

## VIII. NATURAL, HISTORICAL AND CULTURAL RESOURCES

### INTRODUCTION

Natural resources include land, surface water, streams, wetlands, aquifers, wildlife habitat, open space and riparian corridors, and other ecologically sensitive areas. Cultural resources include historic buildings and their settings, outbuildings such as sheds and barns, archaeological remnants and features, and archaeologically sensitive areas. Landscape features such as stone walls and foundations, burial grounds and cemeteries, trails and historic trees are also an important part of the town's history, contribute to its inventory of cultural resources and are key public assets. The value placed on the preservation of natural and historic resources can play a significant role in defining a community's unique sense of place.

### NATURAL RESOURCES

#### Water Resources

Chelmsford has an extensive hydrological system that includes groundwater, wetlands and surface water, as shown on Map 18. The town is located within the Merrimack River basin, and falls within two subwatersheds of the river basin: the Merrimack, and the Sudbury, Assabet and Concord (SuAsCo). Much of the land in Chelmsford eventually drains into the Concord River, which forms part of the town's eastern border. Surface water bodies account for 2.3% of the town's area (327 acres).<sup>38</sup>

The benefits of clean water cannot be overstated. Adequate supplies of clean water are vital to the survival and propagation of fish and other aquatic life, as well as to wildlife and humans. The cost to society of not maintaining or restoring water quality, in terms of public health, economics and other factors, is incalculable.

**Goal Statement:** *Maintain, protect and preserve the natural, cultural and historical resources that provide the town its unique identity and enhance the quality of life of its residents.*

- *Minimize the environmental impact of future development and redevelopment projects to preserve natural resources and protect public health.*
- *Identify, prioritize, protect, and maintain outstanding natural features and resources, endangered habitats, agricultural landscapes, and historic and archaeological resources.*
- *Foster public appreciation and civic pride in the town's historic and natural resources.*
- *Promote Chelmsford's cultural assets and resources.*
- *Require the remediation of contaminated sites to protect the environment and to return vacant sites to productive use.*

<sup>38</sup> 1996 Master Plan for the Town of Chelmsford.

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**MAP 18: WATER RESOURCES**

### *Rivers and Streams*

The 180-mile Merrimack River flows through central and southern New Hampshire and northeastern Massachusetts and functions as a critical resource for people and wildlife. It is the second largest surface drinking water source in New England, serving more than 300,000 people in the Greater Lowell area.<sup>39</sup> The portion of the River that flows through Chelmsford is referred to as the “Lower Merrimack River”. Federally-listed bald eagles overwinter here, and it is an important migratory route for waterfowl and songbirds.

The Merrimack River forms the Town’s northeastern border with Lowell and Tyngsborough. Both the Merrimack River and the Concord River are classified as Class B waterways. Designated uses for Class B Waterways, as established by the Massachusetts Department of Environmental Protection (DEP), include recreational uses, fish and wildlife habitat, agricultural and industrial use, and navigation. While the Merrimack River meets Class B standards during normal weather conditions and periods of low flow, under wet weather conditions, the River is negatively impacted by combined sewer overflow (CSOs) from communities north of Chelmsford, such as Nashua and Manchester, New Hampshire. Chelmsford has been active in improving access to the Merrimack River. For example, improvements have been made at Southwell Field, which hosts the only public boat launch between Lowell and New Hampshire.

The Federal Water Pollution Control Act of 1972 and its amendments require that states classify water bodies according to the degree of threat or impairment for designated uses. In 2008, DEP produced the Massachusetts Year 2008 Integrated List of Waters, listing the condition of waters under Sections 303(d) and 305(d) of the Clean Water Act. The list identifies several water bodies in Chelmsford as impaired for one or more uses, requiring the establishment of a Total Maximum Daily Load (TMDL) to set the maximum allowable pollution from point, non-point and natural sources. Both the Merrimack River and the Concord River are listed on the 2008 Massachusetts list of impaired waters.<sup>40</sup> The Merrimack River is considered impaired based on the presence of metals and pathogens, while the Concord River impairment factors include metals, nutrients, pathogens and exotic species.

Eleven named streams run through town: Beaver Brook, Crooked Spring Brook, Scotty Hollow Brook, Farley Brook, Putnam Brook, Deep Brook, Stony Brook, Black Brook, Hales Brook, Cold Spring Brook and River Meadow Brook. The lands along the town’s waterways provide some of the most pristine and natural vistas within the community. These streams provide residents with areas for fishing, hiking, and canoeing. In addition, they serve as wildlife corridors and habitat for many species. River Meadow Brook, Stony Brook, and Crooked Spring Brook are stocked with trout by the state each Spring. Black Brook is listed on the 2008 Massachusetts Integrated Waters List as being impaired due to siltation, unknown toxins,

<sup>39</sup> The Merrimack River Watershed Council, [www.merrimack.org](http://www.merrimack.org)

<sup>40</sup> Department of Environmental Protection, “Massachusetts Year 2008 Integrated List of Waters”.

pathogens and turbidity. Stony Brook is also considered by DEP to be impaired for nutrients, pH, organic enrichment (low dissolved oxygen) and pathogens. Deep Brook is considered impaired due to organic enrichment, low dissolved oxygen and siltation. River Meadow Brook is considered by DEP to be impaired as a result of pathogens.

Natural buffers around surface water bodies are effective barriers against pollutants that might otherwise enter the water from surface runoff or groundwater discharge. Vegetated buffers absorb nitrogen and phosphorous pollution, neutralize organic and hydrocarbon chemicals, and detain sediment, including the heavy metals that often adhere to sediment. The Massachusetts Rivers Protection Act is a powerful tool that restricts development within 200 feet of any perennial river or stream. If properly enforced by the Conservation Commission, the Act will ensure adequate buffering around Chelmsford's perennial streams.

### ***Surface Water Bodies***

The quality of surface waters is influenced by the natural ecology, hydrology and geomorphology of the land area they drain, and also by the land use patterns resulting from human activities within their respective basins or watersheds. Chelmsford has two large lakes/ponds: Freeman Lake (also known as Newfield Pond and formerly known as Crystal Lake) and Heart Pond (also known as Hart's Pond or Baptist Pond). At 92.5 acres and 76.8 acres in size respectively, both water bodies have developed shorelines with public access, and are extensively used for recreation. Heart Pond interconnects with the Cranberry Bog Reservation, and is considered by DEP to be impaired due to pathogens. Freeman Lake is also considered to be impaired by metals (mercury), organic enrichment (low dissolved oxygen), noxious aquatic plants and exotic species.

Other significant ponds in town include Swains Pond, Eagle Mill Pond and Russell Mill Pond. Russell Mill Pond was created when water was impounded by a dam initially constructed to serve an industrial facility, and is classified by DEP as impaired based on exotic species and flow alteration.

Surface water quality issues are being addressed through the town's comprehensive sewer project. For ponds and intermittent streams that are not protected by the Rivers Protection Act, Chelmsford should consider establishing and enhancing natural land buffers. This is particularly important for seasonal drainage channels that fill with water during major storm events when pollutant and sediment loads are high. The protection of land around intermittent streams could be explicitly identified as a performance standard for residential and non-residential development.

### ***Wetlands***

The importance of wetlands to public health and the natural environment is well-known and protected by state and federal law. The Massachusetts Wetlands Protection Act gives the

Commonwealth and the local Conservation Commission the authority to regulate activities affecting wetlands for the following specific purposes: protection of public and private water supply; protection of groundwater supply; flood control; prevention of storm damage and pollution; protection of land containing shellfish; protection of fisheries; and protection of wildlife habitat.

The Town of Chelmsford contains approximately 1,379 acres of wetlands and floodplain, accounting for almost 9.3% of the Town's total land area. As is typical of the region, more than half of the wetlands are non-forested, though extensive wooded wetlands remain in South Chelmsford. Chelmsford's wetlands vary in size from less than one acre to approximately 125 acres, and are generally associated with waterways and water bodies, including the Merrimack River, Heart Pond, Freeman Lake, Hales Brook, Stony Brook and Beaver Brook. The smaller tributaries that flow into these streams also contain wetland jurisdictional areas, as well as buffer zones that fall under the jurisdiction of the Chelmsford Conservation Commission.

The Town of Chelmsford enacted a local wetlands bylaw in 1996, and the bylaw was updated in 2009 by strengthening areas of jurisdiction and setbacks. The purpose of Chapter 187 is to “protect the wetlands, water resources, flood prone areas, and adjoining upland areas...by controlling activities deemed by the Conservation Commission likely to have a significant or cumulative effect on Resource Area values including but not limited to the following: public or private water supply, groundwater supply, flood control, erosion and sedimentation control, storm damage prevention, water quality, prevention and control of water pollution, fisheries, fresh water shellfisheries, wildlife habitat, rare species habitat, agriculture, aquaculture, recreation and aesthetic values deemed important to the community”. The local wetlands bylaw includes a 50-foot no-build zone, a 30-foot no impervious surface restriction, and a 25-foot no-disturbance zone.

