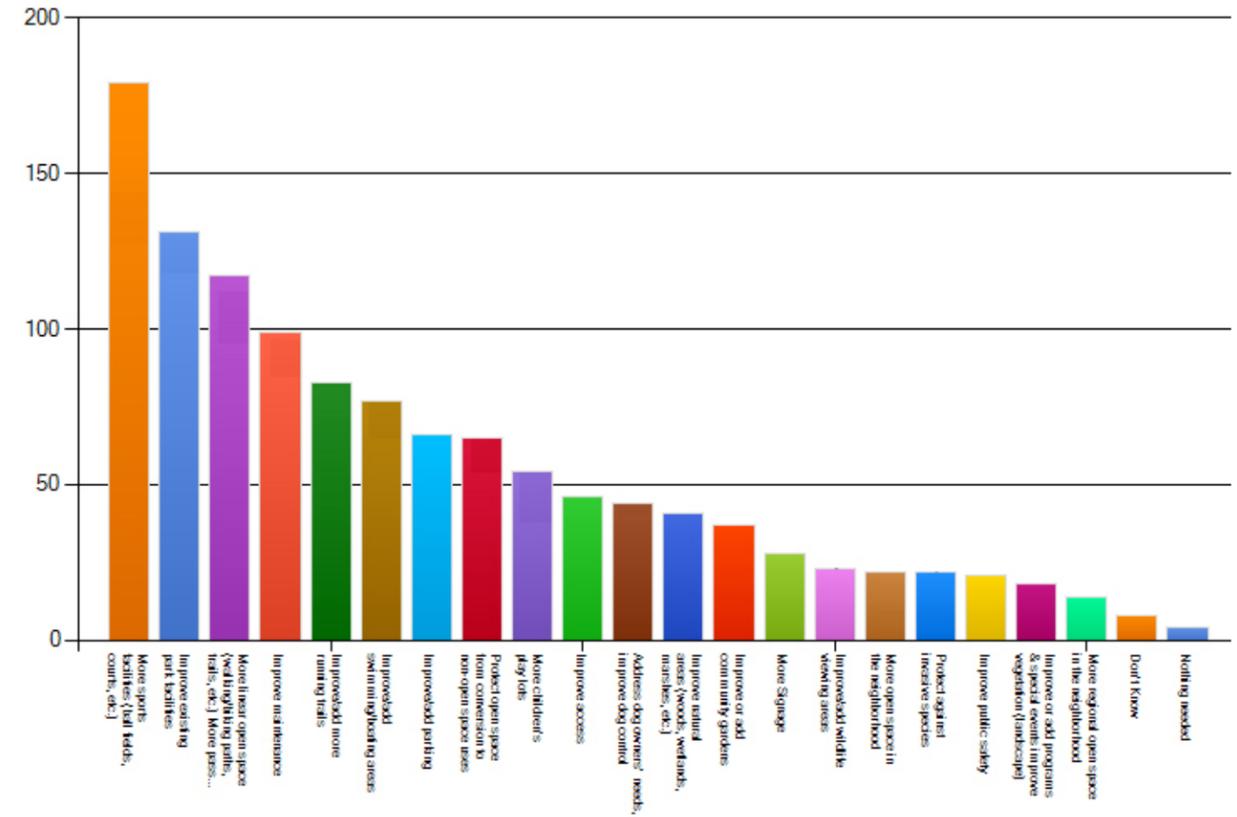
# Norwell Open Space Recreation Survey 2011

## 12. What do you believe are the park, recreation, and open space needs? (Check off up to five (5) top choices)

- Address dog owners' needs, improve dog control
- Don't Know
- Improve access
- Improve existing park facilities
- Improve maintenance
- Improve natural areas (woods, wetlands, marshes, etc.)
- Improve or add community gardens
- Improve or add programs & special events improve vegetation (landscape)
- Improve public safety
- Improve/add more running trails
- Improve/add parking
- Improve/add swimming/boating areas
- Improve/add wildlife viewing areas
- More children's play lots
- More linear open space (walking/biking paths, trails, etc.) More passive open space (green space parks)
- More open space in the neighborhood
- More regional open space in the neighborhood
- More Signage
- More sports facilities (ball fields, courts, etc.)
- Nothing needed
- Protect against invasive species
- Protect open space from conversion to non-open space uses

Other (please specify)

What do you believe are the park, recreation and open space needs?



# Norwell Open Space Recreation Survey 2011

## 13. Should Norwell actively try to acquire more:

	Yes	No	Possibly
Agricultural fields	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Co-op communities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Easements across private land	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Endangered Species Habitats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Farm Land	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Historical Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open Space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parcels that connect other conservation land	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parcels that include protected water shed areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recreation Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
River View/Access Lands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Salt Marshes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special/ Unique lands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Watershed and preserve water sheds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wetlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Woods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

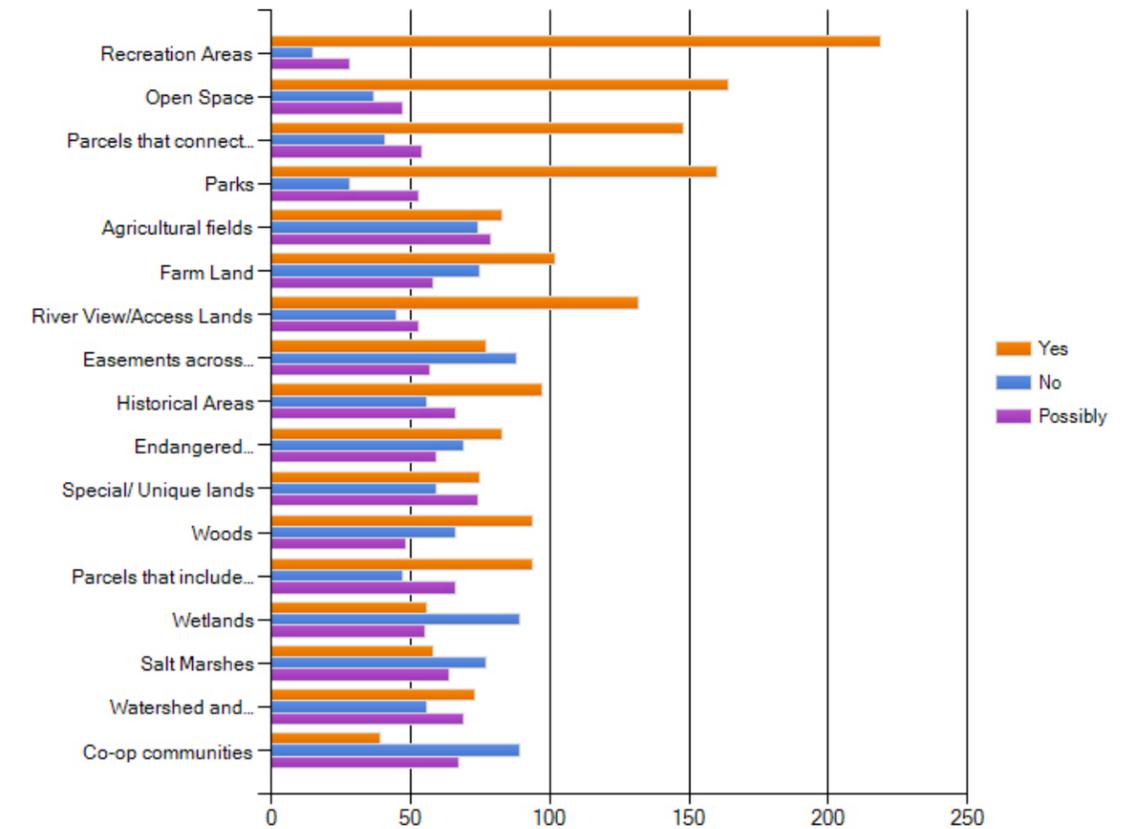
Other (please specify)

## 14. What factors are important to your perception of Norwell's character?

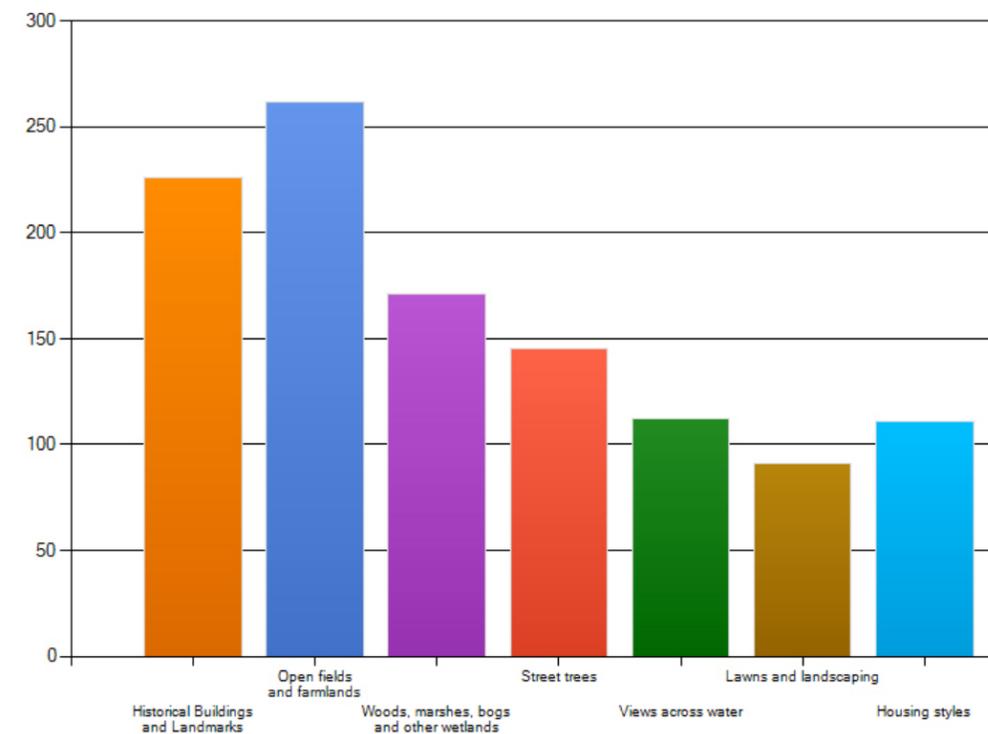
- Historical Buildings and Landmarks
- Open fields and farmlands
- Woods, marshes, bogs and other wetlands
- Street trees
- Views across water
- Lawns and landscaping
- Housing styles

Other (please specify)

## Should Norwell actively try to acquire more parks, open space and recreation areas?



## What factors are important to your perception of Norwell's character?



**Norwell Open Space Recreation Survey 2011**

**15. Do members of your household volunteer or participate in a park-related, open space, recreation committee or support group of any kind?**

- Yes
- No

If so - what group or organization:

**16. Do you think that open space in Norwell is in danger from development?**

- Yes
- No

Comments:

**17. Is there a property in town that you would like to see the town acquire as an open space, recreation or park? If so - what property:**

**18. Are you aware of the different TAX BENEFITS that may accompany giving land or granting restrictions conservation easements to the town?**

- Yes
- No

**19. If you were planning to sell your land, would you consider conservation restrictions or easements that protect open space as a condition of the sale?**

- Yes
- No

Other (please specify)

**20. What is your age?**

**21. What is your gender?**

- Male
- Female

**Norwell Open Space Recreation Survey 2011**

**22. Was there something special about Norwell that made you decide to move here?**

- Yes
- No

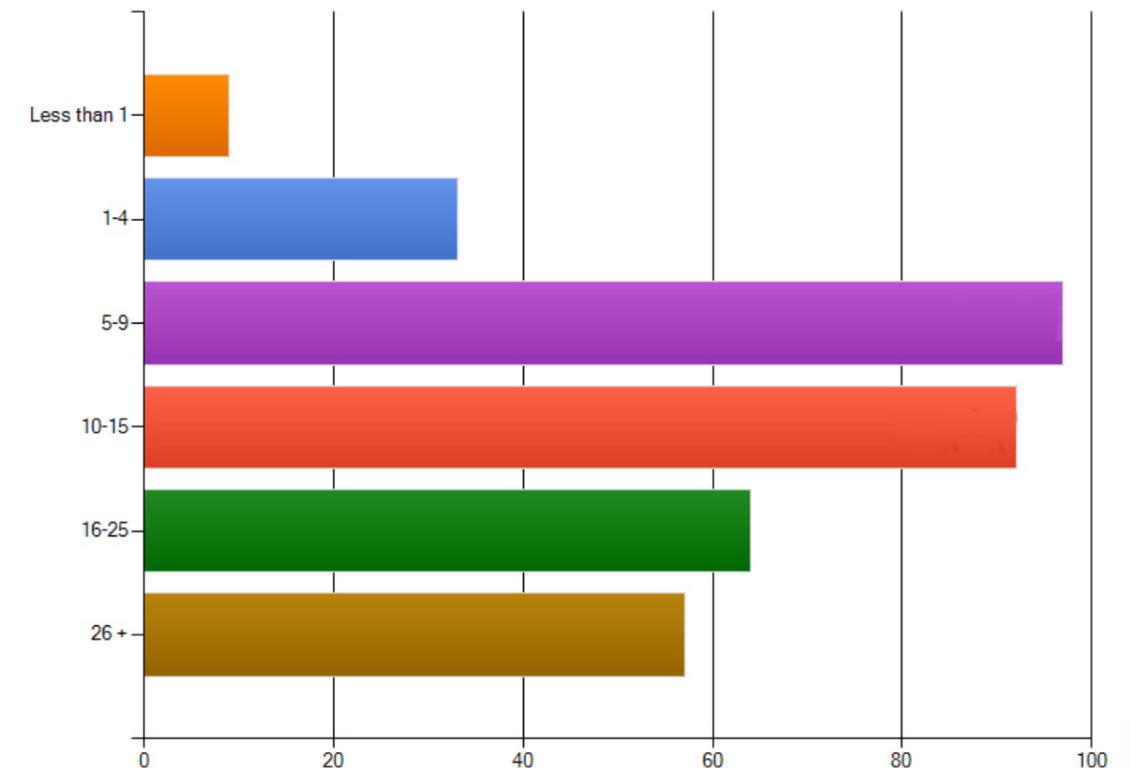
Please Explain:

**23. How many years have you lived in Norwell?**

- Less than 1
- 1-4
- 5-9
- 10-15
- 16-25
- 26 +

**24. How many members are in your household (including yourself)?**

How many years have you lived in Norwell?



**Norwell Open Space Recreation Survey 2011**

**25. This space is for your own words, ideas, suggestions, and any other comments that you feel are important to improving Norwell's Parks, Open Space, and Recreation areas. We look forward to your comments and appreciate your time to complete this survey. THANK YOU!**

Please - Drop into box outside of  
Town Meeting for Collection.