The 2003 Chelmsford Open Space and Recreation Plan recommended that the Town develop a process for transferring tax title lands containing wetlands to the Conservation Commission as a means of further protecting these resource areas. It also recommended that the town strengthen its local wetland bylaw to include adjacent upland resource areas. The Plan further recommended that the Town work with Billerica and Carlisle to extend Great Meadows as a wetland corridor along the Concord River.

### ***Aquifer Recharge Areas***

Groundwater recharge is part of the hydrologic cycle in which aquifers are recharged by precipitation, surface water infiltration, or hydrologic exchange with other aquifers. Since recharge of aquifers generally occurs through inflow from the surrounding drainage basin and nearby surface water bodies, the quality of surface water is critical to the quality of ground water, and therefore, to drinking water.

All of Chelmsford’s drinking water originates from aquifers. Overall the Town is serviced by public water systems managed by three independent water districts: the Chelmsford Water District located at 20 Watershed Lane, the East Chelmsford Water District located at 75 Canal Street and the North Chelmsford Water District located at 74 Washington Street (See Map 19). The town’s aquifers, both high and low yield, closely correspond to the Russell Mill Pond, River Meadow Brook, Stony Brook, Hales Brook and Black Brook watercourses.

The aquifers in Chelmsford are rather significant in size. The Town’s water districts have indicated that the capacity exists to increase water production by 20% to accommodate future growth. However, significant future expansion beyond that level may have to come from the Merrimack River rather than groundwater.

The town has adopted an Aquifer Protection Overlay District to protect the town’s drinking water supply and to limit adverse effects from inappropriate development and use of the land. Certain land uses within the overlay district are prohibited or allowed only by special permit.

### ***Flood Hazard Areas***

The Town has reported recurrent flooding problems along Tyngsborough Road (Route 3A) in North Chelmsford when the Merrimack River is at flood stage. The severity of this flooding has been significant enough to warrant closing of the roadway for days at a time. The flooding in this area affects the Williamsburg Condominiums, along with Butterfield and Sleeper Streets.

In addition, Stony Brook has a 100-year flood plain that extends back from its confluence with the Merrimack River and under Route 3. There is also significant flood plain throughout a large portion of River Meadow Brook’s watershed, much of it extending upstream from where it crosses under Interstate 495. In 2002, the River Meadow Brook floodplain elevation was increased from 106 feet to 108 feet through the FEMA amendment process. There are seven dams located within Chelmsford, none of which are classified as high hazard, as shown in Table 7.1 below.

**TABLE 7.1**  
**HAZARD CLASSIFICATION OF CHELMSFORD DAMS<sup>41</sup>**

Dam Name	Impoundment Name	Hazard Class	Downstream Population
Stony Brook Dam	Stony Brook	Significant	500
Crooked Spring Dam	Crooked Spring Pond	Significant	100
Lowell Sportsmans’ Club Dam	Scotty Hollow Brook	Low	N/A
Swains Pond Dam	Swains Pond	Low	200
Heart Pond Dam	Heart Pond	Significant	50
Russell Mill Pond Dam	Russell Mill Pond	Significant	300
Newfield Pond Dam	Freeman Lake	Low	200

*Source: Massachusetts Department of Conservation and Recreation*

The Town adopted the Massachusetts Department of Conservation and Recreation (DCR) model flood plain bylaw in April 2004.

<sup>41</sup> Pre-Disaster Mitigation Plan for the Northern Middlesex Region, Northern Middlesex Council of Governments, July 2006

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**MAP 19: WATER DISTRICTS**

The overlay bylaw covers all special flood hazard areas designated on the National Flood Insurance Program, Flood Insurance Rate Map (FIRM). No new structures may be constructed and no existing buildings may be altered within the floodplain district, except by special permit from the Zoning Board of Appeals.

## **Geology and Landscape**

Located within the Merrimack Valley, Chelmsford's terrain generally varies from 100 to 200 feet above sea level, with the highest point in town being Robbins Hill at 408 feet. On a clear day during the winter months when the trees have lost their leaves, one can see the City of Boston from this peak. This hill also represents an interesting geologic feature given its limestone composition and neutral soil, which supports a natural habitat unique to this area of the state. The town is divided into two drainage basins: the Merrimack and the Concord. The glaciers that covered much of New England originally formed the Town's landscape and it continues to be shaped by its rivers. The erosion and accumulation of organic materials on the land since the glaciers receded, has created a diversity of soil types. Large deposits of sand and gravel were left behind by glacial melt water. Nonetheless, the crust of the earth is still visible in bedrock outcroppings, quarries and road cuts. The surficial geology of the town can be depicted on the Map 20. Chelmsford is known for its granite, which is mined at the Fletcher Granite Company, located on the town's border with Westford. The quarry has been active since the early 1800s. Limestone deposits extend from Robbins Hill to the Limestone Quarry reservation off Route 110.

Chelmsford has a multitude of surface water bodies that contribute to its landscape character, which are discussed further in the Water Resources section of this document. Most of the streams are surrounded by wetlands and provide natural wildlife habitat and scenic vistas. The 310-acre Cranberry Bog Reservation, which was purchased by the Town in 1986, is one of the town's most unique features. Half of the site lies within the Town of Carlisle and includes 40 acres of active cranberry bog.

## ***Soils***

Soil is an important resource that impacts hydrology, supports plant life and is critical to agriculture. Soils are vulnerable to erosion, which can impact streams and water quality. Soils are classified according to their origin, formation and identifiable properties. Soils with similar properties comprise a soil association.

According to the most recent soil survey done by the Natural Resources Conservation Service in 1989, there are thirty-seven different mapped soil units found in Chelmsford. These can be classified into five main soil associations: Urban Land; Mucky; Paxton, Hollis, Woodbridge; Scituate Essex, and Windsor Hinckley, which are shown on Map 21. Soils that form in glacial outwash, such as the Hinckley and Windsor series, transmit groundwater more readily than soils

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**MAP 20: SURFICIAL GEOLOGY**

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**MAP 21: SOIL ASSOCIATIONS**

formed in glacial till (such as Paxton and Canton soils) or shallow-to-bedrock soils (such as Charlton-Hollis-Rock Outcrop Complex soils). Upland outwash soils are at a greater risk for drought than upland till soils and tend to be lower in nutrients. Deep, very poorly drained organic soils, such as Freetown Muck, support wetland communities, are high in nutrients, and store water due to their location in depressions and topographic low areas.

The largest soil association found in Chelmsford, in terms of extent, are the Urban Land soils that are made up of sand and silty loams over glacial till. These are moderately to well-drained soils that lend themselves to urban development.

The second largest soil group is the excessively well-drained loamy sands of the Hinckley, Windsor, Carver, Merrimack and Suncook soils. These soils are comprised of glacial outwash and tend to be loose, sandy material that is extremely permeable and does not lend itself to septic systems, or other uses with high probability of groundwater contamination. According to a 1995 study by Weston and Sampson, over 50 percent of Chelmsford's land area is not suitable for septic systems.

The third soil group consists of small areas of hydric soils found along and under water bodies. These soils are wet most of the year, high in organic matter, relatively flat and are found in areas with a high water table. These soils are not well suited to development and consist of muck of the Saco Variant, Swansea and Freetown subseries.

The fourth soil association consists of Scituate/Essex soils which have major limitations related to slow permeability in the dense till substratum and seasonal high water tables. Large surface and subsurface stones and boulders may interfere with excavation. Erosion hazards are likely during development, so measures should be taken to prevent erosion.

The last major soil group is the highly erodible soil found on slopes greater than 15 percent. Given that soil erosion is a significant problem throughout the region, these soils need to be given careful consideration before disturbance takes place. These soils include fine sandy loams of the Canton and Montauk series, and of the Charlton-Hollis-Rock-Outcrop Complex, Hollis Rock-Outcrop-Charlton Complex and the Rock Outcrop-Hollis Complex.

### ***Farmland Soils***

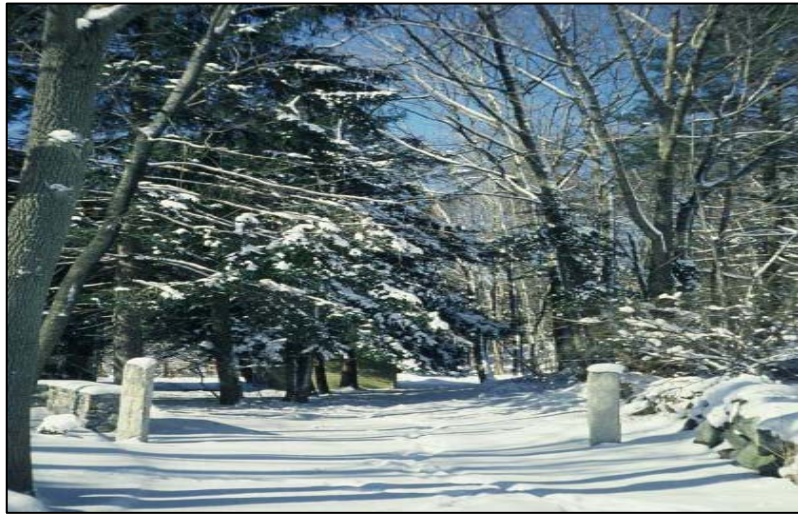
As shown on Map 22, a total of 1,930 acres, or 13% of the Town's land area consists of Prime Farmland Soils, which are especially well-suited for agriculture. These soils are considered to be valuable for the production of crops. Chelmsford was originally established as an agrarian community but most farms have been lost to development. As outlined in the Land Use section of this document, in 2008, 265 acres or 2.3% of the Town's land area consisted of lands under Chapter 61, 61A and 61B. Chelmsford's 2003 Open Space and Recreation Plan recommended that the Town preserve agricultural land for farming and wildlife habitat.

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**MAP 22: PRIME FARMLAND SOILS**

## Vegetation

Chelmsford is located within the transitional zone of the New England forests. Sections of the town are comprised of northern and southern forest features, which include northern forest mixes such as hardwood, hemlock and white pine, and southern forest mixes such as oak, hickory and other hardwoods. Oak, hickory, birch, maple and Eastern white pine dominate the canopy,



Bartlett Woodlot in winter (Source: Chelmsford Land Conservation Trust)

while sassafras, ferns, wildflowers, and assorted shrubs comprise the understory. The forested areas are largely located on post-agricultural land where farming ceased many years ago. The largest remaining expanse of forested land in Chelmsford is located in the southeast, in the area of Russell Mill Pond (132 acres). Other significant forested areas include the Thanksgiving Forest (45 acres) and the Concord Road Forest (12 acres).

The vegetation pattern in Chelmsford is typical of that found in a developed suburban landscape. With the exception of the above mentioned forested stands, the “urban forest” in Chelmsford is composed of small forest areas and individual trees in back yards, behind and between subdivision developments, along roadways, and in parking lots. The primary vegetation found within these developed areas consists mainly of domestic landscaping plants. As large areas of forest become less common, management of the remaining urban forest will become increasingly more important.

Vacant lots and fallow fields are populated by grasses that include foxtail, broom bear, red top, fescue, orchard, Kentucky blues, and timothy. Field species such as red clover, wild carrot, meadow sweet, yarrow, goldenrod, cinquefoil, sorrel, and ragweed are also found in these locations.<sup>42</sup> Most wetland areas are dominated by red maple. Fresh water meadows surrounding some of the town’s streams have reeds, woodgrass, wild millet, spike rush and sedge, which are all important to wildlife that use freshwater and field habitat.

The diversity of plant communities within the town provides food and habitat for wildlife. Table 7.2 on the following page contains a partial list of plant species found within the Town:

<sup>42</sup> Chelmsford Open Space and Recreation Plan Update, 2003.

**TABLE 7.2**  
**PARTIAL LIST OF PLANT SPECIES FOUND WITHIN CHELMSFORD**

Common Name: <i>Scientific Name</i>	Common Name: <i>Scientific Name</i>	Common Name: <i>Scientific Name</i>
Black Oak: <i>Quercus velutina</i>	Grey Birch: <i>Betula populifolia</i>	Silky dogwood: <i>Cornus amomum</i>
Scarlet Oak: <i>Quercus coccinea</i>	White Birch: <i>Betula papyrifera</i>	Shadbush: <i>Amelanchier arborea</i>
Red Oak: <i>Quercus rubra</i>	Black Birch: <i>Betula lenta</i>	White Ash: <i>Fraxinus americana</i>
Chestnut Oak: <i>Quercus prinus</i>	River Birch: <i>Betula nigra</i>	Green Ash: <i>Fraxinus pennsylvanica</i>
White Oak: <i>Quercus alba</i>	Black Cherry: <i>Prunus serotina</i>	Aspen: <i>Populus tremuloides</i>
Pin Oak: <i>Quercus palustris</i>	Black gum: <i>Nyssa sylvatica</i>	Big-toothed Aspen: <i>Populus grandidentata</i>
Scrub Oak: <i>Quercus ilicifolia</i>	Maple-leaved Viburnum: <i>Viburnum acerifolium</i>	American Hazlenut: <i>Corylus Americana</i>
Swamp White Oak: <i>Quercus bicolor</i>	White Pine: <i>Pinus strobus</i>	Chestnut: <i>Castanea dentate</i>
Red Maple: <i>Acer rubrum</i>	European buckthorn: <i>Rhamnus frangula</i>	Hemlock: <i>Tsuga canadensis</i>
Sugar Maple: <i>Acer saccharum</i>	Sassafras: <i>Sassafras albidum</i>	Beech: <i>Fagus grandifolia</i>
Silver Maple: <i>Acer saccharinum</i>	Flowering Dogwood: <i>Cornus florida</i>	Hickory: <i>Carya ovata, C. tomentosa, C. glabra, and C. ovalis</i>
Mountain laurel: <i>Kalmia latifolia</i>	Buttonbush: <i>Cephalanthus occidentalis</i>	Sweet pepper bush: <i>Clethra alnifolia</i>
Spicebush: <i>Lindera benzoin</i>	Swamp azalea: <i>Rhododendron viscosum</i>	Arrow wood: <i>Viburnum dentatum var. lucidum</i>
Swamp candles: <i>Lysimachia terrestris</i>	Black willow: <i>Salix nigra</i>	Cottonwood: <i>Populus deltoids</i>
Witch hazel: <i>Hamamelis virginiana</i>	Shagbark and other hickories: <i>Carya ovata, C. labra and C. ovalis</i>	Low-bush blueberries: <i>Vaccinium angustifolium</i>
Highbush blueberries: <i>Vaccinium corymbosum</i>	Speckled alder: <i>Alnus incana spp. rugosa</i>	Smooth alder: <i>Alnus serrulata</i>
Winterberry: <i>Ilex verticillata</i>	Nannyberry: <i>Viburnum lentago</i>	Huckleberry: <i>Gaylussacia baccata</i>
Elderberry: <i>Sambucus canadensis</i>	Partridgeberry: <i>Mitchella repens</i>	Bracken fern: <i>Pteridium aquilinum</i>
Cinnamon fern: <i>Osmunda cinnamomea</i>	Ostrich fern: <i>Matteuccia struthiopteris</i>	Christmas fern: <i>Polystichum acrostichoides</i>
Sensitive fern: <i>Onoclea sensibilis</i>	Royal fern: <i>Osmunda regalia</i>	Pink lady slipper: <i>Cypripedium acaule</i>
Club mosses: <i>Lycopodium spp</i>	False nettle: <i>Boehmeria cylindrical</i>	Canada mayflower: <i>Maianthemum canadense</i>
White wood aster: <i>Aster divaricatus</i>	Indian cucumber: <i>Medeola virginiana</i>	Water parsnip: <i>Sium suave</i>
Wintergreen: <i>Gaultheria procumbens</i>	Wild sarsaparilla: <i>Aralia nudicaulis</i>	Poison Ivy: <i>Toxicodendron radicans</i>
Poison sumac: <i>Toxicodendron vernix</i>	Skunk cabbage: <i>Symplocarpus foetidus</i>	Marsh marigold: <i>Caltha palustris</i>
Meadowsweet: <i>Spiraea alba var. latifolia</i>	Male-berry: <i>Lyonia ligustrina</i>	Star flower: <i>Trientalis borealis</i>
Perfoliate bellwort: <i>Uvularia perfoliata</i>	False Solomon's Seal: <i>Maianthemum racemosum</i>	Early meadow rue: <i>Thalictrum dioicum</i>
False foxgloves: <i>Aureolaria flava, A. pedicularia, and A. virginica</i>	Little blue stem grass: <i>Schizachyrium scoparium</i>	Pennsylvania sedge: <i>Carex pensylvanica</i>
Awned sedge: <i>Carex crinita</i>	Bugleweeds: <i>Lycopus spp.</i>	Poverty grass: <i>Danthonia spicata</i>

According to the Massachusetts Natural Heritage and Endangered Species Program (NHESP), Chelmsford is known to have six (6) plant species classified as state endangered, threatened, or species of special concern.<sup>43</sup> Table 7.3 on the following page lists these species as well as their state designations. Most of these species have not been observed in Chelmsford for over a century.

<sup>43</sup> Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries and Wildlife, [www.state.ma.us/dfw](http://www.state.ma.us/dfw)

**TABLE 7.3  
PLANT SPECIES CONSIDERED THREATENED, ENDANGERED OR OF SPECIAL CONCERN**

Common Name	Scientific Name	Designation	Date Last Observed
Purple Needlegrass	<i>Aristida purpurascens</i>	Threatened	1907
New England Blazing Star	<i>Liatris scariosa var. novae-angliae</i>	Special Concern	1900
Rigid Flax	<i>Linum medium var. texanum</i>	Threatened	1902
Lion's Foot	<i>Nabalus serpentarius</i>	Endangered	1914
Adder's-tongue Fern	<i>Ophioglossum pusillum</i>	Threatened	1884
Wild Senna	<i>Senna hebecarpa</i>	Endangered	1902

Source: Massachusetts Natural Heritage and Endangered Species Program, 2009.

Invasive species are common in many areas of town. Invasive and exotic species such as multiflora rose, European buckthorn, and Oriental bittersweet are common in the hedgerows, roadsides, overgrown pastures and orchards. Purple loosestrife is also common in the wetlands of Chelmsford. These invasive species crowd out native species. The 2003 Open Space and Recreation Plan recommended that the Town initiate an invasive species identification and control program, working with the Invasive Plant Atlas of New England. Presently, there is no management plan in place for controlling invasive species that threaten native plant communities.