Please return to:  
Norwell Town Hall  
345 Main Street  
Town Conservation Office

**NATURAL RESOURCES INFORMATION  
THE SOUTH SHORE NATURAL SCIENCE CENTER  
BIODIVERSITY LIST**

**APPENDIX B**

Species Latin Name	Species Common Name	SSNSC Woodland	SSNSC Meadow	SSNSC Wetland	Jacobs Pond	Black Pond	Status
<b>Wildflowers</b>							
Anemone quinquefoil	Anemone - Wood, Wind-flower	x					
Peltandra virginica	Arrow Arum, Tuckahoe					x	
Sagittaria latifolia	Arrowhead -Common White					x	
Aster novae-angliae	Aster - New England		x				
Galium	Bedstraw		x				
Epifagus virginiana	Beech-drops	x				x	
Bidens sp.	Beggar-Ticks		x				
Uvularia perfoliata	Bellwort	x				x	
Uvularia sessilifolia	Bellwort - Sessile, Wild Oats, Little Merrybells	x					
Convolvulus sepium	Bindweed		x			x	
Celastrus orbiculatus	Bittersweet - Oriental		x			x	
Rubus flagellaris	Blackberry - Creeping Dewberry		x			x	
Rudbeckia hirta	Black-eyed Susan, Yellow Daisy		x				
Sisyrinchium	Blue-eyed Grass						
Cornus canadensis	Bunchberry, Dwarf Cornel	x				x	
Arctium minus	Burdock - Common		x				
Linaria vulgaris	Butter-and-Eggs, Common Toadflax		x				
Ranunculus	Buttercup		x			x	
Silene cucubalus	Campion - Bladder		x				
Maianthemum canadense	Canada Mayflower, False Lily-of-the-valley	x				x	
Typha Latifolia	Cat Tails - Broad-leaved, Common				x		
Chelidonium majus	Celandine, Swallow-wort		x			x	
Cerastium vulgatum	Chickweed - Mouse Ear		x			x	
Potentilla canadensis	Cinquefoil - Canadian Dwarf, Running Five-fingers		x			x	
Potentilla simplex	Cinquefoil - Common					x	
Clintonia Borealis	Clintonia - Yellow, Bluebeard	x					
Trifolium aureum	Clover - Palmate Hop, Yellow Hop		x				
Trifolium pratense	Clover - Red		x			x	
Trifolium repens	Clover - White					x	
Melilotus alba	Clover - White Sweet		x				
Melampyrum lineare	Cowwheat						
Vaccinium macrocarpon	Cranberry - Large, American			x		x	
Vaccinium oxycoccus	Cranberry - Tiny Leaf					x	
Euphorbia cyprarissias	Cypress-spurge						
Leucanthemum vulgare	Daisy - Oxeye		x			x	
Taraxacum officinale	Dandelion		x			x	
Hemerocallis fulva	Daylily - Orange		x				
Dianthus armeria	Deptford Pink		x				

Species Latin Name	Species Common Name	SSNSC Woodland	SSNSC Meadow	SSNSC Wetland	Jacobs Pond	Black Pond	Status
Rubus hispidus	Dewberry - Prickly, Bristly, Running, Swamp		x	x			
Rumex crispus	Dock - Curly, Sour		x			x	
Lemna minor	Duckweed - Lesser				x	x	
Dicentra cucullaria	Dutchman's Breeches	x	x				
Sambucus canadensis	Elderberry - Black, Common		x	x			
	Fanwort				x		
Leucothoe racemosa	Fetterbush				x		
Linaceae	Flax						
Nymphoides cordata	Floating Heart				x		
Tiarella cordifolia	Foamflower, False Miterwort	x					
Galax	Galax	x					
Allium canadense	Garlic - Wild, Wild Onion		x				
Coptis trifolia	Gold Thread	x				x	
Solidago sp	Goldenrod		x		x		
Vitis labrusca	Grape - Fox					x	
Smilax rotundifolia	Greenbrier - Common, Catbrier, Bullbrier	x				x	
Glechoma hederacea	Ground Ivy, Gill-over-the-ground		x				
Hieracium canadense	Hawkweed - Canada, Toothed		x				
Hieracium pilosella	Hawkweed - Mouse Ear		x				
Hieracium pratense	Hawkweed - Yellow, King Devil		x			x	
Conyza canadensis	Horseweed, Hogweed, Butterweed						
Medeola virginiana	Indian Cucumber Root	x				x	
Monotropa uniflora	Indian Pipe	x				x	
Iris versicolor	Iris - Northern Blue Flag, Wild, Poison-flag			x		x	
Arisaema triphyllum	Jack in the Pulpit - Woodland	x		x			
Polygonum cuspidatum	Knotweed - Japanese, Japanese Bamboo						
Cryipedium acaule	Lady's Slipper - Pink, Moccasin Flower	x					
Chaemaedaphne calycul	Leatherleaf	x			x	x	
Lilium philadelphicum	Lily - Wood						
Convallaria majalis	Lily-of-the-valley						
Lythrum salicaria	Loosestrife - Purple, Spiked				x		
Decodon verticillatus	Loosestrife - Swamp, Water Willow				x	x	
Lysimachia quadrifolia	Loosestrife - Whorled	x	x				
Podophyllum peltatum	Mayapple, Mandrake	x					
Epigaea repens	Mayflower, Trailing Arbutus	x					
Asclepias syriaca	Milkweed		x				
Calystegia sepium	Morning-glory - Wild		x				
Leonurus cardiaca	Motherwort		x				
Kalmia latifolia	Mountain-laurel	x					
Morus alba	Mulberry - White			x			
Verbascum thapsus	Mullein - Common		x				
Alliaria officinalis	Mustard - Garlic		x				
Urtica dioica	Nettle - Stinging					x	
Elaeagnus umbellata	Oleaster - Autumn-olive		x				
Leucanthemum vulgare	Oxeye-daisy, Marguerite		x				
Mitchella repens	Partridgeberry	x			x	x	

Species Latin Name	Species Common Name	SSNSC Woodland	SSNSC Meadow	SSNSC Wetland	Jacobs Pond	Black Pond	Status
Lepidium	Pepperweed		x				
Phlox subulata	Phlox - Moss, Mountain, Pink						
Monotropa hypopithys	Pinesap, False Beech-drops	x					
Chimaphila umbellata	Pippsissewa - Prince's Pine	x					
Chimaphila maculata	Pippsissewa - Striped, Spotted Wintergreen	x					
Sarracenia purpurea	Pitcher Plant					x	
Goodyera	Plaintain - Rattlesnake	x				x	
Plantago	Plantain - Common		x			x	
Pogonia ophioglossoides	Pogonia - Rose, Snakemouth					x	
Rhus radicans	Poison Ivy	x	x			x	
Phytolacca americana	Pokeweed, pokeberry, Poke		x				
Potamogeton	Pondweeds				x		
Pyrola americana	Pyrola	x				x	
Daucus carota	Queen Anne's Lace		x				
Rosa mutliflora	Rose - Multiflora	x	x			x	
Aralia nudicanulis	Sarsaparilla - Wild	x				x	
Carex stricta	Sedge - Tussock					x	
Capsella bursa-pastoris	Shepherd's Purse		x				
Symplocarpus foetidus	Skunk Cabbage			x		x	
Smilacina racemosa	Solomon's Seal - False					x	
Polygonatum biflorum	Solomon's Seal - Giant, Smooth	x	x				
Oxalis europaea	Sorrel - Yellow Wood					x	
Sonchus	Sow Thistle		x				
Hypericum perforatum	St. John's-Worts		x				
Trientalis borealis	Starflower	x				x	
Hypoxis hirsuta	Star-grass - Yellow				x		
Spiraea tomentose	Steeplebush					x	
Fragaria virginiana	Strawberry - Wild	x				x	
Drosera rotundifolia	Sundew - Round-leaved					x	
Acorus americanus	Sweet Flag						
Cirsium arvense	Thistle - Canada		x				
	Timothy		x			x	
Nuttallanthus canadensis	Toadflax - Blue, Old Field		x				
Impatiens capensis	Touch-me-not - Spotted, Orange Jewelweed		x	x		x	
Vicia sp.	Vetch					x	
Viola cucullata	Violet - Blue Marsh				x		
Viola lanceolata	Violet - Lance-leaf						
Viola blanda	Violet - Sweet White						
Echium vulgare	Viper's Bugloss, Blue Devil, Blue Weed		x				
Parthenocissus quinquefoil	Virginia Creeper, Woodbine	x	x				
Nymphaea odorata	Water-lily - White, Fragrant				x		
Nuphar variegatum	Water-lily - Yellow Pond, Bullhead-lily				x	x	
Myriophyllum	Water-milfoil				x		
Alismataceae	Water-plantains				x		
Brasenia schreberi	Water-shield				x		
Gaultheria procumbens	Wintergreen, Checkerberry, Teaberry	x				x	

Species Latin Name	Species Common Name	SSNSC Woodland	SSNSC Meadow	SSNSC Wetland	Jacobs Pond	Black Pond	Status
Ambrosia artemisiifolia	Yarrow - Ragweed		x				
Ageratina altissima	Yarrow - White		x				
<b>Trees/Shrubs</b>							
Alnus rugosa	Alder - Speckled	x			x		
Viburnum recognitum	Arrowwood - Northern, Smooth	x	x		x		
Fraxinus pennsylvanica	Ash - Green	x	x		x		
Rhododendron viscosum	Azalea - Swamp, Swamp Honeysuckle			x	x	x	
Berberis thunbergii	Barberry - Japanese	x					
Myrica pensylvanica	Bayberry, Wax-myrtle, Candleberry		x			x	
Fagus grandifolia	Beech - American	x			x	x	
Betula lenta	Birch - Black, Sweet	x				x	
Betula populifolia	Birch - Gray	x	x	x	x	x	
Betula alleghaniensis	Birch - Yellow					x	
Vaccinium corymbosum	Blueberry - Highbush	x	x			x	
Vaccinium angustifolium	Blueberry - Lowbush		x			x	
Rhamnus cathartica	Buckthorn - Common, European		x		x		
Rhamnus frangula	Buckthorn - Glossy, Alder, Smooth Alder				x		
Chamaecyparis thyoides	Cedar - Atlantic White	x	x		x	x	
Juniperus virginiana	Cedar - Eastern Red	x	x		x	x	
Thuja occidentalis	Cedar - Northern/Eastern White, Eastern Arborvitae	x	x	x	x	x	
Prunus serotina	Cherry - Black, Wild Rum	x	x		x	x	
Castanea dentata	Chestnut - American		x				
Aronia melanocarpa	Chokeberry - Black		x				
Cornus alternifolia	Dogwood - Alternate-leaf, Pagoda	x	x		x		
Cornus florida	Dogwood - Flowering	x	x				
Cornus amomum	Dogwood - Silky	x	x			x	
Crataegus	Hawthorn		x				
Tsuga canadensis	Hemlock - Eastern	x	x			x	
Ilex opaca	Holly - American	x	x		x	x	
Rhododendron viscosum	Honeysuckle - Swamp			x	x		
Gaylussacia	Huckleberry			x		x	
Ilex glabra	Inkberry					x	
Kalmia polifolia	Laurel - Bog, Pale					x	
Kalmia latifolia	Laurel - Mountain	x	x	x	x		
Kalmia angustifolia	Laurel - Sheep, Lambkill	x				x	
Syringa vulgaris	Lilac - Common		x				
Magnolia accuminab?	Magnolia - Cucumber	x					
Magnolia virginiana	Magnolia - Sweet Bay	x					
Acer rubrum	Maple - Red	x		x	x	x	
Acer saccharinum	Maple - Silver					x	
Acer saccharum	Maple - Sugar		x				
Quercus velutina	Oak - Black	x					
Quercus rubra	Oak - Northern Red	x			x	x	
Quercus palustris	Oak - Pin	x	x				
Quercus coccinea	Oak - Scarlet	x	x				

Species Latin Name	Species Common Name	SSNSC Woodland	SSNSC Meadow	SSNSC Wetland	Jacobs Pond	Black Pond	Status
Quercus bicolor	Oak - Swamp White			x			
Quercus alba	Oak - White	x		x	x	x	
Pinus strobus	Pine - Eastern White	x	x				
Pinus rigida	Pine - Pitch	x	x		x		
Pinus resinosa	Pine - Red	x			x		
Rhododendron canadense	Rhodora						x
Sassafras albidum	Sassafras	x	x				x
Amelanchier canadensis	Shadbush - Thicket, Juneberry, Eastern Serviceberry		x				
Carya ovata	Shagbark-hickory	x					
Spirea tomentosa	Steeplebush		x	x			x
Rhus vernix	Sumac - Poison						x
Rhus glabra	Sumac - Smooth		x				
Rhus typhina	Sumac - Staghorn		x				x
Comptonia peregrina	Sweet Fern		x				x
Myrica gale	Sweet Gale				x		
Clethra Alnifolia	Sweet Pepperbush		x	x	x	x	
Liriodendron tulipifera	Tulip Tree, Yellow Poplar		x				
Nyssa sylvatica	Tupelo, Black Gum, Sour Gum	x		x			x
Viburnum recognitum	Viburnum - Arrowwood	x		x			x
Viburnum acerifolium	Viburnum - Maple-leaf, Dockmackie	x			x		
Ilex verticillata	Winterberry, Black Alder			x			x
Hamamelis virginiana	Witch Hazel	x					x
<b>Club Mosses</b>							
Lycopodium complanatum	Creeping Jenny, Ground Cedar	x				x	
Lycopodium obscurum	Princess Pine, Tree Clubmoss, Ground-pine	x				x	x
Lycopodium clavatum	Staghorn Clubmoss						x
<b>Mosses</b>							
Dicranum sp.	Broom	x					x
Ceratodon purpureus	Burned-ground, Roof-top	x					
Funaria hygrometrica	Cord					x	
Hypnum sp.	Feather	x					
Thuidium sp.	Fern	x				x	
Polytrichum commune	Haircap	x	x				x
Spagnum	Sphagnum, Peat			x	x		x
Mnium	Star	x				x	x
Leucobryum glaucum	White Cushion	x					x
<b>Ferns</b>							
<b>Bracken</b>							
Dennstaedtia punctilobula	Hay Scented		x				x
Pteridium aquilinum	Pine Barrens Bracken, Tailed Bracken	x					x
<b>Flowering</b>							
Osmunda cinnamomea	Cinnamon			x			x