### Fisheries and Wildlife

Chelmsford's substantial woodlands, wetlands, and extensive pastures and open fields support a rich and diverse population of birds, mammals, amphibians, reptiles and other wildlife. In addition to common species, there have been recent sightings of rare or less well-known species such as moose and black bear. The town's open fields host large flocks of nesting bobolinks, which are declining statewide due to the loss of grassland habitat. In winter, snow buntings can occasionally be seen in these fields as well. Annual migrations of a wide variety of wood warblers travel through the town's forested areas each spring and fall. Bald eagles have been sighted along Chelmsford's stretch of the Merrimack River.



A flicker seen at the Warren Wildlife Refuge (Source: Chelmsford Land Conservation Trust)

The increasing suburbanization of Chelmsford has fragmented natural areas that serve as wildlife habitat. Increasing amounts of "edge habitat" have been created where developed lands meet the

boundaries of woodlands and grassy pastures. Edge conditions provide habitat to a wide range of species as well.

Aquatic habitat supports a diverse fish population that includes bass, pike, perch, sunfish, and trout. Due to state and federal restoration efforts, substantial salmon and shad populations are returning to the Merrimack River. Similar efforts are underway to restore alewife to the Concord River. Numerous species of small fresh water fish, vertebrates, and invertebrates are also present in Town. The *Merrimack River Comprehensive Watershed Assessment Report*, prepared by the Massachusetts Executive Office of Environmental Affairs in 2001, identified a multitude of fish species within the Merrimack River Watershed, which are listed in Table 7.4 below.

**TABLE 7.4**  
**FISH SPECIES IN THE MERRIMACK RIVER WATERSHED**

Common Name	Scientific Name	Common Name	Scientific Name
3-spine stickleback	<i>Gasterosteus aculeatus</i>	Falifish	<i>Semotilus corporalis</i>
4-spine stickleback	<i>Apeltes quadracus</i>	Gizzard shad	<i>Dorosoma cepedianum</i>
9-spine stickleback	<i>Pungitius pungitius</i>	Golden shiner	<i>Notemigonus crysoleucas</i>
Alewife	<i>Alosa pseudoharengus</i>	Goldfish	<i>Carassius auratus</i>
American shad	<i>Alosa sapidissima</i>	Largemouth bass	<i>Micropterus salmoides</i>
American smelt	<i>Osmerus mordax</i>	Longnose dace	<i>Rhinichthys cataractae</i>
Atlantic salmon	<i>Salmo salar</i>	Margined madtom	<i>Noturus insignis</i>
Atlantic silverside	<i>Menidia menidia</i>	Mummichog	<i>Fundulus heteroclitus</i>
Atlantic sturgeon	<i>Acipenser oxyrinchus</i>	Northern pike	<i>Esox lucius</i>
Banded killfish	<i>Fundulus diaphanus</i>	Northern pipefish	<i>Syngnathus fuscus</i>
Banded sunfish	<i>Enneacanthus obesus</i>	Pumpkinseed	<i>Lepomis gibbosus</i>
Black crappie	<i>Pomoxis nigromaculatus</i>	Red breast sunfish	<i>Lepomis macrochirus</i>
Blacknose dace	<i>Rhinichthys atratulus</i>	Sand lance	<i>Ammodytes hexapterus</i>
Smallmouth bass	<i>Micropterus dolomieu</i>	Shortnose sturgeon	<i>Acipenser brevirostrum</i>
Blueback herring	<i>Alosa astivalis</i>	Spottail shiner	<i>Notropus hudsonius</i>
Bluegill	<i>Lepomis macrochirus</i>	Striped bass	<i>Morone saxatilis</i>
Bowfin	<i>Amia calva</i>	Swamp darter	<i>Etheostoma fusiforme</i>
Bridle shiner	<i>Notropis bifrenatus</i>	Tessellated darter	<i>Etheostoma olmstedi</i>
Brown bullhead	<i>Ictalurus nebulosus</i>	White catfish	<i>Ictalurus catus</i>
Carp	<i>Cyprinus carpio</i>	White perch	<i>Morone americana</i>
Chain pickerel	<i>Esox niger</i>	White sucker	<i>Catostomus commersoni</i>
Channel catfish	<i>Ictalurus punctatus</i>	Yellow bullhead	<i>Ictalurus natalis</i>
Common shiner	<i>Luxilus cornutus</i>	Yellow perch	<i>Perca flavescens</i>
Eel	<i>Anguilla rostrata</i>	Sea lamprey	<i>Petromyzon marinus</i>

Source: *Merrimack River Comprehensive Watershed Assessment Report*, Massachusetts Executive Office of Environmental Affairs, 2001.

Wildlife typical of suburban and semi-rural areas can be found in Chelmsford, such as deer, coyotes, small rodents, foxes, rabbits, opossums, raccoons, fishers, chipmunks, and squirrels. Reptiles and amphibians, such as frogs, salamanders, snakes, and turtles, as well as water-dependent mammals including beavers and muskrats are common. A list of wildlife species found in Chelmsford is provided in Appendix E.



White tail deer at the Kroll-Calder-Larter Pasture (Source: Chelmsford Land Conservation Trust)

As of January 2009, twelve (12) vernal pools in Chelmsford had been certified by the Massachusetts NHESP. These pools, shown on Map 18, are critical habitat for amphibians and invertebrate animals that use them to breed. They typically hold water in the winter and spring due to rising groundwater and rainfall, remain wet through the spring and into the summer, and dry out completely by mid- to late summer.

The NHESP reports that Chelmsford is home to nine species listed as threatened or of special concern. This list, shown in Table 7.5 below, consists of one amphibian, three reptiles, a mussel and four insects. In addition to the species listed, the Bald Eagle, which is endangered in Massachusetts, has been observed in Chelmsford along the Merrimack River. NHESP Program priority and estimated habitat areas are shown on Map 23.

**TABLE 7.5  
SPECIES CLASSIFIED AS THREATENED (T) OR OF SPECIAL CONCERN (SC)**

Common Name	Scientific Name	Type	Status	Date Last Observed
Blue-spotted Salamander	<i>Ambystoma laterale</i>	Amphibian	SC	1943
Cobra Clubtail	<i>Gomphus vastus</i>	Dragonfly/Damselfly	SC	2004
Arrow Clubtail	<i>Stylurus spiniceps</i>	Dragonfly/Damselfly	T	2004
Frosted Elfin	<i>Callophrys irus</i>	Butterfly/moth	SC	2006
Umber Shadowdragon	<i>Neurocordulia obsoleta</i>	Dragonfly/Damselfly	SC	2004
Eastern Box Turtle	<i>Terrapene carolina</i>	Reptile	SC	1993
Wood Turtle	<i>Glyptemys insculpta</i>	Reptile	SC	2007
Blanding’s Turtle	<i>Emydoidea blandingii</i>	Reptile	T	2007
Triangle Floater	<i>Alasmidonta undulata</i>	Mussel	SC	2004

Source: Massachusetts Natural Heritage and Endangered Species Program, 2009

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**MAP 23: WILDLIFE HABITAT**

Although open space is fragmented throughout Chelmsford, there are areas where wildlife corridors connect habitat and open space. These wildlife corridors consist of long and narrow stretches of wildlife habitat that run between larger habitat areas, and tend to follow most of the perennial streams, as well as large, open water bodies such as Freeman Lake and Russell Mill Pond. Identified wildlife corridors in Chelmsford include the following<sup>44</sup>:

- Along Beaver Brook, west of Chelmsford Center, including the Limestone Quarry Reservation, Bartlett Woodlot and the Bruce Freeman Bike Path right-of-way;
- The greenway which includes the Wright Reservation and the Robbins Hill Reservation in South Chelmsford;
- Robbins Hill Reservation separated by Route 27, adjacent to the Wright Reservation
- National Grid high tension lines that run east-west across town;
- Land extending along the banks of the Merrimack River in North Chelmsford, including Southwell Park and the land along Deep Brook;
- Hales Brook/Middlesex Canal area of East Chelmsford, which extends into the Manning State Forest in Billerica;
- The corridor extending through Thanksgiving Forest, Russell Millpond Forest, and the Great Brook State Park into Carlisle;
- The cranberry bog properties in Chelmsford and Carlisle;
- Tenneco gas pipeline easement running east-west along the Chelmsford/Carlisle and Chelmsford/Billerica borders;
- The area along the Concord River in East Chelmsford, and
- Stony Brook and Crooked Springs Brook in North Chelmsford.

## ENVIRONMENTAL ISSUES

### *Contaminated Sites*

The Department of Environmental Protection (DEP) Bureau of Waste Site Cleanup maintains records of all spills, leaks and other releases of oil or hazardous materials.<sup>45</sup> According to DEP's database, Chelmsford has several identified hazardous waste sites, solid waste sites, and potential environmental threats, as shown on Map 24. These sites are in various stages of cleanup or remediation.