Species Latin Name	Species Common Name	SSNSC Woodland	SSNSC Meadow	SSNSC Wetland	Jacobs Pond	Black Pond	Status
Osmuna claytoniana	Interrupted		x			x	
Thelypteris noveboracensis	New York	x					
Athyrium filixfemina	Northern Lady			x		x	
Osmunda regalis	Royal					x	
<b>Wood</b>							
Matteuccia struthiopteris	Ostrich						
Onoclea sensibilis	Sensitive		x				
Dryopteris carthusiana	Spinulose Wood, Toothed Wood	x					
<b>Mushrooms</b>							
Ganoderma applanatum	Artist's Polypore, Conk						
Piptoporus betulinus	Birch Polypore	x					
Apiosporina morbosa	Black Knot of Cherry Flask	x	x				
Peurotus ostreatus	Oyster	x					
Laetiporus sulphureus	Sulphur Shelf, Chicken	x					
Trametes versicolor	Versicolored Turkeytail					x	
Amanita muscaria	Yellow-orange Fly Amanita						
Aminita virosa	Destroying Angel	x					
Calvatia	Puffballs		x		x		
<b>Lichens</b>							
Xanthoparmelia	Boulder		x				
Cladonia cristatella	British Soldiers	x	x				
Cladonia	Goblet, Pin						
Usnea	Old Man's Beard			x			
Cladonia pyxidata	Pixie Cup	x	x				
Cladonia rangifera	Reindeer Moss	x	x				
	Shield	x				x	
<b>Liverworts</b>							
	Leafy Liverwort					x	
<b>Birds</b>							
Agelaius phoeniceus	Blackbird - Red-winged				x	x	
Sialia sialis	Bluebird - Eastern		x				
Cardinalis cardinalis	Cardinal - Northern	x	x		x		
Dumetella carolinensis	Catbird - Gray	x	x		x	x	
Parus atricapillus	Chickadee - Black-capped	x	x		x	x	
Phalacrocorax auritus	Cormorant - Double-crested				x		
Certhia americana	Creeper - Brown	x					
Corvus brachyrhynchos	Crow - American	x		x	x		
Coccyzus erythrophthalmus	Cuckoo - Black-billed	x	x				
Zenaidura macroura	Dove - Mourning		x		x		
Anas platyrhynchos	Duck - Mallard				x		
Aix sponsa	Duck - Wood				x		

Species Latin Name	Species Common Name	SSNSC Woodland	SSNSC Meadow	SSNSC Wetland	Jacobs Pond	Black Pond	Status
Carpodacus mexicanus	Finch - House				x		
Myiarchus crinitus	Flycatcher - Great-crested	x			x		
Carduelis tristis	Goldfinch - American				x	x	
Branta canadensis	Goose - Canada				x		
Quiscalus quiscula	Grackle - Common	x			x		
Larus argentatus	Gull - Herring				x		
Larus delawarensis	Gull - Ring-Billed				x		
Buteo lineatus	Hawk - Red-shouldered	x		x	x		
Buteo jamaicensis	Hawk - Red-tailed	x	x		x		
Accipter striatus	Hawk - Sharp-shinned						SC
Nycticorax nycticorax	Heron - Black-crowned Night					x	
Ardea herodias	Heron - Great Blue					x	
Archilochus colubris	Hummingbird - Ruby-throated		x				
Cyanocitta cristata	Jay - Blue	x	x			x	
Junco hyemalis	Junco - Dark-Eyed	x	x				
Tyrannus tyrannus	Kingbird - Eastern		x		x		
Mimus polyglottos	Mockingbird - Northern		x		x	x	
Sitta carolinensis	Nuthatch - White-breasted	x					
Icterus galbula	Oriole - Baltimore		x		x		
Icterus spurius	Oriole - Orchard				x		
Seiurus aurocapillus	Ovenbird	x			x		
Otus asio	Owl - Eastern Screech	x					
Bubo virginianus	Owl - Great Horned	x					
Aegolius acadicus	Owl - Northern Saw-Whet	x		x			
Sayornis phoebe	Phoebe - Eastern			x			
Turdus migratorius	Robin - American		x		x		
Spizella passerina	Sparrow - Chipping		x		x		
Passer domesticus	Sparrow - House		x		x		
Zonotrichia albicollis	Sparrow - White-throated		x				
Sturnus vulgaris	Starling - European		x		x	x	
Hirundo rustica	Swallow - Barn				x		
Tachycineta bicolor	Swallow - Tree		x		x	x	
Cygnus olor	Swan - Mute				x		
Chaetura pelagica	Swift - Chimney				x		
Piranga olivacea	Tanager - Scarlet	x					
Hylocichla mustelina	Thrush - Wood	x					
Parus bicolor	Titmouse - Tufted	x			x		
Pipilo erythrophthalmus	Towhee - Eastern/Rufous-sided	x	x		x		
Catharus fuscescens	Veery		x				
Vireo olivaceus	Vireo - Red-eyed	x			x		
Cathartes aura	Vulture - Turkey		x				
Geothlypis trichas	Warbler - Northern Yellow-throat			x	x		
Bombcilla cedrorum	Waxwing - Cedar	x	x				
Picoides pubescens	Woodpecker - Downy	x			x		
Colaptes auratus	Woodpecker - Northern Flicker	x					
Contopus virens	Wood-Pewee - Eastern	x			x		

Species Latin Name	Species Common Name	SSNSC Woodland	SSNSC Meadow	SSNSC Wetland	Jacobs Pond	Black Pond	Status
Thryothorus ludovicianus	Wren - Carolina			x			
Troglodytes aedon	Wren - House		x		x		
Cistothorus palustris	Wren - Marsh						
<b>Insects</b>							
<b>Dragonflies</b>							
Perithemis tenera	Amberwing - Eastern		x		x		
Enallagma civile	Bluet - Familiar				x		
Anax Junius	Darner - Common Green	x	x		x		
Sympetrum rubicundulum	Meadowhawk - Ruby		x				
Celithemus eponia	Pennant - Halloween	x	x				
Erythemis simplicicollis	Pondhawk - Eastern				x	x	
Libellula luctuosa	Skimmer - Widow				x		
<b>Butterflies</b>							
Vanessa atalanta	Admiral - Red		x				
Celastrina ladon	Azure - Spring		x				
Euphydryas phaeton	Checkerspot - Baltimore						
Polygonia comma	Comma - Eastern		x				
Lycaena phlaeas	Copper - American		x				
Phyciodes tharos	Crescent - Pearl		x				
Vanessa cardui	Lady - American Painted		x				
Lycaena plexippus	Monarch		x				
Nymphalis antiopa	Mourning Cloak						
Megisto cymela	Satyr - Little Wood	x					
Colias philodice	Sulphur - Clouded		x				
Papilio polyxenes	Swallowtail - Black		x				
Papilio glaucos	Swallowtail - Eastern Tiger		x				
Papilio troilus	Swallowtail - Spicebush						
Limenitis achippus	Viceroy		x				
Pieris rapae	White - Cabbage		x				
<b>Moths</b>							
Malacosoma americanum	Eastern Tent Caterpillar	x					
Alypia octomaculata	Eight-spotted Day						
Hyphantria cunea	Fall Webworm	x					
Lymantria dispar	Gypsy	x					
Hemaris thysbe	Hummingbird		x				
Noctua pronuba	Large Yellow Underwing						
Manduca quinquemaculata	Tomato Hornworm						
Isia isabella	Woolly Bear Caterpillar		x				
<b>Beetles</b>							
Meloidae	Blister, Oil						
Dytiscidae	Diving - Predacious						
Popillia japonica	Japanese						

Species Latin Name	Species Common Name	SSNSC Woodland	SSNSC Meadow	SSNSC Wetland	Jacobs Pond	Black Pond	Status
Coccinellidae	Lady, Lady-bug						
Cerambycidae	Long-horned						
Scarabaeidae	Scarab						
Cicindela	Tiger						
Lycidae	Wet-winged						
Gyrinidae	Whirligig - Large						
<b>Flies</b>							
Tipulidae	Crane						
Chrysops callidus	Deer						
Tephritidae	Fruit						
Tabanus americanus	Horse - American						
Musca domestica	House						
Metasyrphus americanus	Hover - American						
Culicidae	Mosquitoes						
Asillidae	Robber						
<b>Other</b>							
Notonectidae	Backswimmers			x	x		
Bombus	Bees - Bumble						
Ceratina	Bees - Carpenter						
Apis mellifera	Bees - Honey						
Trichoptera	Caddisflies			x	x		
Magisicada	Cicadas-Periodical		x				
Gryllus pennsylvanicus	Cricket - Northern Field		x				
Corydalus cornutus	Dobsonfly - Eastern			x			
Forficula auricularia	Earwig - European						
Melanopus	Grasshoppers		x				
Coccoidea	Hemlock Woolly Adelgid						
Vespula maculata	Hornet - Bald-faced						
Pterophylla camellifolia	Katydid - Northern True						
Dissosteira carolina	Locust - Carolina						
Mantis religiosa	Mantis - European Praying	x	x				
Ephemera	Mayflies						
Parcoblatta pennsylvanicus	Roach - Pennsylvania Wood						
Pentatomidae	Stink Bugs						
Plecoptera	Stoneflies						
Isoptera	Termites						
Metopius	Wasp - Ichneumon						
Neuroterus clavensis	Wasp - Oak Gall			x	x		
Corixidae	Water Boatmen			x			
Belastomatidae	Water Bugs - Giant					x	
Gerridae	Water Striders			x	x		
Vespula maculifrons	Yellowjacket - Eastern						

Species Latin Name	Species Common Name	SSNSC Woodland	SSNSC Meadow	SSNSC Wetland	Jacobs Pond	Black Pond	Status
<b>Spiders</b>							
Miisumena vatia	Crab - Goldenrod						
Argiope aurantia	Garden - Black-and-yellow						
Agelenopsis naevia	Grass - Funnel-web						
Araneidae	Orb Weaver						
Lycosidae	Wolf						
<b>Crustaceans</b>							
Gammarus	Amphipods, Scuds - Freshwater			x	x		
Copepoda	Copepods, Cyclops			x	x		
Cambarus bartoni	Crayfish				x		
Daphnia	Daphnia, Water-fleas			x	x		
Isopoda	Isopods - Freshwater, Aquatic Sowbugs			x	x		
Armadillidium	Pillbugs						
Eubbranchipus vernalis	Shrimp - Fairy			x			
Porcellio	Sowbugs						
<b>Mollusks</b>							
Bivalvia	Clam - Fingernail						
Unionoida	Mussel - Freshwater			x	x		
Gyraulus	Snail - Freshwater			x	x		
<b>Misc. Arthropods</b>							
Scutigera	Centipedes						
Leiobunum	Daddy-long-legs, Harvestmen						
Spirobolus	Millipedes						
Oligonychus ilicis	Mite- Red Spider				x		
Dermacentor variabilis	Tick - Brown Dog, Wood						
Ixodes dammini	Tick - Eastern Deer						
<b>Mammals</b>							
Eptesicus fuscus	Bat - Big Brown				x		
Myotis lucifugus	Bat - Little Brown				x		
Canis latrans	Coyote	x	x				
Odocoileus virginianus	Deer - White-tailed			x			
Tamias striatus	Eastern Chipmunk	x				x	
Sylvilagus floridanus	Eastern Cottontail	x	x		x	x	
Urocyon cinereoargenteus	Fox - Gray	x		x			
Vulpes vulpes	Fox - Red	x	x	x	x		
Microtus pennsylvanicus	Meadow Vole		x				
Peromyscus leucopus	Mouse - White-footed	x	x				
Ondatra zebethicus	Muskrat			x	x		
Didelphis virginiana	Opposum	x	x	x	x		
Procyon lotor	Raccoon	x	x	x	x	x	
Blarina brevicauda	Shrew - Northern Short-tailed	x	x				

Species Latin Name	Species Common Name	SSNSC Woodland	SSNSC Meadow	SSNSC Wetland	Jacobs Pond	Black Pond	Status
Mephitis mephitis	Skunk	x	x	x	x	x	
Sciurus carolinensis	Squirrel - Eastern Gray	x			x		
Tamiasciurus hudsonicus	Squirrel - Red	x					
Glaucomys volans	Squirrel - Southern Flying	x		x			
Mustela frenata	Weasel - Long-tailed	x					
Marmota monax	Woodchuck	x	x				
<b>Amphibians</b>							
<b>Frogs</b>							
Rana catesbeiana	Bullfrog				x		
Rana clamitans	Green				x	x	
Rana pipiens	Northern Leopard		x	x	x		
Rana palustris	Pickerel		x	x	x		
Bufo americanus	Toad - American	x	x	x			
Bufo woodhousii fowleri	Toad - Fowler's	x	x	x			
Hyla versicolor	Treefrog - Common Gray	x		x			
Hyla crucifer	Treefrog - Spring Peeper	x		x	x		
Rana sylvatica	Wood	x		x			
<b>Salamanders</b>							
Notophthalmus viridescens	Newt - Eastern, Red-spotted	x		x			
Plethodon cinereus	Red-backed - Eastern	x		x			
Ambystomata maculatum	Spotted - Yellow	x		x			
<b>Reptiles</b>							
<b>Turtles</b>							
Trrapene carolina	Box - Common		x				SC
Sternothaerus odoratus	Musk - Common				x		
Chrysemys picta	Painted			x			
Chelydra serpentina	Snapping				x		
Clemmys guttata	Spotted			x			SC
<b>Snakes</b>							
Thamnophis sirtalis	Garter - Common	x	x				
Lampropeltis triangulum	Milk	x					
Coluber constrictor	Racer - Black		x				
Nerodia sipedon	Water - Northern				x		
<b>Fish</b>							
Micropterus salmoides	Bass - Largemouth				x		
Cyprinidae var.	Calico				x		
Ameiurus nebulosus	Catfish, Brown Bullhead				x		
Centrarchidae var.	Sunfish				x		

MASSACHUSETTS BUREAU OF WASTE SITES

APPENDIX C

Reportable Release Lookup

The search returned 71 results | Search Keywords >> NORWELL | Sorted by: RTN | Data last updated: 11/09/2012

RTN	City/Town	Release Address	Site Name/ Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type	Supporting Documents
4-0000133	NORWELL	724 MAIN ST	JOSEPHS PONTIAC GARAGE AND GULF STATION	NONE	5/9/1986	RAO	4/10/2009	PHASE V	A2	Oil	<a href="#">Files</a>
4-0000134	NORWELL	RTE 228 AND 53	QUEEN ANNS ARCO FMR	NONE	1/15/1987	REMOPS	2/24/2009	PHASE V		Oil	<a href="#">Files</a>
4-0000402	NORWELL	412 WASHINGTON ST	BOSTON WHALER INC	NONE	10/15/1987	RAO	3/14/1997		B1		<a href="#">Files</a>
4-0000524	NORWELL	271 WASHINGTON ST	ATLANTIC TOWING CO	NONE	10/15/1988	RAO	11/5/2001		A2	Oil and Hazardous Material	<a href="#">Files</a>
4-0000529	NORWELL	10 AND 22 POND ST	SOUTH SHORE ACURA	NONE	10/15/1988	DEPNFA	7/23/1993			Oil	<a href="#">Files</a>
4-0000608	NORWELL	4 WHITING ST	GETTY SERVICE STATION	NONE	1/15/1989	RAO	10/4/2012	PHASE V	A2		<a href="#">Files</a>
4-0000665	NORWELL	95 WASHINGTON ST	SUNOCO SERVICE STATION	NONE	12/14/1988	RAO	2/23/1995		A2	Oil	<a href="#">Files</a>
4-0000674	NORWELL	119 WASHINGTON ST	SULLIVAN TIRE CO FMR	NONE	1/10/1989	RAO	10/27/1995		A3	Oil	<a href="#">Files</a>
4-0000705	NORWELL	32 POND ST	FABRICARE HOUSE	NONE	4/15/1989	REMOPS	9/5/2009	PHASE V		Oil	<a href="#">Files</a>
4-0000713	NORWELL	433 WASHINGTON ST	NORTH RIVER ELECTRIC SUPPLY	NONE	1/15/1989	DEPNFA	8/2/1995			Oil	<a href="#">Files</a>
4-0000726	NORWELL	223 MAIN ST	HILLTOP SERVICE STATION	NONE	10/15/1989	DEPNFA	4/24/1996				<a href="#">Files</a>
4-0000941	NORWELL	75 POND ST	SOUTH SHORE VOLVO	NONE	6/29/1990	RAO	10/16/1995		A2	Oil	<a href="#">Files</a>
4-0000999	NORWELL	89 WASHINGTON ST	MOBIL STATION 01 QLW	NONE	1/15/1991	RAO	8/24/1994		A2	Oil	<a href="#">Files</a>
4-0010009	NORWELL	46 BRIDGE ST	OFF RTE 123	72 HR	10/6/1993	RAO	12/19/1995	PHASE II	A1	Oil	<a href="#">Files</a>
4-0010259	NORWELL	WEST ST	STATE POLICE BARRACKS	TWO HR	2/3/1994	REMOPS	9/9/2009	PHASE V		Oil	<a href="#">Files</a>
4-0010290	NORWELL	SATUIT LN	PAD MOUNT #1 OFF WINTER ST	TWO HR	2/25/1994	RAO	1/13/1995		A2	Oil	<a href="#">Files</a>
4-0010697	NORWELL	41 ACCORD PARK	NO LOCATION AID	120 DY	8/22/1994	RAO	4/7/1995		B1	Hazardous Material	<a href="#">Files</a>
4-0011269	NORWELL	32 GLN TRLR PARK	OFF 214 WASHINGTON ST RTE 53	TWO HR	4/12/1995	RAO	2/16/2007	PHASE IV	A2	Oil	<a href="#">Files</a>
4-0012196	NORWELL	TIFFANY RD	POLE #11 (25KVA)	TWO HR	5/21/1996	RAO	7/22/1996		A2	Oil	<a href="#">Files</a>
4-0012240	NORWELL	7 GROVE ST	BUS TERMINAL	72 HR	6/6/1996	RAO	8/5/1996		A2	Oil	<a href="#">Files</a>
4-0012405	NORWELL	376 WASHINGTON ST	GARDEN CTR	TWO HR	8/11/1996	DEPNFA	8/26/2008			Oil	<a href="#">Files</a>
4-0012425	NORWELL	111 CROSS ST	NO LOCATION AID	72 HR	8/14/1996	RAO	5/22/1997		A1	Oil	<a href="#">Files</a>
4-0012566	NORWELL	43 MASTHEAD DR	NO LOCATION AID	72 HR	10/17/1996	RAO	12/18/1996		A1	Oil	<a href="#">Files</a>
4-0012574	NORWELL	10 POND ST	SOUTH SHORE ACURA FMR	120 DY	12/17/1996	RAO	9/3/1999	PHASE II	A2	Oil and Hazardous Material	<a href="#">Files</a>
4-0012749	NORWELL	10 AND 22 POND ST	NO LOCATION AID	120 DY	12/27/1996	DPS	12/24/1997			Hazardous Material	<a href="#">Files</a>
4-0012792	NORWELL	MT HOPE ST	POLE #15	TWO HR	1/21/1997	RAO	3/21/1997		A1	Oil	<a href="#">Files</a>
4-0013101	NORWELL	44 OLD POTTERY LN	NO LOCATION AID	TWO HR	6/16/1997	RAO	6/10/1998		A2	Oil	<a href="#">Files</a>
4-0013154	NORWELL	334 MAIN ST	HENRY GOLDMAN SCHOOL	72 HR	7/3/1997	RAO	7/10/1998		A2	Oil	<a href="#">Files</a>
4-0013234	NORWELL	36 MAY ELM ST	COLLINS RESIDENCE	72 HR	7/31/1997	RAO	9/29/1997		A2	Oil	<a href="#">Files</a>
4-0013242	NORWELL	82 GREEN ST	NO LOCATION AID	72 HR	8/1/1997	RAO	9/30/1997		A2	Oil	<a href="#">Files</a>
4-0013918	NORWELL	310 MAIN ST	NO LOCATION AID	TWO HR	6/1/1998	RAO	4/5/2002	PHASE II	A2	Oil	<a href="#">Files</a>
4-0014117	NORWELL	142 PARKER ST	NO LOCATION AID	72 HR	8/18/1998	RAO	2/3/1999		A2	Oil	<a href="#">Files</a>
4-0014129	NORWELL	88 MASTHEAD DR	NO LOCATION AID	72 HR	8/20/1998	RAO	9/21/1998		A2	Oil	<a href="#">Files</a>
4-0014450	NORWELL	310 MAIN ST	NORWELL HIGHWAY DEPT	72 HR	1/8/1999	RIN CLOSED	6/8/1999			Oil	<a href="#">Files</a>
4-0014470	NORWELL	40 RIVER ST	NORWELL POLICE STATION	72 HR	1/20/1999	RAO	3/19/1999		A1	Oil	<a href="#">Files</a>
4-0014568	NORWELL	CORDWAINER DR	SE OF NURSING HOME	120 DY	3/5/1999	RAO	8/2/1999		A1	Hazardous Material	<a href="#">Files</a>
4-0014863	NORWELL	6 WEST ST	STATE POLICE BARRACKS	72 HR	7/16/1999	RIN CLOSED	1/13/2000			Oil	<a href="#">Files</a>
4-0015012	NORWELL	BRIGANTINE CIR	POLE 18	TWO HR	9/16/1999	RAO	11/22/1999		A2	Oil	<a href="#">Files</a>
4-0015227	NORWELL	RTE 3 S	MILE MARKER 30	TWO HR	1/8/2000	RAO	3/17/2000		A2	Oil	<a href="#">Files</a>
4-0015288	NORWELL	86 HIGH ST	NO LOCATION AID	TWO HR	2/18/2000	RAO	9/27/2000		A2	Oil	<a href="#">Files</a>
4-0015433	NORWELL	102 OLD OAKENBUCKET RD	VINAL ELEMENTARY SCHOOL	72 HR	4/20/2000	RAO	8/21/2000		A2	Oil	<a href="#">Files</a>
4-0016053	NORWELL	72 WASHINGTON ST	SHELL STATION FMR	72 HR	2/21/2001	RAO	2/21/2012	PHASE V	A2	Oil	<a href="#">Files</a>
4-0016067	NORWELL	72 WASHINGTON ST	SHELL STATION FMR	72 HR	2/28/2001	RAO	5/4/2001		A1	Oil	<a href="#">Files</a>
4-0016160	NORWELL	998 MAIN ST	NO LOCATION AID	TWO HR	4/2/2001	RAO	6/1/2001		A2	Oil	<a href="#">Files</a>
4-0016350	NORWELL	271 WASHINGTON ST	NO LOCATION AID	TWO HR	7/3/2001	RAO	11/5/2001		A2		<a href="#">Files</a>
4-0016466	NORWELL	RTE 3 N	200 FT NORTH OF RIVER ST	TWO HR	8/7/2001	RAO	2/21/2002		A2	Oil	<a href="#">Files</a>
4-0016621	NORWELL	75 MASTHEAD WAY	RESIDENCE	72 HR	10/12/2001	RAO	10/11/2002		A2	Oil	<a href="#">Files</a>
4-0016674	NORWELL	72 WASHINGTON ST	NO LOCATION AID	120 DY	10/22/2001	RAO	10/21/2002		A2	Oil and Hazardous Material	<a href="#">Files</a>
4-0016941	NORWELL	72 WASHINGTON ST	SHELL GAS STA FMR	72 HR	3/12/2002	RIN CLOSED	2/4/2003			Oil	<a href="#">Files</a>

APPENDIX D

RULES AND REGULATIONS FOR THE USE OF LAND UNDER THE CONTROL OF THE NORWELL CONSERVATION COMMISSION

RTN	City/Town	Release Address	Site Name/ Location Aid	Reporting Category	Notification Date	Compliance Status	Date	Phase	RAO Class	Chemical Type	Supporting Documents
4-0016942	NORWELL	10 WASHINGTON ST	QUEEN ANN ARCO FMR	72 HR	3/13/2002	RTN CLOSED	5/13/2002			Hazardous Material	<a href="#">Files</a>
4-0017157	NORWELL	291 MT BLUE ST	NO LOCATION AID	72 HR	6/21/2002	RAO	8/27/2002		B1	Oil	<a href="#">Files</a>
4-0017648	NORWELL	310 MAIN ST	DPW	TWO HR	2/20/2003	RAO	5/12/2003		A2		<a href="#">Files</a>
4-0018082	NORWELL	PINE AND WILDCAT ST	NO LOCATION AID	TWO HR	10/20/2003	RAO	12/16/2003		A1	Oil	<a href="#">Files</a>
4-0018232	NORWELL	150 CENTRAL ST	NO LOCATION AID	TWO HR	2/4/2004	RAO	12/9/2004		A2	Oil	<a href="#">Files</a>
4-0018239	NORWELL	249 HIGH ST	NO LOCATION AID	TWO HR	1/22/2004	RAO	10/28/2009		A2	Oil	<a href="#">Files</a>
4-0018657	NORWELL	35 MASTHEAD DR	NO LOCATION AID	72 HR	9/2/2004	RAO	10/4/2004		A2	Oil	<a href="#">Files</a>
4-0018765	NORWELL	STETSON SHRINE LN	POLE 17A7	TWO HR	11/5/2004	RAO	1/4/2005		A2	Oil	<a href="#">Files</a>
4-0019682	NORWELL	507 WASHINGTON ST	NORWELL CLEANERS	120 DY	3/22/2006	TIER 2	3/28/2007	PHASE II		Hazardous Material	<a href="#">Files</a>
4-0019694	NORWELL	109 PROSPECT ST	NO LOCATION AID	TWO HR	4/4/2006	RAO	11/5/2007	PHASE II	A2	Oil	<a href="#">Files</a>
4-0020718	NORWELL	141 LONGWATER DR	ARAMARK WEARGURARD	TWO HR	8/20/2007	RAO	10/19/2007		A1		<a href="#">Files</a>
4-0021297	NORWELL	507 WASHINGTON ST	NORWELL CLEANERS	72 HR	6/6/2008	TIER1D	6/15/2009			Hazardous Material	<a href="#">Files</a>
4-0021513	NORWELL	49 WASHINGTON ST	JIFFY LUBE #343	120 DY	9/2/2008	RAO	8/31/2012	PHASE IV	A2	Hazardous Material	<a href="#">Files</a>
4-0021668	NORWELL	515 WASHINGTON ST	NO LOCATION AID	120 DY	11/13/2008	DPS	11/13/2008			Hazardous Material	<a href="#">Files</a>
4-0021669	NORWELL	16 OLD OAKEN BUCKET RD	RESIDENCE	TWO HR	12/3/2008	RAO	6/22/2010	PHASE II	A2	Oil	<a href="#">Files</a>
4-0021751	NORWELL	49 WASHINGTON ST	JIFFY LUBE # 343	120 DY	1/13/2009	RTN CLOSED	9/2/2009			Hazardous Material	<a href="#">Files</a>
4-0022948	NORWELL	59 POND STREET	RIETZL PORSHE-AUDI	120 DY	11/5/2010	RAO	12/30/2010		B1	Oil	<a href="#">Files</a>
4-0023871	NORWELL	19 WASHINGTON STREET	RESIDENTIAL DWELLING	TWO HR	4/2/2012	RAO	5/7/2012		A1	Oil	<a href="#">Files</a>
4-0024036	NORWELL	22 POND STREET	FORMER SHAW SAAB	120 DY	6/20/2012	UNCLASSIFIED	6/20/2012			Oil and Hazardous Material	<a href="#">Files</a>
4-0024053	NORWELL	80 KINGS LANDING	NORTH RIVER	TWO HR	7/17/2012	UNCLASSIFIED	7/17/2012			Oil	<a href="#">Files</a>
4-0024063	NORWELL	141 LONGWATER DRIVE	INDUSTRIAL PARK	TWO HR	7/17/2012	RAO	9/17/2012		A1	Oil	<a href="#">Files</a>
4-0024284	NORWELL	NEAR 82 STETSON RD	POLE 18'5	TWO HR	11/2/2012	UNCLASSIFIED	11/2/2012				<a href="#">Files</a>



TOWN OF NORWELL  
CONSERVATION COMMISSION

345 Main Street  
Norwell, MA 02061-0295  
(781) 659 – 8022

Draft to be considered for adoption as a Commission Policy at Posted Public Hearing on December 4, 2012

**RULES AND REGULATIONS FOR THE USE OF LAND UNDER THE CONTROL OF THE NORWELL CONSERVATION COMMISSION**

The following rules apply except as authorized in writing by the Conservation Commission.

1. Conservation areas open and close as posted at entry signs.
2. Obey all State, Local and Federal Laws, mainly hunting, fishing and littering statutes.
3. The Town of Norwell assumes no liability for injury or loss of personal property.
4. Hunting and trapping are prohibited where noted and per Massachusetts State Law.
5. Plants and animals, living or dead, may not be removed from conservation areas except as specifically authorized by the Conservation Commission for;
  - a. Scientific purposes,
  - b. Control of invasive species,
  - c. Trail maintenance or improvement as carried out by the Conservation Commission or its designees.

The following activities are prohibited from Conservation Areas except as authorized in writing by the Conservation Commission.

6. Overnight camping.
7. Open fires (a burn permit from the Fire Department must also be obtained).
8. Motorized vehicles, except for municipal purposes.
9. Alcoholic beverages.
10. Depositing or leaving rubbish, litter, demolition or yard debris, garbage, excavated fill or any other waste.
11. Disturbing, defacing, or removing barriers, natural features, or installed information features including kiosks, signs, posters, or similar.