As of June 2009, there were 186 Chelmsford sites listed in the Bureau of Waste Cleanup, Department of Environmental Protection (DEP) "Reportable Release Lookup". Most of these sites are listed due to the presence of hazardous material or petroleum. Included are six Tier 1 and six Tier 2 sites, all of which are petroleum or hazardous material release sites. The other cleanup sites listed are predominantly oil release sites and have received a lower classification, signifying a lower level of hazard. Of the 186 listed sites, 125 submitted a Remedial Action

<sup>44</sup> 2003 Chelmsford Open Space and Recreation Plan

<sup>45</sup> Massachusetts Department of Environmental Protection, [www.state.ma.us/dep/cleanup](http://www.state.ma.us/dep/cleanup), select "my community".

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**MAP 24: AREAS OF ENVIRONMENTAL HAZARDS OR CONCERN**

Outcome (RAO) to DEP indicating that response actions were sufficient to achieve a level of “no significant risk” to the environment. The state’s list of hazardous waste sites in Chelmsford is included in Appendix F.

In November 2008, the Town established a Priority Development Site (PDS) under Chapter 43D. The 3.1-acre PDS site is located at 25 Katrina Road which was formerly occupied by Silicon Transistor. The site has a history of contamination issues. In 1987, chlorinated volatile organic compounds (VOCs) were detected in soil and groundwater. In November 1988, DEP issued a “Notice of Responsibility” to Silicon Transistor for the release of hazardous materials. A groundwater plume containing trichloroethylene (TCE) and trichloroethane (TCA) was found to be migrating beyond the property line and eventually into the Riverneck Road municipal water supply well field. In 1992, a groundwater recovery system was installed on the 25 Katrina Road property to capture and control contamination. The system was operated consistently until 2002. Since that time, the system has been off line frequently due to the financial problems of the previous owner.

A Phase II Comprehensive Site Assessment Report and a Phase III Remedial Action Report were previously submitted to DEP. The Recommended Remedial Alternative for the site was never implemented. In October 2002, VOCs were detected in the indoor air of the building located on the site. An Immediate Response Action Plan was submitted to DEP by the property owner but the plan was never implemented. To date, this condition has not been adequately remediated. Levels of VOCs above the upper concentration limits still remain in the soils under the building, and the Riverneck Road Well #1 continues to be impacted by the levels of TCE within the groundwater plume.

The company closed due to financial difficulties, and the town acquired the property through a tax title taking in 2006. In January 2007, DEP encouraged the Town to complete preliminary and comprehensive response actions. During the first half of 2007, the Town evicted several businesses that remained on the property, and met with DEP to discuss the Town’s proposal to dispose of the property through an RFP process. In April 2008, the town hired an LSP to prepare a Phase I Environmental Site Assessment Report and a Regulatory Status Review Report, in order to provide current information on the status of the contamination.

The Town is continuing to collect additional information on the contamination. Federal Stimulus funds (\$146,473) have been awarded to perform a targeted assessment of the site, which will include a preliminary determination of the types and extent of contamination, a determination of the risks posed, and develop alternatives for cleanup.<sup>46</sup> In March 2009, the site was chosen by MassDevelopment as a Brownfield Priority Project site. This designation makes the site eligible for up to \$2 million in low cost loans for remediation. The Town has also received an additional \$100,000 from MassDevelopment to prepare a financial analysis and conceptual redevelopment

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<sup>46</sup><http://www.recovery.gov/transparency/pages/ProjectSummary508.aspx?AwardId=22246&AwardType=CONTRACT>

plan. The Town recently submitted an EPA Brownfields Cleanup Grant application in the amount of \$200,000 to remediate the contamination associated with the site.

### ***Landfills***

The Town of Chelmsford formerly operated a landfill in North Chelmsford known as the Swain Road Dump. The landfill is no longer active and has been capped in accordance with DEP standards. Due to its distance from the Water District land, the former landfill has had little effect on the quality of public water supplies, and there have been no reports of soil contamination. Presently, the town contracts with a private hauler to dispose of residential solid waste, diminishing the threat of contamination. The town also has a successful curbside recycling program, further reducing the volume of solid waste generated. In FY 2008, Chelmsford had a recycling rate of 22.55%.<sup>47</sup>

In 1997, the Town of Chelmsford signed a host agreement with Mass Gravel Inc. (MGI) to allow excavate from the Central Artery project to be used in an interim and final grading plan at the former Glenview Sand and Gravel site. The agreement stated that the material used would comply with DEP policies for soil reuse at unlined landfills. Sampling of the soil was to be conducted to ensure that contamination levels did not exceed DEP standards. MGI agreed to operate the site and to perform post-closure of the site, including the permanent installation of storm water controls, in accordance with DEP requirements. MGI operated the site for a period of time, but encountered financial difficulties. Closure and post-closure of the landfill has not occurred as required by DEP.

### ***Non-point Source Pollution***

Non-point source pollution, from widespread sources which impact the environment through stormwater runoff entering surface water bodies and groundwater, continues to be an issue in most communities, including Chelmsford. Such sources of pollution include the following:

- Fertilizer, herbicides, and insecticides from lawns and farmland;
- Oil, grease and toxic chemicals from transportation sources, roadways, fueling stations, and parking lot runoff;
- Sediment from improperly managed construction sites or eroding stream banks; and
- Pathogens and nutrients from livestock, pet waste, and failing septic systems.

These sources of pollution are more difficult to control than point source pollution, and are best addressed through proper land management and agricultural practices, effective maintenance of motor vehicles, zoning and erosion control bylaws, and homeowner education. The Town is also working to address these issues through its Phase II Stormwater Management Plan.

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<sup>47</sup> Town of Chelmsford FY 2008 Annual Report, p.57.

## CULTURAL AND HISTORIC RESOURCES

Cultural resources are the places and institutions that contribute to a town's unique identity and sense of place. In Chelmsford, these consist of resources associated with the town's history, industry, agriculture and arts. The North Chelmsford industrial village, mill buildings, worker housing and canals document the town's manufacturing history. Barns, stone walls, and scenic pasture provide a hint of what was once a thriving agriculture community. Operating quarries and the remnants of early quarry operations are testimony to the role that granite and limestone played in defining Chelmsford's identity. The public input sessions conducted for this Master Plan reinforced the fact that the town's residents and policy makers value highly the town's historic assets.

The Town is very fortunate to have a number of historic preservation and cultural organizations that contribute to the quality of life of its residents. During the Visioning Sessions for the Master Plan, many residents outlined a community vision that included a very engaged and thriving arts community.

### Historic Resources

The Chelmsford Historical Commission defines a historically significant property as one that is:

- Listed on the National Register of Historic Places;
- Within an area listed on the National Register of Historic Places;
- Listed with the Massachusetts Historical Commission (MHC);
- Associated with one or more historic persons or events;
- Associated with the broad architectural, political, economic or social history of the Town or Commonwealth; or
- Historically or architecturally significant (in terms of period, style, method of building construction or association with a famous architect or builder) either by itself or in context with a group of buildings.

The Town clearly values its historic past. During the Vision Session for the Master Plan, participants identified the town's respect for history and historic charm as being among its ten top strengths. Furthermore, during a later public session, it was suggested that active promotion of the town's historic resources would encourage tourism and benefit the local economy. It was also recommended that the town establish an information booth at the Old Town Hall or in the Toll House on the Town Common to promote the town's cultural and historic resources.

### *An Abbreviated History of Chelmsford*

The Wamesit tribe originally occupied the land now known as Chelmsford. In 1652, a group of former residents of Concord and Woburn settled in the area. The Town was granted its general charter in May 1655, and named Chelmsford after the town in Essex, England, from which many

of the original settlers emigrated. These early settlers were primarily farmers, but millers and other tradesmen soon settled in the community as well. At least two mills were constructed in the 17<sup>th</sup> century: Samuel Adam's saw/grist mill on Russell Mill Pond and Thomas Hinchman's saw mill located on Stony Brook.

When the settlers arrived, they found a community that was nearly entirely forested, except for areas along the waterways, and areas that were burned by Native Americans. Most of the settlers set up homesteads near what is now the Town Center, as the Massachusetts General Court had mandated in 1635 that dwellings could not be located more than one-half mile from the meeting house. Eventually, the settlers dispersed throughout town. Native trails were used as roadways, with the formation of the town center occurring during the mid-17<sup>th</sup> century. Improvements were then made to these radial routes along what are now Billerica Road, Steadman Street, North Road, Westford Road, Pine Hill Road, High Street, and Boston Road. Sixty-seven people were listed on the 1672 tax list.<sup>48</sup>

During the 18<sup>th</sup> century, the Town Center remained the focus of the town's growth, extending to the north along North Road, east along Billerica Road, and west along Westford Road. Agriculture and lumbering remained the primary occupations for most residents. The town's first school was constructed in 1713, but little population growth occurred during the 18<sup>th</sup> century due to the Revolutionary War. The population of the town was 1,341 persons in 1776, according to the U.S. Census.

The railroad came to town in 1838. The growth of the community was relatively slow until the advent of the Industrial Revolution. The Merrimack River provided water power for the mills, and entrepreneurs began to take advantage of the natural granite and limestone deposits, setting up quarrying operations to support the area's industrial growth. During this period, much of the town's growth occurred in North Chelmsford and was fueled by the mills. By 1880, fifty-percent of the town's population was employed in manufacturing.