Violation of the Rules and Regulations may be enforced through fines issued pursuant to the Non-Criminal Disposition statute, Chapter 40, Section 21D. Please report violations to the Norwell Police Department at 781-659-8151. Hunting violations may be reported to the Environmental Police at 800-632-8075.

Discussed and Approved at Public Meeting on December 4, 2012.

*David M. Osler* 12/4/2012

## APPENDIX E

### ARTICLE 97: CONSTITUTION OF THE COMMONWEALTH OF MASSACHUSETTS

Article XCVII. Article XLIX of the Amendments to the Constitution is hereby annulled and the following is adopted in place thereof: - The people shall have the right to clean air and water, freedom from excessive and unnecessary noise, and the natural, scenic, historic, and esthetic qualities of their environment; and the protection of the people in their right to the conservation, development and utilization of the agricultural, mineral, forest, water, air and other natural resources is hereby declared to be a public purpose.

The general court shall have the power to enact legislation necessary or expedient to protect such rights.

In the furtherance of the foregoing powers, the general court shall have the power to provide for the taking, upon payment of just compensation therefor, or for the acquisition by purchase or otherwise, of lands and easements or such other interests therein as may be deemed necessary to accomplish these purposes.

Lands and easements taken or acquired for such purposes shall not be used for other purposes or otherwise disposed of except by laws enacted by a two thirds vote, taken by yeas and nays, of each branch of the general court.

The Open Space and Recreation Plan Committee defines “Open Space” as including, but not limited to, land protecting the quality and quantity of the town’s water supply including existing and future well fields, aquifers and recharge areas; land protecting natural communities to support wildlife and biodiversity; land to preserve other natural resources such as forests, salt water marshes, wetlands rivers, streams and ponds; land to protect scenic vistas and unique and historic resources such as agricultural land, grasslands, fields; and land for active and passive recreational use such as bikeways, walking trails, bridle paths, athletic fields, access to the North River and other recreational needs of the community.

The Open Space and Recreation Plan Committee has developed the following checklist of natural resource and community functions, and created a point-based ranking system incorporating seven criteria ranging from 0-3 point each. Under this system, each parcel being reviewed could score between 0 and 21 points. Other criteria such as cost, development pressures, partnership opportunities, and subjectivity will be evaluated on a parcel-by-parcel basis.

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**GROUND WATER SUPPLY (including Hanover, Scituate, and Cohasset)**

- 3 points Existing Zone 1 ( identified as potential ground water supply)
- 2 points Existing Zone 2 ( mapped recharge area surrounding ground water supply)
- 1 point Existing Zone 3 (within watershed of ground water supply)
- 0 points No existing or potential function as water supply

**SURFACE WATER SUPPLY/QUALITY/ SOIL EROSION (including Scituate, Hingham and Cohasset)**

- 3 points Parcel would protect a Class A water (within 400 ft. of surface water supply & 200 ft. from tributary to surface water supply)
- 2 points Parcel would protect a Class B water (within half mile of surface water supply)
- 1 point Parcel would protect a Class C water (within watershed of surface water supply)
- 0 points Parcel is not proximate to any surface waters

**MAINTENANCE OF BIOLOGICAL DIVERSITY OR WILDLIFE HABITAT**

- 3 points Parcel is within Core Habitat, Supporting Natural Landscape, and certified and potential vernal pools in the NHESP Biomap
- 2 points Parcel is identified as Natural Resources Priorities in the Master plan
- 1 point Parcel is identified as local natural communities or is contiguous to existing habitat
- 0 points Parcel does not provide significant habitat functions

**BUFFERING CONFLICTING USES**

- 3 points Site buffers public site or large scale private site from conflicting adjacent land uses
- 2 points Site buffers small scale private sites from conflicting uses
- 1 point Site buffers sites that are not sensitive to adjacent uses
- 0 points Site does not serve a buffering role

**RECREATIONAL VALUE**

- 3 points Parcel is recognized as a destination for recreational activities including potential bikeway, athletic fields and pedestrian network as outlined in the master plan and/or Open Space & Recreation Plan
- 2 points Parcel meets criteria identified in the Master Plan and/or Open Space and Recreation Plan for recreation/open space
- 1 point Parcel is not identified in the Master Plan and/or Open Space and Recreation Plan but provides recreational opportunities
- 0 points Parcel does not provide recreational values

**SCENIC VIEWS**

- 3 points Parcel provides a distinctive landscape view from a public way or provides a vista from which to view significant and distinctive landscape qualities.
- 2 points Parcel is associated with an identified visual element of the town including scenic roads.
- 1 point Parcel provides distinctive views but is not readily accessible to the public
- 0 points Parcel does not provide scenic qualities

**LANDSCAPE/GREENWAYS CONTEXT**

- 3 points Parcel is contiguous to existing protected open space and recreation lands AND is identified as a greenway corridor between open spaces
- 3 points Parcel is located in the “Protective River Corridor” as identified in the NSRWA’s North River Mapping Project
- 2 points Parcel abuts existing open spaces and recreation lands
- 1 point Parcel does not abut open space but is identified with a greenway corridor between existing open spaces
- 0 points Parcel is remote and does not abut any existing open space

**RECREATION**

**Overview**

The following properties are under the jurisdiction of the Norwell Recreation Commission. The sites were evaluated on October 4, 2011 by the Recreation Director as well as a member of the Norwell Commission on Disabilities. The recommended and suggested improvements developed during the site visits. The Norwell Recreation Commission will work toward the transition plan items and continue to be proactive about encouraging projects to improve accessibility of new and renovated public facilities. All Recreation Department sponsored activities and programs are open to all abilities. The seasonal recreation brochure asks that when special accommodations are needed, that the department is given a two week notice to make the arrangements. For afterschool and summer activities for school age children, the recreation department coordinates services with the school department to provide opportunities to meet various needs and abilities.

**RECREATION AREAS UNDER THE JURISDICTION OF THE RECREATION COMMISSION**

**Reynolds Playground** is located on Prouty Ave and is a small neighborhood “pocket” park 50’ x 100’ with swings, slide, play structure, small paved basketball court and small grassy area. There is no off-street parking as most users live in the neighborhood and walk to the playground.

Pathways are paved or stone dust and do not access all components or play areas. The paths go to the court and the swing and slide area but not directly to the play structure, benches or picnic table. The stone dust pathway width has narrowed over time by encroaching grass.

The swings have one full bucket seat designed for accessible access and two strap seats. The slide is not accessible (no transition platform). The Little Tykes play structure is geared to ages 2-7 and is accessible over the wood fiber surface.

The safety surfacing under the play components is manufactured wood-fiber which meets accessibility standards and is topped off periodically. The surfacing would benefit with regular maintenance to re-position it where it is most needed under the landing areas.

There are two benches in poor condition with deteriorating seats which need replacement. The wooden picnic table is old, in extremely poor condition, is not accessible and needs replacement.

The small basketball court surface is in good condition but there are some “trip hazards” where the paved surface is higher than the ground. The playground sign needs better visibility.

#### TRANSITION PLAN SUGGESTIONS

1. Appeal to the community to encourage an “Adopt Reynolds Playground” friends group, perhaps from the neighborhood or Scouts, who could help with the ongoing maintenance and improvement projects.
2. Power wash the play components to remove some graffiti and mold.
3. Redistribute and/or add to the wood-fiber playground surfacing to improve accessibility to play components.
4. Add stone dust around the basketball court to alleviate the drop offs between the court surface and the grassy area.
5. Improve the existing stone dust pathway’s width by trimming the sod and adding stone dust to a 36” width.
6. Replace the picnic table and benches with ones that meet accessibility standards and add an accessible route to the table.
7. Replace the entrance sign to improve visibility.

**Woodworth Park** is a complex of three Little League/Softball fields (60’ baselines) located on Main Street across from Jacob’s Pond. The fields are used by Norwell High School Varsity Girls Softball, Norwell Little League, Norwell Girls Softball, Norwell Recreation Department and when available by community, business or family groups. It is under the Recreation Commission jurisdiction but has deed restrictions managed by Historic New England (HNE) who must approve all maintenance and improvements. Two fields have grass infields with field fencing and dugouts and one field has a skin (dirt) infield to meet MIAA varsity softball standards. There is a concrete block snack bar build in the 1950s which is not accessible at the service window or to a server inside. There are no accessible picnic tables near the snack bar.

Each field has one handicapped parking sign designated but if used by a van could interfere with the traffic pattern and access to other fields. The roadway and parking are gravel so not lined. There is no accessible spectator seating or drinking fountain. There is space beside the existing bleachers where a wheelchair could be placed but the surface is grass. The bleachers are 4 tier or 3 tier “open” seating (no guardrails). The CPSC (Consumer Product Safety Commission) recommends guardrails for bleachers whose top seat height is greater than 30 inches.

The drinking fountain is too high @ 44” – should be 36” and although the handle is easy to operate it is not technically compliant with ADA standards.

Gates onto field #1 are narrow @ 30”; on field #2 they meet ADA standards at 39”; field #3 is too narrow at 27” & 28”. The ADA minimum for an entrance is 32”. Field #3 does allow field access with a 8’ maintenance gate. The field #3 access from player bench to the field has a change of level greater than 1/2”. There is 6-8” rise from player bench to home plate and changes from grass to stone dust surfacing.

The concrete block dugouts on field #1 are not accessible with narrow openings of 30” with hinge. The dugout entrance on field #2 is just wide enough at 32.5” & 33”. The seating inside all the dugouts could not accommodate a wheelchair with no bench cutout space and a change in level greater than 1/2”.

#### TRANSITION PLAN SUGGESTIONS

1. Continue to communicate with Norwell Little League as the primary users and the project developers to comply with ADA standards when planning improvements: Accessible port-o-johns in season widen dugout entrances to over 32”, make snack bar accessible.
2. Ask the Norwell Water Department to replace the water fountain with one meeting ADA guidelines.
3. Improve accessible paths from player areas to the field on field #3.

**Ed White Recreation Area** is about 7 acres of undeveloped open space on Green Street and has no access or off-street parking. It abuts the Centennial Park, which is the closed landfill under the jurisdiction of the Board of Health which now has two soccer fields, an outdoor basketball court and parking for about 75 cars.

#### TRANSITION PLAN SUGGESTIONS

1. Recreation Commission can ask the town (town meeting, Capital Budget or Athletic Field Committee) to determine feasibility of the property’s for athletic field(s), trails or other recreation opportunities listed in the action plan

**Wildcat Recreation Area** is about 20 acres of undeveloped open space on Wildcat lane that has a few walking trails presently being built to connect to trails on abutting conservation lands. There is no off-street parking. It had previously been designated for a future cemetery but was traded by town meeting vote in 2007 with recreation land at Stetson meadows to allow much needed cemetery plans to proceed.

## TRANSITION PLAN SUGGESTIONS

1. Recreation Commission ask the town (town meeting, Capital Budget or Athletic Field Committee) to determine feasibility of the property's for athletic field(s), trails or other recreation opportunities listed in the action plan.

All other town facilities used for active recreation programs are under the jurisdiction of the other town departments: The School Department for Cole, Vinal, Middle, and High schools and athletic fields and the School Administration Building (formerly Sparrell school); the Board of Selectmen for the Town Offices East field & the outdoor volleyball court, Osborne Fields; and 6.5 acres off South St; the Board of Health for Centennial Park because it's a former closed landfill; the Conservation Commission for Jacob's Pond area.

## FUNDING SUGGESTIONS

- Local sports associations as primary users
- Grants: Federal, State, Local, private foundations & corporations
- CPA funding
- "Adopt" a project – community clubs, organization, businesses, or individuals
- Scout or School Clubs projects
- Town Meeting Articles, Capital Budgets, Bonding

## CONSERVATION LANDS

### Overview

The following list includes those properties owned and/or managed by the Norwell Conservation Commission that have public access. These properties were evaluated in spring of 2012 with members of the Norwell Senior Volunteers. None of the properties owned by the Conservation Commission have public restrooms, bathhouses, play areas, athletic fields, or swimming facilities. The Conservation Commission currently does not offer any educational programs such as interpretive walks.

The Norwell Commission on Disabilities had previously recommended improved access for people with disabilities to Jacob's Pond and the North River (including Stetson Meadows). While these continue to be goals of the Commission, lack of any funding has resulted in no improvements since the last plan was written. The Transition Plan continues to be a priority for Conservation properties and has been developed with these comments in mind. The Conservation Commission will continue to work with the Commission on Disabilities when creating and maintaining access on its properties. The Conservation Commission will also work with the Senior Volunteers and with Eagle Scouts and other

interested parties to encourage projects on Conservation Land that will include access to people with disabilities. Signage, trail maintenance, resting benches and temporary portable boardwalk sections along with improvements to accessibility are current objectives for maximum continued maximum public use of rural trails despite no funding or budget for conservation land management.

### Sites

**Jacobs Pond** is a 189-acre parcel located in the northwestern portion of town. There is an extensive trail system with access at Jacob's Lane, Prospect Street, Judith Street, Beers Avenue and Duncan Drive extension. There are unpaved parking areas at the Jacob's Lane and Duncan Drive Extension entrances. The trails are mostly narrow and unimproved with many exposed rocks and tree roots). There is a dirt road from the parking lot at Jacob's Lane to the Pond, however, a metal gate blocks access to the road from the parking lot. While most visitors can walk around the gate, a boulder is less than 3 feet away from the gatepost and prevents wheelchair access. The Commission is looking for volunteers to open and close this gate each day. The goal is to allow better access while still discouraging late night access and partying. A small wooden dock is located at the end of this road and is also accessible with difficulty. A handicap-accessible picnic table has been placed in a wooded area to the west of the parking lot but requires an accessible path from the parking lot to the picnic table. At the Duncan Drive Extension, the parking area is unpaved and drops from the road at a steep gradient to the Cliff Prentiss Bridge and further to a canoe launch area at the edge of the Pond. The bridge is at least 36" wide with railings, but there is a step up at the access point from the parking lot and wooden posts narrow the entrance to the bridge. The trails from the bridge into the wooded area are quite steep, narrow and unimproved.

Per the last action plan, a sign has been installed in the Jacob's Lane parking area. While gate keys are available to the public on request, there have been no requests made. This policy is being reevaluated. Additional fishing areas and benches have been installed but these are rustic and minimalist.

## TRANSITION PLAN SUGGESTION

- Seek funding to accomplish the plan goals.
- Move the boulder to the left of the metal gate in the Jacob's Lane parking area to allow access around the gate.
- Grade and surface the parking area and the path from the parking area on Jacob's Lane to the Pond to provide safe wheelchair access.
- Create a handicap parking space in the Jacob's Lane parking lot.
- Coordinate with the Highway Department or an Eagle Scout to create

an accessible pathway from the Jacob's Lane parking area to the picnic table.

- Construct a ramp from the Duncan Drive Extension to the Cliff Prentiss Bridge. Remove the step and posts that prevent access to this bridge.
- Create a handicap parking space near the Duncan Drive Extension ramp entrance.

**Betzold Property** is contiguous with the Jacob's Pond parcel. An unimproved steep and narrow path provides difficult access to this property at the end of Beers Avenue. There is no designated parking area.

**Donovan Property** is comprised of more than 150 acres of land at the corners of Circuit, Pleasant and Forest Streets. A portion of this land has been set aside for public use but has not been developed at this time other than to enhance and connect the existing unimproved woodland trails. The Conservation Commission developed a Management Plan that includes the creation of a parking area and several hiking trails. The Management Plan states that the Conservation Commission will work closely with the Norwell Commission on Disabilities to ensure that the proposed additions comply with all applicable laws pertaining to people with disabilities.

These trails are linked to trails on the Recreation Committee's Wildcat Property. While owned by the Recreation Committee, the Conservation Commission has permission to link and maintain rural unimproved woodland trails. Additional unimproved parking for four cars is located on Wildcat land.

#### TRANSITION PLAN SUGGESTION

- The Conservation Commission applied for funding from the Community Preservation Committee or other sources to implement the Donovan Farm Management Plan however it was denied, as the CPA had not funded the parcel initially. New CPA rules (as of July 2012) will allow for maintenance and improvement to properties not originally purchased with CPA funds.
- When funding is secured, the Conservation Commission will work with the Commission on Disabilities to ensure that the area set aside for public use will be accessible to people with disabilities.

**Miller Woods** is a 45-acre parcel located off of Forest Street. Access to this land is via an unpaved parking lot. Unimproved narrow woodland trails extend into the property from the parking lot. There are currently two single trail extensions. A trail loop connecting these is underway. Fogg Forest is a 40-acre parcel located near the center of town. There

is trail access from Main Street and Central Street. There is no parking area at the Central Street access but visitors can park with difficulty in dry weather only in the grassy field on Main Street. Homestead Farm Drive also provides access but has not been developed. Trails within this property are well maintained but narrow and unimproved.

**Gould Property** is located in the central part of town between Trout Brook Lane and Hemlock Drive. There is a paved parking area off Trout Brook Lane but access is blocked by a metal guard rail. Large boulders and an earthen and rock berm block access to an unimproved trail. The trails within this property have not been maintained and are overgrown and in poor condition. There is also an undeveloped right-of-way from Hemlock Drive.

**Hatch Lots** comprise 44 acres in the northern part of town between Grove Street, Prospect Street and Bowker Street. There is a pedestrian trail access from Edgewood Park and the Grove Street entrance includes a designated parking area at the trail head. There is also an unimproved right-of-way that runs from Grove Street to Prospect Street that is wide (more than 36") and well maintained. The rural woodland trails extending from the right-of-way are well maintained, but much narrower and also unimproved. Entry signs/kiosks were completed in 2012.

**Cuffee Hill** is a 47-acre parcel off Mt. Blue Street. Cuffee Hill, is contiguous with the Black Pond Bog Preserve. There is off-street parking at this location. The town highway department recently installed a culvert allowing access to a four car parking area off Mt. Blue Street. Additional parking is available on the water tower access road that is often mistaken for the driveway for 300 Mt. Blue Street. Access to the Cuffee Hill property is on Mt. Blue Street via an unimproved trail. The town owned lands abutting the The Preserve have many narrow unimproved woodland trails that loop into The Preserve trails and the access road to Judge's Hill Water Department stand pipe (water tank). The trails cross the power lines in many areas creating a series of expanding loops that allow for a variety of walking options.

**Clark Woods** is a 27-acre parcel located on Wildcat Lane near John Neil Drive. There is no off-street parking. There is a narrow unimproved trail leading into the site from Wildcat Lane. Wetlands throughout this site prohibit this land for active or even passive use. The site is home to significant wildlife and provides a unique protected wildlife preserve along with water quality protection.

**Stetson Meadows** is a 116-acre parcel located along the North River. Access is from an ungraded dirt road from the end of Stetson Shrine

Lane. The road is in poor condition. There is a grass parking area at the junction of several walking trails. A large log blocks one trail and a metal gate blocks another trail. Another narrow unimproved trail leads into the Norwell Recreation Department property at the paved cul-de-sac at the beginning of the dirt road.

**TRANSITION PLAN SUGGESTION**

- Make trails more accessible.
- Work with Eagle Scouts and other organizations, such as The Friends of Stetson Meadows, to make the dirt road, parking lot and trails accessible to people with disabilities.

**CONSERVATION OWNED PROPERTIES WITH NO PUBLIC ACCESS**

The following list contains properties that are surrounded by private property and those properties that have street frontage, but no developed walking trails, parking areas, picnic areas or other means of access into the property.

Perry H. Osborn Woods	25 acres of land located off Winter Street
Kings Landing	23.6 acres located on King’s Landing and along the North River
North River Salt Marsh	69.3 acres of Salt Marsh along the North River
Bond Land	17 acres off Old Oaken Bucket Road. Abuts Scituate Conservation Land
Cooper Lot	16 acres off Mt. Blue Street
Washington Park Land	9 acres adjacent to the cemetery
Grove Street Well Sites	4.5 acres adjacent to Water Department Land
Turner Lot	10 acres off Old Oaken Bucket Road. Borders First Herring Brook
Couch Lot	34 acres of salt marsh in the Stetson Shrine Lane area
John Lind Lots	2.6 acres on School Street
Barbuto Property	14 acres off Captain Vinal Way
Dunn Property	11 acres of land recently donated to Conservation Commission off Cushing Hill Road and South Street
Larsen Property	5 acres off Old Oaken Bucket Road
Alloca Land	1 acre on Main Street
Eurle Property	10 acres of land on Mt. Blue Street
Wildcat Park Access	1 acre on John Neil Drive
Judge Hill Road Land	10 acres at the corner of Judges Hill Road and Mt. Blue Street
Howe Property	15 acres on Bowker Street. Abuts the Hatch lots

Conservation, open space and recreation opportunities and regulations stem from federal, state, regional and municipal agencies, departments and boards, nonprofit and private organizations and philanthropic individuals. Below is a partial list of the most relevant organizations that provide the foundation and support for Norwell’s current land conservation, open space and recreation programs.

**FEDERAL AGENCIES & ORGANIZATIONS**

1. U. S. Environmental Protection Agency-Region 1 (New England)  
The mission of EPA is to protect human health and the environment through the development and enforcement of environmental regulations. U.S. EPA Region 1 serves a number of states including Massachusetts.  
[www.epa.gov/aboutepa/region1.html](http://www.epa.gov/aboutepa/region1.html)
2. U.S. Department of Agriculture (USDA)  
The USDA provide leadership on food, agriculture, natural resources, and related issues based on sound public policy, the best available science, and efficient management.  
[www.usda.gov/](http://www.usda.gov/)
3. U.S. Department of Forestry Services (USFS)  
The USFS is part of the USDA and is segmented into 10 regions. USFS Region 9 serves a number of states including Massachusetts. The Forest Service manages public lands in national forests and grasslands. National forests and grasslands encompass 193 million acres of land, which is an area equivalent to the size of Texas.  
[www.fs.fed.us/](http://www.fs.fed.us/)
4. U.S. Department of Fish and Wildlife Service (USFW)  
The U.S. Fish and Wildlife Service is part of the Department of the Interior. Their mission is to work with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people.  
[www.fs.usda.gov/r9](http://www.fs.usda.gov/r9)
5. Natural Resource Conservation Service (NRCS)  
NRCS is a conservation leader for all natural resources, ensuring private lands are conserved, restored, and more resilient to

environmental challenges, like climate change. NRCS works with landowners through conservation planning and assistance designed to benefit the soil, water, air, plants, and animals that result in productive lands and healthy ecosystems.

[www.nrcs.usda.gov/wps/portal/nrcs/main/national/home](http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/home)

#### 6. National Parks Service (NPS)

The National Parks Service is part of the U.S. Department of the Interior. Since 1916, the American people have entrusted the National Park Service with the care of their national parks. With the help of volunteers and park partners, NPS safeguards nearly 400 places and shares their stories with more than 275 million visitors every year. NPS provides tribes, local governments, nonprofit organizations, businesses, and individual citizens with help in revitalizing their communities, preserving local history, celebrating local heritage, and creating close to home opportunities for kids and families to get outside, be active, and have fun.

[www.nps.gov/index.htm](http://www.nps.gov/index.htm)

#### 7. National Recreation and Park Association (NRPA)

In 1965, Laurance Rockefeller united the spirit and energy of 5 distinct citizen and professional organizations to form the National Recreation and Park Association (NRPA). The synergy created by the union of these groups resulted in a better appreciation for the benefits of outdoor recreation and a stronger voice addressing the issues that help sustain parks and recreational facilities across the country.

[www.nrpa.org](http://www.nrpa.org)

### COMMONWEALTH OF MASSACHUSETTS STATE AGENCIES & ORGANIZATIONS

#### 1. Department of Environmental Protection (DEP)

The Department of Environmental Protection is the state agency responsible for ensuring clean air and water, the safe management of toxics and hazards, the recycling of solid and hazardous wastes, the timely cleanup of hazardous waste sites and spills, and the preservation of wetlands and coastal resources.

[www.mass.gov/dep/](http://www.mass.gov/dep/)

#### 2. Department of Conservation and Recreation (DCR)

The Department of Conservation and Recreation is steward of one of the largest state parks systems in the country. Its 450,000 acres is made up of forests, parks, greenways, historic sites and landscapes, seashores, lakes, ponds, reservoirs and watersheds.

[www.mass.gov/dcr/](http://www.mass.gov/dcr/)

#### 3. Division of Fisheries and Wildlife (DFW)

The Division of Fisheries and Wildlife is responsible for the conservation—including restoration, protection and management—of fish and wildlife resources for the benefit and enjoyment of the public. This mission includes land protection, restoring species to the Commonwealth, providing recreational opportunities such as hiking and wildlife viewing, licensing for hunting, fishing and trapping and public awareness of the states wildlife.

[www.mass.gov/dfwele/dfw/](http://www.mass.gov/dfwele/dfw/)

#### 4. Natural Heritage & Endangered Species Program (NHESP)

The NHESP is part of the DFW and is responsible for the conservation and protection of hundreds of species that are not hunted, fished, trapped, or commercially harvested in the state. The Program's highest priority is protecting the 176 species of vertebrate and invertebrate animals and 256 species of native plants that are officially listed as Endangered, Threatened or of Special Concern in Massachusetts.

[www.mass.gov/dfwele/dfw/nhesp/nhesp.htm](http://www.mass.gov/dfwele/dfw/nhesp/nhesp.htm)

#### 5. Massachusetts Environmental Police (MEP)

Enforcement of inland fish & game laws including the commercial and recreational harvest of the living marine resources along our coastline is the foundation of the Massachusetts Environmental Police law enforcement mission. MEP is also the primary enforcement agency of the Commonwealth's boating and recreational vehicle laws and regulations.

[www.mass.gov/dfwele/dle/](http://www.mass.gov/dfwele/dle/)

#### 6. Massachusetts Office of Coastal Zone Management (CZM)

Coastal Zone Management's mission is to balance the impacts of human activity with the protection of coastal and marine resources. As a networked program, CZM was specifically established to work with other state agencies, federal agencies, local governments, academic institutions, nonprofit groups, and the general public to promote sound management of the Massachusetts coast.

[www.mass.gov/czm/](http://www.mass.gov/czm/)

#### 7. Massachusetts Recreation and Park Association (MRPA)

MRPA is a non-profit membership based organization. MRPA is committed to education, training programs and representing the membership in advocating for the betterment of our agencies with policy-makers in the Commonwealth and on a national basis.

[www.massrpa.org](http://www.massrpa.org)

#### 8. Massachusetts Community Preservation Act (CPA)

The Community Preservation Coalition is an alliance of open space, affordable housing, and historic preservation organizations working with municipalities to help them understand, adopt, and implement the Massachusetts CPA. The Coalition was formed in the 1990s with the goal of achieving passage of the Community Preservation Act. With leadership and help from a diverse Steering Committee, the Coalition works to preserve Massachusetts communities' unique character by advocating for and supporting the Community Preservation Act, advancing smart growth and sustainable development for communities across the Commonwealth.

[www.communitypreservation.org](http://www.communitypreservation.org)

#### 9. Massachusetts Land Trust Coalition (MLTC)

The Massachusetts Land Trust Coalition is a voluntary association of land trusts founded to provide a forum for the exchange of ideas and information, to increase the effectiveness of Massachusetts land trusts in working with the state legislature and environmental agencies, and to promote high professional standards. The Coalition has played a crucial role in supporting key conservation legislation and has become an important networking resource for the state's land trusts. MLTC counts over 130 organizations as Members and Friends, land trusts as well as watershed associations, open space committees, and advocacy groups.

[www.massland.org](http://www.massland.org)

### TOWN OF NORWELL MUNICIPAL BOARDS & DEPARTMENTS

#### 1. Norwell Conservation Commission

The Norwell Conservation Commission is a seven-member board appointed to 3 year overlapping terms by the Board of Selectmen under Chapter 40 of the Massachusetts General Laws. The Commission is entrusted with the stewardship of over 1,000 acres of conservation land and addresses natural resource issues of the town. The Commission administers the State Wetlands Protection Act (MGL Chapter 131, section 40), the Rivers Protection Law, and the Town of Norwell's Wetlands Protection Bylaw.

[www.townofnorwell.net/Public\\_Documents/NorwellMA\\_Conservation/index](http://www.townofnorwell.net/Public_Documents/NorwellMA_Conservation/index)

#### 2. Norwell Department of Recreation

To provide leisure opportunities to citizens of Norwell for enrichment of mind, body, and quality of life.

[www.townofnorwell.net/Public\\_Documents/NorwellMA\\_Recreation/recreation8](http://www.townofnorwell.net/Public_Documents/NorwellMA_Recreation/recreation8)

#### 3. Norwell Harbormaster

To provide safe usage and enjoyment of Norwell's navigable waters including issuing mooring permits, administering inspections and overseeing more than 100 vessels.

[www.townofnorwell.net/public\\_documents/NorwellMA\\_Harbormaster/harbor8](http://www.townofnorwell.net/public_documents/NorwellMA_Harbormaster/harbor8)

### REGIONAL ORGANIZATIONS

#### 1. North River Commission

The North River Commission consists of a representative and alternate residing in each of the following towns: Scituate, Marshfield, Norwell, Pembroke, Hanover and Hanson and administers the North River Protective Act. The North River Commissioners administer restrictions, regulations and prohibitions regarding uses and activities of the North River, the state's only scenic river.