As the industrial growth accelerated in the early 1900s, so did the town's population. Lowell's streetcar routes were extended to Chelmsford Center along Chelmsford Street and to North Chelmsford along Middlesex Street. New settlement occurred mainly on side streets in North Chelmsford, and in the eastern section of town. By the 1920s, the trolley routes were abandoned and improvements were made to the town's roadway network to better accommodate the automobile. Due to the Depression, there was no significant industrial development during this time period. New settlement was primarily suburban and concentrated in the eastern portion of town, near Lowell.

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<sup>48</sup> Massachusetts Historical Commission, Reconnaissance Survey Town Report for Chelmsford, MA, 1980.



Old trolley line in North Chelmsford (Source: *The Royal Shawcross Collection*)

As discussed in the Land Use section of this document, the development of the regional highway system, specifically U.S. Route 3 and I-495, was the catalyst for a period of rapid growth and development, particularly during the 1960s and 1970s. The development of housing made available to veterans returning from World War II, the Korean Conflict and the Vietnam War was also a factor in the expansion of suburban communities. This growth transformed the town into a vibrant suburban community with significant residential, commercial and industrial development. Today, the community is nearly built out, as discussed in the Land Use section of this document.

### ***Historic Architecture***

Chelmsford has an impressive inventory of historic buildings, spanning three centuries, beginning with the settlement of the community in 17<sup>th</sup> century, through its industrial development during the 19<sup>th</sup> century, to its most recent suburbanization in the 20<sup>th</sup> century. These historic structures include residences, industrial buildings, religious and institutional structures, barns, and other outbuildings. Most of the town's historic buildings are privately-owned, but there are also some owned by public and non-profit entities. For the most part, the historic buildings owned by the Town are in the Town Center or Vinal Square.

The town's architecture includes many of the styles that were popular in the 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> centuries. The prevalent architectural styles include the Federal style and Greek Revival styles popular in the early 18<sup>th</sup> century, the Second Empire and Italianate styles fashionable in the mid-19<sup>th</sup> century, the Queen Anne and Shingle styles popular during the 19<sup>th</sup> century, and the Colonial Revival style of the early 20<sup>th</sup> century. Many of these buildings are well-preserved and maintained, and contribute to the town's visual character and sense of place.

Many of the town’s oldest homes have retained the Federal and Greek Revival characteristics of early farm houses, with large barns and outbuildings. Residences designed in the architectural styles of the mid- and late-1800s can be seen in residential neighborhoods throughout town as well as in the multi-family worker housing in North Chelmsford. Worker housing was constructed by mill owners



The Spalding-Fiske House in Central Square.

within walking distance of the mills, and included single- and multi-family structures. These homes were typically small and clustered together on small lots. Similar homes were often repeated on a single street, which can be seen on many side streets within North Chelmsford.

***National Register of Historic Places Designations***

The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources. Chelmsford has one National Register District and four individual properties listed on the National Register of Historic Places, as shown in Table 7.6 below.

**TABLE 7.6  
NATIONAL REGISTER OF HISTORIC PLACE LISTINGS**

Historic Name	Type	Address/Location	Year Listed
Old Chelmsford Garrison House complex, includes the Hill Jock House	Building	105 Garrison Road	1973
Fiske House	Building	1 Billerica Road	1977
Chelmsford Center Historic District	District	Intersection of MA Routes, 4, 110 & 27	1980
Oliver Hutchins House	Building	79 Elm Street	1985
Hildreth-Robbins House	Building	19 Maple Road	2006

***Massachusetts Cultural Resources Information System***

There are more than 260 historically significant structures, places, or buildings listed in the Massachusetts Cultural Resources Information System (MACRIS) for Chelmsford. These

historic resources are organized under five categories: buildings, areas, structures, objects and burial grounds. Additional detailed information can be viewed on the Massachusetts Historical Commission website at [www.sec.state.ma.us/mhc](http://www.sec.state.ma.us/mhc). A copy of the inventory is also provided in Appendix G of this document. Historic and cultural resources are shown on Map 25.

### ***Historic Buildings***

There are currently 203 individual buildings enumerated in the MACRIS listing. While these buildings are found throughout the Town, clusters can be found in certain areas such as Acton Road, Billerica Road, Chelmsford Street, High Street and Westford Street, and in North Chelmsford along Gay Street, Princeton Street and Cottage Row. The majority of the buildings are single-family houses (153), but civic/governmental buildings (11), manufacturing and commercial buildings (15), churches and related buildings (8), transportation- related buildings (4), and mixed-use/ multi-family/misc. buildings (9), are also found. Most of the buildings date from the 17<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> centuries, although some from the 20<sup>th</sup> century are also listed. The Chelmsford Central Congregational Church on Worthen Street and the Chelmsford Central Baptist Church Parsonage on Academy Street, both built in 1955, are the “newest” buildings listed. The oldest building listed is the Edward Spaulding House on Westford Street, built in 1690.

### ***Historic Areas***

According to the Massachusetts Historical Commission (MHC), Chelmsford has three areas that are considered by the state to be historically significant. These areas are shown in Table 7.7 below. The Chelmsford Center Historic District, which was originally established in 1975, and then expanded in 1980, is listed twice within the Register, as reflected in the table. Each listing actually encompasses a separate geographic area within the town center.

**TABLE 7.7  
HISTORIC AREAS**

Area	Address/Location	Year Listed
Middlesex Canal	Riverneck Rd. – Brick Kiln Rd.	1972
Chelmsford Center Historic District	Intersection of MA Routes, 4, 110 & 27	1975
Chelmsford Center Historic District	Intersection of MA Routes, 4, 110 & 27	1980

The Middlesex Canal is a man-made waterway that was used in the early 19<sup>th</sup> century to transport materials from the Greater Lowell area to Boston. It was 27 miles long, thirty feet wide and three feet deep. Built chiefly for freight, the Canal was never profitable. With the advent of the railroad, the canal lost its economic viability and was sold in sections to abutters in 1852. The Middlesex Canal Commission recently submitted an application to have the extant portions of the entire Canal, from Lowell to Boston, included on the National Register of Historic Places.

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**MAP 25: HISTORICAL AND CULTURAL RESOURCES**

According to the Historical Commission, the North Chelmsford and Vinal Square area of town contains more mill-related structures than any location in Massachusetts. During the public input sessions conducted for the Master Plan it was suggested that the significance of this area be recognized through the creation of an “honorific” historic district. Some participants felt that creating a formal historic district would impose unreasonable restrictions on the businesses that are located there. With over 250 significant mill-era buildings, the area is eligible for inclusion on the National Register of Historic Places. Town meeting recently approved a plan to create a Community Center at the Old North Town Hall which would include a mini-museum with historical exhibits. Construction funding to implement this plan was appropriated at the Spring 2010 town meeting.

The Historic Landscape Preservation Initiative, administered by the Department of Conservation and Recreation, strives to “. . . identify, document and plan for the preservation of landscapes that are vital to the history, character and quality of life in our communities.” Because heritage landscapes contain both natural and cultural resources, they are subject to a wide variety of threats – but this means that they can also be protected through a multitude of ways. Through this program, DCR’s Office of Cultural Resources assists communities in undertaking a reconnaissance survey to help develop an integrated, proactive planning approach for heritage landscape preservation. Chelmsford has indicated by its past actions that it values its historic resources. The preservation of landscapes initiative provides one additional tool that could assist the Town in continuing these efforts.

### *Historic Structures*

There are thirty-two (32) structures within Chelmsford listed on the MACRIS. The majority of these are bridges that have been constructed along the railroad right-of-way, Route 3 and I-495.

Table 7.8 below contains a complete listing of these structures, the oldest of which are the Limestone Quarries and Kilns found along Beaver Brook that date back to 1740. Veterans’ Memorial Park, constructed in 1990, is the newest listing under this category and was added due to its military significance.

**TABLE 7.8  
HISTORIC STRUCTURES**

Structure Name	Address/Location	Year Built
Chelmsford Limestone Quarries and Kilns	Beaver Brook	1740
Middlesex Canal	Canal Street	1803
North Chelmsford Canal	Princeton Street	1823
Parkhurst’s Pulpit	10 Robin Hill Road	1850
Fletcher Granite Co.	Groton Road	1880
NY, NH&H RR Bridge-Framingham Branch #5.66	CSX Railroad ROW	1920
NY, NH&H RR Bridge-Framingham Branch #6.59	CSX Railroad ROW	1920
NY, NH&H RR Bridge-Framingham Branch #4.09	CSX Railroad ROW	1927

**TABLE 7.8  
HISTORIC STRUCTURES**

Structure Name	Address/Location	Year Built
NY, NH&H RR Bridge-Framingham Branch #5.20	CSX Railroad ROW	1930
Stedman St. Bridge over Rt. 3	Stedman Street	1940
Rt. 3 Bridge over Parkhurst Rd.	Rt. 3	1941
Rt. 3 Bridge over Conrail	Rt. 3	1941
Rt. 3 Bridge over Rt. 110	Rt. 3	1941
Riverneck Rd. Bridge over Rt. 3	Riverneck Road	1954
Rt. 129 Bridge over Richardson Rd.	Rt. 3	1954
B&M Railroad Bridge-Stony Brook Branch #12.8	Princeton Street.	1955
Westbound Rt. 4 over Rt. 3	Rt. 4	1958
Eastbound Rt. 4 Bridge over Rt. 3	Rt. 4	1958
Rt. 3 Bridge over Stony Brook	Rt. 3	1959
Rt. 3 Bridge over Moore's Canal	Rt. 3	1959
Rt. 3 Bridge over Main St.	Rt. 3	1959
Rt. 3 Bridge over River Meadow Brook	Rt. 3	1959
Rt. 3 Bridge over B&M Railroad	Rt. 3	1959
Lowell Connector Bridge over Rt. 3	Meadowbrook Road	1960
I-495 Bridge over Rt. 3	I-495	1961
I-495 Access Road Bridge	I-495	1961
Rt. 3 Bridge over Rt. 40	Rt. 3	1961
Veterans' Memorial Park	North Road	1990

### *Historic Objects*

There are twenty-eight (28) objects listed in the MACRIS within Chelmsford, as shown on Table 7.9 below. These objects are principally comprised of monuments, markers and memorials. The newest object listed in the inventory is the North Chelmsford Vietnam War Memorial erected in 2006.