[www.nsrwa.org/Page.96.html](http://www.nsrwa.org/Page.96.html)

### NONPROFIT CHARITABLE ORGANIZATIONS WITH CONSERVATION & RECREATION MISSIONS NEAR NORWELL

#### 1. North and South Rivers Watershed Association (Norwell)

[www.nsrwa.org](http://www.nsrwa.org)

#### 2. South Shore Natural Science Center/YMCA (Norwell)

[www.ssns.org](http://www.ssns.org)

#### 3. Hingham Land Conservation Trust (Hingham)

[www.hinghamlandtrust.org](http://www.hinghamlandtrust.org)

#### 4. The Trustees of Reservations-So Shore Superintendent HQ (Hingham)

[www.thetrustees.org/places-to-visit/greater-boston/weir-river-farm.html](http://www.thetrustees.org/places-to-visit/greater-boston/weir-river-farm.html)

#### 5. Maxwell Conservation Trust (Scituate)

[www.maxwellconservationtrust.org](http://www.maxwellconservationtrust.org)

#### 6. First Herring Brook Watershed Initiative (Scituate)

[www.fhbwi.org](http://www.fhbwi.org)

#### 7. Stellwagen Alive! Friends of National Marine Sanctuary

[www.stellwagenalive.org](http://www.stellwagenalive.org)

#### 8. Cohasset Land Trust (Cohasset)

[www.cohassetconservationtrust.org](http://www.cohassetconservationtrust.org)

9. Massachusetts Audubon Society-No. River Wildlife Sanct. (Marshfield)  
[www.massaudubon.org/Nature\\_Connection/Sanctuaries/North\\_River/index.php](http://www.massaudubon.org/Nature_Connection/Sanctuaries/North_River/index.php)
10. New England Forestry Foundation (Marshfield/Littleton)  
[www.newenglandforestry.org](http://www.newenglandforestry.org)
11. The Wildlands Trust of Southeastern Massachusetts (Duxbury)  
[www.wildlandstrust.org](http://www.wildlandstrust.org)
12. Wild Turkey Paddlers (Duxbury)  
[www.wtpaddlers.org](http://www.wtpaddlers.org)
13. Jones River Watershed Association  
[www.jonesriver.org/about/jones-river-watershed-association](http://www.jonesriver.org/about/jones-river-watershed-association)
14. Manomet Center for Conservation Sciences (Plymouth)  
[www.manomet.org](http://www.manomet.org)
15. New England Mountain Bike Association-So. Shore Chapter (Boston)  
[www.semassnemba.org](http://www.semassnemba.org)
16. The Appalachian Mountain Club (Boston)  
<http://www.outdoors.org>
17. The Nature Conservancy (Boston)  
[www.nature.org](http://www.nature.org)
18. The Sierra Club-Boston Chapter (Boston)  
[www.sierraclubmass.org/index.html](http://www.sierraclubmass.org/index.html)
19. Environmental League of Massachusetts  
[www.environmentalleague.org](http://www.environmentalleague.org)
20. Conservation Law Foundation/Massachusetts (Boston)  
[www.clf.org/your-state/massachusetts/](http://www.clf.org/your-state/massachusetts/)

State and municipal regulations, acts, orders and by-laws provide the foundation for Norwell's open space, conservation and recreation resources. Below is a short list of some of the most critical of these.

**1. The Massachusetts Wetlands Protection Act, The Massachusetts Rivers Protection Act and Wetlands Protection Act Regulations (310 CMR 10.00)**

The Commonwealth of Massachusetts has passed a number of original and revised protective acts and associated regulations for the conservation and preservation of natural resources including wetlands. The Wetlands Protection Act, The Rivers Protection Act and The Wetlands Protection Act collectively provide the state's guidelines for usage, development and restoration to minimize impacts to the state's natural resources. At the municipal level, towns administer these acts and regulations through appointed Conservation Commissions.

[www.mass.gov/dep/water/laws/regulation.htm#wl](http://www.mass.gov/dep/water/laws/regulation.htm#wl)

**1. The Wetlands Protection Act**

The Wetlands Protection Act [Massachusetts General Laws (MGL) Chapter 131, Section 40] protects wetlands and the public interests they serve, including flood control, prevention of pollution and storm damage, and protection of public and private water supplies, groundwater supply, fisheries, land containing shellfish, and wildlife habitat.

[www.mass.gov/dep/water/resources/protwet.htm](http://www.mass.gov/dep/water/resources/protwet.htm)

[www.malegislature.gov/Laws/GeneralLaws/PartI/TitleXIX/Chapter131/Section40](http://www.malegislature.gov/Laws/GeneralLaws/PartI/TitleXIX/Chapter131/Section40)

**2. The Massachusetts Rivers Protection Act**

The Rivers Protection Act, Chapter 258 of the Acts of 1996, protects nearly 9,000 miles of Massachusetts riverbanks - helping keep water clean, preserving wildlife habitat, and controlling flooding. The law creates a 200-foot riverfront area that extends on both sides of rivers and streams. In certain urban areas, the riverfront area is 25 feet.

[www.mass.gov/dep/water/laws/riveract.htm](http://www.mass.gov/dep/water/laws/riveract.htm)

[www.mass.gov/dep/water/laws/301cmr10.pdf](http://www.mass.gov/dep/water/laws/301cmr10.pdf)

**3. The Wetlands Protection Act Regulations (310 CMR 10.00)**

The Wetlands Protection Act Regulations provide the guidelines for administration of The Wetlands Protection Act and The Rivers Protection Act.

[www.mass.gov/dep/service/regulations/310cmr10b.pdf](http://www.mass.gov/dep/service/regulations/310cmr10b.pdf)

## 2. Town of Norwell Wetlands By-Law and Regulations

In addition to state wetlands and rivers protection acts and regulations, each Massachusetts town has the option to establish its own wetlands By-Laws and Regulations to provide additional protection for its natural resources. Norwell has adopted its own wetlands By-Laws and Regulations. These By-laws and Regulations may be revised as necessary following appropriate protocols.

[www.townofnorwell.net/public\\_documents/norwellma\\_conservation/WetlandsProtection&BylawRegs.pdf](http://www.townofnorwell.net/public_documents/norwellma_conservation/WetlandsProtection&BylawRegs.pdf)

## 3. North River Protective Order

The Scenic and Recreational Rivers Act, G.L.c.21, s. 17B and the North River Commission Act, c.367, s.62 of the Acts of 1978 protect the North River from degradation through the establishment of the North River Commission and restrictions, regulations and prohibitions that the Commission administers.

[www.townofnorwell.net/public\\_documents/norwellma\\_conservation/WetlandsProtection&BylawRegs.pdf](http://www.townofnorwell.net/public_documents/norwellma_conservation/WetlandsProtection&BylawRegs.pdf)

## 4. The Community Preservation Act (CPA)

The Community Preservation Act was signed into law by former Governor Paul Cellucci and Lt. Governor Jane Swift on September 14, 2000 (Chapter 267 of the Acts of 2000). The CPA has been amended seven times as follows: SB 2343 (July 2002), HB 3944 (July 2003), HB 4709 (December 2004), HB 1680 (March 2006), SB 167 (September 2006), SB 2725 (December 2006), and HB 4200 (July 2012). The CPA allows communities to create a local Community Preservation Fund to raise money through a surcharge of up to 3% of the real estate tax levy on real property for open space protection, historic preservation and the provision of affordable housing. The act also creates a significant state matching fund, which serves as an incentive to communities to pass the CPA.

[www.commpres.env.state.ma.us/content/cpa.asp](http://www.commpres.env.state.ma.us/content/cpa.asp)

## 5. Norwell Master Plan 2005-25

The premise of Norwell's 2005-25 Master Plan is that Norwell must innovate—both to protect the essential elements of its identity as a community and to take advantage of opportunities for improving life for town residents. In the past, change could be managed with a relatively simple regulatory framework and a reactive approach to unusual challenges. But continuing the same way of doing business will not resolve the issues that increasingly concern residents—because these concerns arise from a changed context. Although in many ways Norwell seems much like it was decades ago, the cumulative effect of development has brought the town to a much more mature suburban identity. As a result, the town faces more constrained choices and more constrained opportunities. In this context, Norwell must adopt some new ideas and ways of doing things in order to have a better chance of retaining its cherished community character.

[www.townofnorwell.net/Public\\_documents/NorwellMA\\_Planning/masterplan](http://www.townofnorwell.net/Public_documents/NorwellMA_Planning/masterplan)

## NATURAL HERITAGE AND ENDANGERED SPECIES PROGRAM (NHESP) LINKS

The Natural Heritage and Endangered Species Program is part of the Massachusetts Division of Fisheries and Wildlife and one of the programs forming the Natural Heritage network. NHESP is responsible for the conservation and protection of hundreds of species that are not hunted, fished, trapped, or commercially harvested in the state. The Program's highest priority is protecting the 176 species of vertebrate and invertebrate animals and 256 species of native plants that are officially listed as Endangered, Threatened or of Special Concern in Massachusetts. The overall goal of the Program is the protection of the state's wide range of native biological diversity.

[www.mass.gov/dfwele/dfw/nhosp/nhosp.htm](http://www.mass.gov/dfwele/dfw/nhosp/nhosp.htm)

### 1. Rare Species (vertebrates, invertebrates and plants)

Rare species in Massachusetts are native to the state and are listed according to their status: endangered, threatened and special concern. Endangered species are on the brink of extinction, threatened species are forecasted to become endangered in the near future and special concern species have suffered a decline which if left unchecked could become threatened.

[www.mass.gov/dfwele/dfw/nhosp/species\\_info/mesa\\_list/mesa\\_list.htm](http://www.mass.gov/dfwele/dfw/nhosp/species_info/mesa_list/mesa_list.htm)

### 2. Wildlife Fact Sheets

Each NHESP fact sheet provides details about rare species and species of conservation interest. The fact sheets contain images of the species, maps highlighting distribution of the species throughout Massachusetts, details about habitat, threats, life history, status in Massachusetts and the nation and more.

[www.mass.gov/dfwele/dfw/nhosp/species\\_info/fact\\_sheets.htm](http://www.mass.gov/dfwele/dfw/nhosp/species_info/fact_sheets.htm)

### 3. By Town

Each Massachusetts Town is organized by number of certified vernal pools and occurrences of rare species of concern within the town.

[www.mass.gov/dfwele/dfw/nhosp/info\\_by\\_town.htm](http://www.mass.gov/dfwele/dfw/nhosp/info_by_town.htm)

### 4. Report Rare Species (Reporting Sightings)

Residents or visitors observing rare plants or animals can contribute to the protection and conservation of these plants or animals and their habitat by reporting their observations to Natural Heritage and

Endangered Species Program (NHESP)  
[www.mass.gov/dfwele/dfw/nhosp/species\\_infolreport\\_rare\\_species.htm](http://www.mass.gov/dfwele/dfw/nhosp/species_infolreport_rare_species.htm)  
Animal Observation Form:  
[www.mass.gov/dfwele/dfw/nhosp/species\\_info/pdf/naof.pdf](http://www.mass.gov/dfwele/dfw/nhosp/species_info/pdf/naof.pdf)  
Plant Observation Form:  
[www.mass.gov/dfwele/dfw/nhosp/species\\_info/pdf/npof.pdf](http://www.mass.gov/dfwele/dfw/nhosp/species_info/pdf/npof.pdf)

## 5. Natural Communities

Natural communities are assemblages of species that occur together in space and time. These groups of plants and animals are found in recurring patterns that can be classified and described by their dominant physical and biological features. Natural communities are not discrete units with neat boundaries; there is overlap among and between communities in their composition, structure, and physical characteristics. The communities are broadly segmented into terrestrial, palustrine and estuarine communities and designated with an alpha-numerical rank.  
[www.mass.gov/dfwele/dfw/nhosp/natural\\_communities/natural\\_communities.htm](http://www.mass.gov/dfwele/dfw/nhosp/natural_communities/natural_communities.htm)

The draft classification of the natural communities of Massachusetts was written in order to provide a basis for discussing and conserving the diversity of the types of vegetation in the state. This document authored by Patricia C. Swain and Jennifer B. Kearsley provides a good resource for understanding natural communities and the associated ranking system.  
[www.mass.gov/dfwele/dfw/nhosp/natural\\_communities/pdf/nhcom\\_toc\\_ref.pdf](http://www.mass.gov/dfwele/dfw/nhosp/natural_communities/pdf/nhcom_toc_ref.pdf)

The conservation status of a species or ecosystem is designated by a number from 1 to 5, preceded by a letter reflecting the appropriate geographic scale of the assessment (G = Global), N = National, and S = Subnational).

The numbers have the following meaning:

- 1 = critically imperiled
- 2 = imperiled
- 3 = vulnerable
- 4 = apparently secure
- 5 = secure.

[www.natureserve.org/explorer/ranking.htm#interpret](http://www.natureserve.org/explorer/ranking.htm#interpret)

## LINKING LANDSCAPES (REPORTING ANIMAL MORTALITIES)

The Massachusetts Department of Transportation, the Massachusetts Natural Heritage and Endangered Species Program, and the Vernal

Pool Association have launched a long-term and multifaceted effort to minimize the impact of the existing road network on rare and nongame wildlife, while improving highway safety.  
[www.linkinglandscapes.info/roads/home.html](http://www.linkinglandscapes.info/roads/home.html)

They are currently requesting information on:

1. **General wildlife roadkills**  
[www.linkinglandscapes.info/roads/roadkill\\_map.html](http://www.linkinglandscapes.info/roads/roadkill_map.html)
2. **Vernal pool salamander migrations**  
[www.linkinglandscapes.info/roads/salamander\\_map.html](http://www.linkinglandscapes.info/roads/salamander_map.html)
3. **Turtle crossing hotspots**  
[www.linkinglandscapes.info/roads/turtle\\_volunteers.html](http://www.linkinglandscapes.info/roads/turtle_volunteers.html)

## VERNAL POOLS

Vernal pools are unique wildlife habitats best known for the amphibians and invertebrate animals that use them to breed. Vernal pools, also known as ephemeral pools, autumnal pools, and temporary woodland ponds, typically fill with water in the autumn or winter due to rainfall and rising groundwater and remain ponded through the spring and into summer. Vernal pools dry completely by the middle or end of summer each year, or at least every few years. Occasional drying prevents fish from establishing permanent populations, which is critical to the reproductive success of many amphibian and invertebrate species that rely on breeding habitats free of fish predators.