The Revolutionary War Memorial is the oldest object listed and is located on Academy Street. The native granite memorial, designed by architect Greely S. Curtis of Boston, was dedicated on May 2, 1859 to the Revolutionary soldiers of Chelmsford. The memorial is twenty-seven feet tall, with a thirty-foot terrace, with a shaft four feet in diameter, and cost \$1,627.38 to build. An ash tree once stood near the memorial, under which the "Chelmsford patriots" met to discuss important town issues as early as 1775. There was a hollow somewhere in this tree into which money was placed for the use of soldiers who were about to enlist in their country's service.

**TABLE 7.9  
HISTORIC OBJECTS**

Structure Name	Address/Location	Year Built
Chelmsford Revolutionary Monument	Academy St.	1859
Chelmsford Concord Battle Monument	Central Sq.	1899
Chelmsford World War I Monument	Vinal Sq.	1922
Perham Park Armed Services Monument	Chelmsford St.	1925
Chelmsford First Town Meeting Marker	Crosby Ln.	1925

**TABLE 7.9**  
**HISTORIC OBJECTS**

Structure Name	Address/Location	Year Built
Quessy, Cpl. George Ralph Monument	Main St.	1925
Chelmsford Town Pound Marker	Bridge St.	1926
East Chelmsford World War II Veteran's Monument	Carlisle St.	1943
Clarke School for the Deaf Marker	Academy St.	1952
Chelmsford War Memorial	North Rd.	1955
LeFebre, Lance Corporal Rudolph Jr. Monument	177 Boston Rd.	1967
Lucifer Match Factory Monument	192 Robin Hill Rd.	1975
Middlesex Canal Monument	127 Riverneck Rd.	1987
Harvey Family Monument	2 Harvey Rd.	1989
Blazonis, Peter V. Monument	Gorham St.	1991
Bagni, William L. Memorial Stone and Bridge	North Rd.	1991
Veterans' Memorial Park-Desert Storm Monument	North Rd.	1991
Veterans' Memorial Park-Soldiers' Wall -	North Rd.	1992
Veterans' Memorial Park-POW/MIA Monument	North Rd.	1992
Veterans' Memorial Park - Soldier & Boy Stone	North Rd.	1995
Merrimack Valley Vietnam Veterans Memorial Stone	North Rd.	1997
Veterans' Memorial Park-Contributor's Stone	North Rd.	1997
Veterans' Memorial Park-Kinney Milton Bench	North Rd.	1998
Clark, Allan and Herbert World War II Memorial	Main Rd.	2000
Chelmsford Police Officers' Monument	2 Old North Rd.	2003
September 11 Memorial Bench	200 Richardson Rd.	2003
Operations Enduring - Iraqi Freedom Monument	North Rd.	2005
North Chelmsford Vietnam War Memorial	Middlesex St.	2006

During the public input process, information was provided indicating that the Chelmsford Memorial Veterans' Park is underutilized. Events are held at the park during each of the patriotic holidays. The Park was designed to be a place of contemplation and was located in the area of the schools so that students could learn to appreciate the sacrifices made by those who have served their country. Plans are in place to add a stage to the Park so that additional events may be held there, potentially increasing the use of the Park.



Forefathers Burial Ground: Chelmsford's first cemetery, circa 1655.

The Historical Commission has been inventorying the town's monuments. It was suggested during the public process that flags flown in Iraq and Afghanistan be used at these memorials, and that a walking tour of all the monuments be developed.

### *Burial Grounds and Cemeteries*

As shown in Table 7.10 below, there are six cemeteries in town, four of which are listed on the MACRIS: Heart Pond Cemetery, Riverside Cemetery, West Chelmsford Cemetery, and Forefathers' Burials Ground. All but the Pine Ridge Cemetery are owned by the Town and maintained by the Cemetery Department.

**TABLE 7.10  
BURIAL GROUNDS AND CEMETERIES**

Name	Address	Established
Forefathers Burial Ground: Chelmsford's first cemetery was established circa 1655. The earliest surviving Gravestone is dated 1690.	Intersection of Westford St. and Littleton Rd., Chelmsford Center	1655
Heart Pond Cemetery	Intersection of Garrison Rd. and Parkerville Rd., South Chelmsford	1774
Riverside Cemetery	Middlesex St., North Chelmsford	1841
West Chelmsford Cemetery	Cemetery Lane, West Chelmsford	1852
Pine Ridge Cemetery	130 Billerica Rd., Chelmsford	1888
Fairview Cemetery	Intersection of Main St. and Twiss Rd., North Chelmsford	1928

### *Quarries*

The granite business in the Chelmsford area dates back to the early settlers who came to town in the mid 1600s. In those early days, granite was hewn from the giant boulders left by the upheaval of the glacier moving over the terrain. The granite was used for hearthstones, thresholds, steps and, most notably, the miles and miles of stone walls surrounding what were once fields belonging to farmsteads. Water power was harnessed to run the grist and saw mills in the late 17th century. Granite was then in great demand to build the dams that held in the water and to make the grinding wheels that ground the grain.

By the early 1800s, the granite industry in Chelmsford was enhanced by the construction of canals to move goods from this area into Boston.

Many buildings in Boston used the impressive Chelmsford Grey granite. Charles Bulfinch, a noted architect of this time, chose Chelmsford granite to build University Hall at Harvard University. Chelmsford Granite, purportedly from a site close to where the present day Fletcher Quarry is situated, was also used



Early quarrying operation in North Chelmsford (Source: *The Royal Shawcross Collection*)

to build Quincy Market. The columns for Quincy Market were hauled to a landing in Chelmsford by 22 yokes of oxen. They were then loaded onto a barge and sent in to Boston. The oxen and ultimately the canal were replaced when the railroad reached town. The granite business was well established in Chelmsford by the 1880s.

Similar to the granite quarrying industry, limestone quarries and kilns date back as far as 1736. Most quarries were located along Beaver Brook and on Robbins Hill, and operated until 1830. These quarries were a major source of lime used in plaster for homes in Chelmsford and Lowell.

### ***Endangered Historic Resources***

The Chelmsford Historical Commission has identified the following historic resources as in danger of being lost:

- Middlesex Training School, Princeton Street is an excellent example of colonial revival school buildings in danger of demolition due to redevelopment.
- Odd Fellow's Hall, Chelmsford Center, is owned by a west coast company, and is experiencing demolition by neglect.
- Poor Farm Barn, 110 Billerica Road, is aesthetically unattractive but still structurally sound. The owner has expressed an interesting in converting the barn into artist studios.
- Sugden Press, School Street, is currently vacant.
- Railroad Station, School Street, is currently vacant.
- Vinal Square- without protection any building could be demolished. This area has the largest collection of mill era buildings in Massachusetts.
- The Bowling Alley in Vinal Square is one of the oldest duck pin bowling allies in the country.
- Cottage Row and Gay Street Row Houses are fine examples of worker housing constructed to serve the mill workers in North Chelmsford.

## **PRESERVATION PLANNING IN CHELMSFORD**

Chelmsford is fortunate to have a number of municipal and private non-profit organizations dedicated to preserving historic resources. Town Boards such as the Planning Board and Conservation Commission work collaboratively to ensure that the character of the community is protected. Three preservation organizations, the Chelmsford Historical Society, the Chelmsford Historical Commission and the Chelmsford Historic District Commission often collaborate on preservation initiatives although their missions vary. The Garrison House Association and the Chelmsford Library also play a role in promoting historic preservation.

**The Chelmsford Historical Commission** was established under Massachusetts General Law, Chapter 40, Section 8D, and is comprised of three to seven members, who are appointed by the

Town Manager, and approved by the Board of Selectmen. The Chelmsford Historical Commission's mission is to "identify and preserve the historical heritage and the resources of the Town of Chelmsford". To accomplish its mission, the Commission undertakes the following activities:

- "Compile and maintain an inventory of the town's historic assets.
- Encourage activities to educate and to broaden community awareness of Chelmsford's historical heritage.
- Work with public and private groups to promote preservation.
- Encourage and support the activities of the local historic district.
- Provide preservation information.
- Prepare and distribute preservation publications".