[www.mass.gov/dfwele/dfw/nhosp/vernal\\_pools/vernal\\_pools](http://www.mass.gov/dfwele/dfw/nhosp/vernal_pools/vernal_pools)  
[www.mass.gov/dfwele/dfw/nhosp/vernal\\_pools/vernal\\_pool\\_data.htm](http://www.mass.gov/dfwele/dfw/nhosp/vernal_pools/vernal_pool_data.htm)

### 1. Regulatory Protection:

Contact your local Conservation Commission or the Department of Environmental Protection regarding the regulatory protection of certified vernal pools.  
[www.townofnorwell.net/public\\_documents/norwellma\\_conservation/index](http://www.townofnorwell.net/public_documents/norwellma_conservation/index)

### 2. Certifying Vernal Pools:

Vernal pools are considered potential vernal pools until the process of certification has been administered and approved. The Natural Heritage & Endangered Species Program “certifies” the occurrence of vernal pools based on documentation of the pool’s use by one or more groups of species that rely on vernal pools. This process relies on volunteers to identify vernal pools, and to collect and submit documentation. The Natural Heritage Program’s “Guidelines

for the Certification of Vernal Pool Habitat (2009)” describe the requirements for the documentation of biota using a vernal pool, and also has information on the maps that are required in order to obtain certification for a vernal pool. They also have general information regarding the physical characteristics of vernal pools, and some techniques for finding them. Gathering information for certification is an excellent way for people to learn about vernal pools and the animals that use them, and to become involved in the protection of natural resources in Massachusetts.

Guidelines including (1) vernal pool fact sheet, (2) certification criteria & documentation requirement and (3) observation form:  
[www.mass.gov/dfwele/dfw/nhosp/vernal\\_pools/pdf/vpcert.pdf](http://www.mass.gov/dfwele/dfw/nhosp/vernal_pools/pdf/vpcert.pdf)

### 3. Vernal Pool Association (Peabody)

The Vernal Pool Association began in 1990 as an environmental outreach project at Reading Memorial High School, Reading, Massachusetts. It is now an independent group of individuals attempting to educate others about vernal pool ecology, the local environment, bio-diversity, and the protection of our resources. Our goal is to encourage the appreciation, protection, and interdisciplinary study of vernal pools, particularly by students.

[www.vernalpool.org](http://www.vernalpool.org)

## MASSACHUSETTS BREEDING BIRD ATLAS

The United States Geologic Survey and Massachusetts Audubon Society cooperate to share data about breeding birds identified within Massachusetts. They tabulate the data into meaningful tables and maps that show the presence of these breeding birds.

[www.massaudubon.org/birdatlas/bba2/](http://www.massaudubon.org/birdatlas/bba2/)

[www.pwrc.usgs.gov/bba/index.cfm?fa=explore.ProjectHome&BBA\\_ID=MA2007](http://www.pwrc.usgs.gov/bba/index.cfm?fa=explore.ProjectHome&BBA_ID=MA2007)

## REPORTING INJURED ANIMALS

When animals are injured, they should be treated by experts to help their recuperation and reintroduction to nature in the case of wild animals. Below are a few examples of organizations that offer care and advice pertaining to injured animals.

### 1. New England Wildlife Center (Weymouth)

The New England Wildlife Center is an informal hands-on science education organization that uses the activities of veterinary medical care and rehabilitation of wildlife like raccoons, reptiles, and birds

of prey, and the veterinary care of exotic pets like snakes, lizards, and turtles as a vehicle for learning by elementary, middle school, high school and undergraduate students. The Center is a community integrated non-profit that serves as the meeting place for science educators, reptile enthusiasts, animal control officers, wildlife caretakers, folk musicians, and habitat based artists. The Center is home to the Odd Pet Vet, a commercial exotics veterinary practice that treats pets like pigeons, chickens, cockatiels, parakeets, parrots, rabbits, hamsters, hedgehogs, degus, bearded dragons, boa constrictors, pythons, corn snakes, iguanas, skinks, tortoises, turtles and other reptiles.

[www.wildlife-education-center.com](http://www.wildlife-education-center.com)

### 2. The New Aquarium Marine Animal Rescue Program (Boston)

The New England Aquarium Marine Animal Rescue Program rescues and rehabilitates stranded, injured and diseased marine animals from throughout the New England coastal region. Established in 1968, our Marine Animal Rescue Team has responded to thousands of calls to provide medical treatment for whales, dolphins, porpoises, seals and sea turtles.

[www.neaq.org/conservation\\_and\\_research/projects/conservation\\_medicine/rescue\\_and\\_rehabilitation/index.php](http://www.neaq.org/conservation_and_research/projects/conservation_medicine/rescue_and_rehabilitation/index.php)

### 3. International Fund for Animal Welfare (Yarmouth)

The International Fund for Animal Welfare saves animals in need all around the world. With projects in more than 40 countries, we rescue individual animals, campaign to prevent animal cruelty and advocate for the protection of wildlife and habitats.

[www.ifaw.org/us/our-work/animal-rescue](http://www.ifaw.org/us/our-work/animal-rescue)

### 4. National Marine Life Center (Buzzards Bay)

The National Marine Life Center is an independent, non-profit 501(c)(3) rehabilitation and release hospital for the treatment of stranded sea turtles and seals, with future plans to expand to treat dolphins, porpoises, and small whales. Our emphasis is to educate the public about the needs and status of these important animals and their environment, and to research their health needs and threats in captivity and in the wild.

[www.nmlc.org](http://www.nmlc.org)

## PARKS AND RECREATION

Parks and recreation facilities play several roles including providing places to relax and get away from stressful daily schedules and outdoor sports grounds for maintaining personal health, well-being and enjoyment. Federal and state agencies provide good resources for maintaining these resources.

### 1. Commission for Accreditation of Park and Recreation Agencies (CAPRA)

CAPRA standards for national accreditation provide an authoritative assessment tool for park and recreation agencies. Through compliance with the standards of excellence, CAPRA accreditation assures policy makers, department staff, the general public and tax payers that an accredited park and recreation agency has been independently evaluated against established benchmarks as delivering a high level of quality.

[www.nrpa.org/Content.aspx?id=898](http://www.nrpa.org/Content.aspx?id=898)

- A Region in Transition: The New Old Colony: Choosing a Future for Southeastern Massachusetts (1996, Harvard University School of Design)
- Cost of Community Services in Southern New England (1995, Southern New England Forest Consortium, Inc, Commonwealth Research Group, Inc)
- Cost of Community Services studies (2010, American Farmland Trust). [www.farmland.org/services/fiscalplanning/default.asp](http://www.farmland.org/services/fiscalplanning/default.asp)
- Massachusetts Department of Agriculture Fact Sheet (2010, MDAR). [www.mass.gov/agr/facts/docs/state-wide.pdf](http://www.mass.gov/agr/facts/docs/state-wide.pdf)
- Vision 2020: A Partnership for Southeastern Massachusetts (2001, Vision 2020 Board of Directors, Metropolitan Area Planning Council, Old Colony Planning Council and Southeastern regional Planning and Economic Development District)
- The Economic Value of Open Space: A Review and Synthesis (1996, Charles J. Fausold and Robert J. Lilieholm)
- Open Space Pays (1979, Darryl F. Caputo)
- Community Choices: Thinking Through Land Conservation, Development, and Property Taxes in Massachusetts (1998, Helen O'Shea/The Trust For Public Land)
- Preserving Rural Character Through Agriculture: A Resource Kit for Planners (2000, University of New Hampshire Cooperative Extension)

## APPENDIX K

### STUDIES AND REPORTS SUPPORTING OPEN SPACE SAVES TOWNS MONEY

1. Scenic Rivers in Massachusetts are protected under order of the 1978 Scenic and Recreation Rivers Protection Act (MGL Ch21,G.L. c. 21, s. 17B). The North River is protected under this order which provides for creation of The North River Commission consisting of a representative and alternate residing in each of the following towns: Scituate, Marshfield, Norwell, Pembroke, Hanover and Hanson and restrictions, regulations and prohibitions regarding uses and activities of the North River.
2. Tidal rivers or estuaries are partially enclosed bodies of water formed where freshwater from rivers and streams flows into the ocean and mixes with seawater. The North River is an example of a tidal river.
3. Wild Rice is a native cereal grain that prevails in habitats with mucky or muddy bottom where there is a slight current such as the freshwater tidal marshes of the upper North River.
4. Anadromous fish are born in fresh water, spend most of their life in the sea and return to fresh water to spawn. River herring, salmon, smelt, shad, striped bass, and sturgeon are common examples.
5. Catadromous fish live in fresh water and enters salt water to spawn. Most eels are catadromous.
6. Headwaters refer to the source of a river or stream. It is the furthest place in that river or stream from its estuary or confluence with another river, as measured along the course of the river. Despite this definition, there is no universally agreed upon method for determining a stream's source.
7. The Massachusetts South Coastal Watershed consists of 14 coastal river watersheds with a total drainage area of approximately 240.7 square miles that span over all or part of 19 municipalities. The major coastal watersheds include the North and South Rivers (combined drainage area 105 square miles), the Jones River (30 square miles), and the Gulf/Bound Brook (16 square miles). It is also one of eleven watersheds in eastern Massachusetts that discharge directly to the ocean. The South Coastal Watersheds

contain numerous wetlands, many of which are used to cultivate cranberries. There are also many small coastal plain lakes and ponds scattered throughout the basin, numbering more than 350, 56 of which cover at least ten acres.

8. Kettle Hole Ponds were formed about 12,000 years ago, when the glaciers retreated leaving large chunks of ice behind. As these chunks of ice melted, the landscape above them collapsed forming large depressions called “kettle holes.” When these depressions dip below the groundwater table, they are filled with water creating ponds.
9. Vernal pools are contained basin depressions lacking permanent above ground outlets. In the Northeast, vernal pools fill with water with the rising water table of fall and winter or with the meltwater and runoff of winter and spring snow and rain. Many vernal pools in the Northeast are covered with ice in the winter months. They contain water for a few months in the spring and early summer. By late summer, a vernal pool is generally (but not always) dry. They provide vital habitat to a host of wildlife including obligate species that rely exclusively on vernal pools for survival and the absence of fish is a qualifying characteristic.
10. Aquifers are underground layers of water-bearing or saturated permeable rock or unconsolidated materials (gravel, sand, or silt) through which water flows recharging groundwater supplies in the subsurface materials or from which groundwater can be usefully extracted using water well.
11. Groundwater flow is the movement of water once it enters the subsurface. Groundwater flow speeds depend upon on a number of variables including the amount of water and the porosity of the subsurface materials. During this migration, groundwater can pass through subsurface areas that contain contaminants which pollute the groundwater supply.
12. Groundwater recharge is the process by which ground water is replenished. A recharge area is where water from precipitation or runoff from snow melt is transmitted downward through the subsurface to an aquifer. Recharge areas are not universal and the amount of recharge is dependent upon the type of subsurface material that composes the area. Consolidated materials will allow less recharge than unconsolidated materials. Therefore, unconsolidated materials tend to allow a greater percentage of precipitation to enter the subsurface filling the aquifers.
13. Wetlands are those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas.
14. Rare Species in Massachusetts are native to the state and are listed according to their status: endangered, threatened and special concern. Endangered species are on the brink of extinction, threatened species are forecasted to become endangered in the near future and special concern species have suffered a decline which if left unchecked could become threatened.
15. Natural communities are assemblages of species that occur together in space and time. These groups of plants and animals are found in recurring patterns that can be classified and described by their dominant physical and biological features: two examples are Red Maple swamp and Pitch Pine/Scrub Oak communities. Natural communities are not discrete units with neat boundaries; there is overlap among and between communities in their composition, structure, and physical characteristics. Large animals often make use of multiple natural communities.
16. Norwell soils series consists of a Scituate-Essex-Merrimac soil association making the major soil characteristics very well-drained sand and gravel, very stony sandy loams, and well-drained but stony material.
17. Eskers are long winding ridges of stratified sand and gravel, examples occur in Jacobs Pond Conservation Area and the Betzold parcel. The esker within the Jacobs Pond Conservation Area is a narrow, winding ridge formed from the deposits of a stream flowing through glacial ice.
18. Easements are certain rights to use the real property of another without possessing it.
19. Conservation Restrictions (CR) are legally binding agreements between a landowner and a public agency (usually a land trust or a town’s conservation commission) where the landowner agrees to keep the land undeveloped. Public access may be permitted but is not required. CR’s are permitted under the Conservation Restrictions Act (M.G.L. Ch. 184) and must be approved by the Secretary of Environmental Affairs. conservation restrictions have a number of

advantages: (1) they cost less than a fee simple acquisition (2) the owner still pays real estate taxes (although at a lower rate) and (3) the owner continues to maintain the land.

20. Agricultural Preservation Restrictions (APR) are a variation of a CR whereby the purpose is to preserve agricultural land. The APR program pays farmers the difference between the fair market value and the agricultural value of their farmland in exchange for a permanent deed restriction that precludes any use of the property that will have a negative impact on its agricultural viability.
21. Article 97 Lands include parks, playgrounds, forests, reserves, conservation land, beaches, and watersheds. Article 97 of the Amendments to the Massachusetts Constitution requires that lands or easements taken or acquired for natural resource purposes not be used for other purposes or disposed of without a two-thirds vote of each branch of the legislature. The goal of this policy is to ensure no net loss of Article 97 lands under the ownership and control of the Commonwealth and its political subdivisions.
22. Chapter 61 Lands are classified under three categories: Ch. 61, Ch. 61A and Ch. 61B. Massachusetts current use programs (Ch. 61, Ch. 61A, and Ch. 61B) were created to give preferential tax treatment to those landowners who maintain their property as open space for the purposes of timber production, agriculture or recreation. Chapter 61 was designed to classify forestland. Chapter 61A was designed to classify agricultural land which may include forestland and Chapter 61B was designed to classify recreational land which can also include forestland. Land in all three chapters cannot be sold or converted for a use not compatible with the three chapters within one year of being taxed under these programs without giving the municipalities a notice to sell or convert. The tax incentive of this program is an encouragement for landowners to preserve forest, agricultural and recreational lands and provide municipalities the first opportunity to preserve these lands if the land owners decide to sell or change the usage of their lands.
23. The Community Preservation Act (CPA) is a smart growth tool that helps communities preserve open space and historic sites, create affordable housing, and develop outdoor recreational facilities. The CPA is the result of nearly two decades of work devoted to passing legislation that would give all Massachusetts cities and towns a tool to preserve their most unique natural, community, and built features in the face of rapid growth and development. The CPA was ultimately approved by the legislature and signed by the Governor in 2000. CPA

allows communities to create a local Community Preservation Fund for open space protection, historic preservation, affordable housing and outdoor recreation. Community preservation monies are raised locally through the imposition of a surcharge of not more than 3% of the tax levy against real property, and municipalities must adopt CPA by ballot referendum. The CPA statute also creates a statewide Community Preservation Trust Fund, administered by the Department of Revenue (DOR), which provides distributions each October to communities that have adopted CPA. Each CPA community creates a local Community Preservation Committee (CPC) upon adoption of the Act, and this five-to-nine member board makes recommendations on CPA projects to the community's legislative body.