The Commission is also an information resource for businesses, homeowners and contractors who are rehabilitating their residences or businesses, and is also charged with administering and overseeing the town's Demolition Delay Bylaw.

The Historical Commission has been undertaking the Sign Project, which consists of inventorying structures and sites over 75 years old and placing a plaque on the structure or site identifying its age and original owner. The inventory work includes a site visit, an architectural survey, a footprint map, photos and a deed, tax, vital statistics, and media search. Completed inventory and survey data is placed on file with the Town and the State Archives.

Most recently, the Commission worked to place Red Wing Farm on the National Register and collaborated with the Middlesex Canal Commission to apply for inclusion of the entire Canal on the National Register. The Commission works closely with the Community Preservation Committee, and continues to work toward preservation of the North Town Hall. The Commission has also worked to stabilize the headstones in the Heart Pond and West Chelmsford Cemeteries.

**The Chelmsford Center Historic District Commission** was established under Massachusetts General Law, Chapter 40C, and is independent of the Chelmsford Historical Commission. It is comprised of not less than three and not more than seven members, who are appointed by the Town Manager, and approved by the Board of Selectmen. The Historic District Commission functions as a regulatory commission overseeing the Town Center Historic District. The purposes of the Historic District are:

- "To preserve and protect the distinctive characteristics of buildings and places significant in the history of the Commonwealth and its cities and towns.
- To improve and maintain the settings of those buildings and places.

- To encourage new designs compatible with existing buildings in the district”.<sup>49</sup>

Review Standards are in place to guide rehabilitation and construction in the historic district in a fashion that preserves and protects the distinctive characteristics and features of the district’s resources.

The Historic District Commission is a very active body. In FY 2008, the Commission received fifteen (15) applications, of which fourteen (14) were accepted. Nine (9) Certificates of Appropriateness and five (5) certificates of Non-Applicability were issued.<sup>50</sup>

**The Chelmsford Historical Society, Inc.** was organized in 1930, and is a private, non-profit organization dedicated to the preservation of the historical heritage of the town. The Society’s mission is to collect, preserve, exhibit and interpret documents and artifacts reflecting the life of Chelmsford and its people, from the 17th century to the present. The Society is located at the Barrett-Byam Homestead, where tours are offered to educate the public on Chelmsford’s rich history and culture. Visitors may also participate in a variety of educational programs and social activities.

Since 2007, the Chelmsford Historical Society has collaborated with the Chelmsford Library to digitize the historic photographs held in the library’s archive. These photographs are part of the Royal Shawcross photograph collection. The collection includes over 150 photographs taken in the North Chelmsford, Massachusetts area around 1901. The subjects include residences and businesses of the area, including the fire ruins of a major mill.

**The Chelmsford Public Library** provides a rich and extensive collection of information related to the town’s history. The Library website, [www.chelmsfordlibrary.org](http://www.chelmsfordlibrary.org), provides links to the Chelmsford Historical Society, the Chelmsford Historical Commission, the Garrison House and the Middlesex Canal Association. It also provides a link to the Chelmsford Town-wide History Project, a site that allows residents to help document and preserve the town’s history. The Library also sponsors the “Keeping History Alive” program, bringing in speakers to address a number of topics related to history and historical events.

**The "Old Chelmsford" Garrison House Association** is a private non-profit formed to preserve the "Old Chelmsford" Garrison House located at 105 Garrison Road. In 1691, the Garrison House was one of nineteen British garrisons in Chelmsford. The Association raises funds for the preservation and maintenance of the buildings and grounds, and sponsors educational programs for children.

<sup>49</sup> Town of Chelmsford website, [http://www.chelmsfordgov.com/CHCwebsite/Historic\\_District\\_Home.htm](http://www.chelmsfordgov.com/CHCwebsite/Historic_District_Home.htm)

<sup>50</sup> Town of Chelmsford FY 2008 Annual Report.

### ***Demolition Delay Bylaw***

In April 2005, Chelmsford Town Meeting adopted a demolition delay bylaw that allowed the Historical Commission to stay for six months the demolition of structures at least 75 years old that are determined to be historically significant. In 2008, the bylaw was updated, increasing the length of the demolition delay to twelve months.<sup>51</sup> The demolition delay provides time for an owner to explore and develop alternatives to demolition, such as seeking out a person or entity willing to purchase, preserve or restore the building or structure rather than demolish it. A demolition delay bylaw does not guarantee that historic buildings will be saved, as buildings may be demolished after the delay period has expired if the property owner fails to identify a feasible alternative to demolition.

Although the Demolition Delay Bylaw has been in place for nearly five years, the town has never had to invoke the 12-month delay. The existence of the bylaw has encouraged property owners to cooperate with the Historical Commission.

### ***Community Preservation Act***

The Community Preservation Act (CPA) provides a source of funding for Open Space Preservation, Historic Preservation and Affordable Housing through a surcharge on the property tax. The money is kept in a separate CPA account by the Town. Each category (Open Space, Historic Preservation and Affordable Housing) must receive a minimum of 10% of the CPA funds available each year. The remaining 70% may be allocated for any one of the three categories, as Town Meeting sees fit.

In April 2001, Chelmsford voters passed a ballot question that allowed for a ½% surcharge on residential property tax bills, with an exemption for the first \$100,000 in value. In April 2007, voters passed a ballot question that increased the surcharge to 1.5 %, with an exemption for low-income families and moderate-income seniors. The State provides matching funds for the CPA program through a filing fee surcharge at the Registry of Deeds. The State match has been reduced in recent years, and may be as low as 35% for the next few years, as the housing market remains fairly flat and the number of deed filings is relatively low.

The Community Preservation funds are administered by the Community Preservation Committee (CPC), a nine-member committee. The CPC holds an annual public hearing to receive comments on the proposed Community Preservation Plan. The CPC then finalizes the plan for allocating the funds, and presents its plan to Town Meeting for approval. Town Meeting then votes on the proposed recommendations.

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<sup>51</sup> Chelmsford Demolition Delay Bylaw, February 25, 2009.

Community Preservation funds can be used for the purchase and/or preservation of historic structures registered with the State, or that have been determined to be historically significant by the Chelmsford Historic Commission. The CPC has established specific eligibility and selection criteria for projects seeking Community Preservation funding which are outlined as follows<sup>52</sup>:

- Level of Historic significance.
- Is the building/property on or eligible for:
  - ✦ National Historic Register;
  - ✦ State Historic Register;
  - ✦ Local Survey of Historic Properties;
  - ✦ Chelmsford Historic District;
  - ✦ Chelmsford Historic Properties Survey; or
  - ✦ Qualification by the Historical Commission or Historic District Commission as historic resource?
- Age of building.
- Other recognition, including surveys, publications, awards.
- Integrity of resource
  - ✦ Location of the original site
  - ✦ Location in the original historic context
  - ✦ Retains elements of historic design or style
  - ✦ Retains original materials
  - ✦ Retains elements of historic workmanship
  - ✦ Retains feeling and association with the history of the town
- Protect, preserve, enhance, restore and/or rehabilitate town-owned properties, features or resources of historical significance.
- Protect, preserve, enhance, restore and/or rehabilitate historic, cultural, architectural or archeological resources of significance, especially those that are threatened, and in the case of proposals on private property, the proposal and/or proponent meets certain economic criteria as may be required by the CPC.
- Preserve the exterior structural integrity of endangered historic resources owned by non-profit organizations.
- Demonstrates a public benefit.
- Preserve endangered structures and features, such as barns, outbuildings and fences that are important to the Town's character.
- Preserve the settings for the historic buildings or cultural landscapes, such as farm land
- Preserve historic landscapes or enhance the public's ability to use and enjoy such landscapes.
- Are there potential archeological artifacts at the site?

<sup>52</sup> Community Preservation Committee, "Selection Criteria", as provided by Bob Morse, CPC Chairman

- Rehabilitation work complies with Standards for Rehabilitation stated in the US Secretary of the Interior’s Standards for the Treatment of Historic Properties.
- Demonstrates the ability to provide permanent protection for maintaining the historic resource and in the case of proposals on private property, the proposal and/or proponent have demonstrated additional protective measures and have met additional criteria, as may be imposed by the CPC, to ensure the continued permanent protection of the historic resource.
- Administrative and financial management capabilities of the applicant in order to ensure that the project is carried out in a timely manner, and that the historic resource be maintained for continued public benefit.
- Public support from users, preservation professionals and community leaders.
- Level of additional financial or in-kind services, beyond the Community Preservation funds, committed to the project.

The following historic preservation projects have been put forth in the Community Preservation Committee’s *Community Preservation Plans for FY 2004-2010*.

- Restoration of the Hill Jock House (\$50,000)
- Middlesex Canal Survey (\$10,000)
- Headstone Restoration at the Forefather’s Burial Ground (\$5,375)
- Varney Park Study (20,000)
- North Town Hall stabilization (\$28,247)
- Restoration of historic elements of the Heart Pond, Riverside, and West Chelmsford Cemeteries (\$32,487)
- Barrett/Byam House restoration (\$50,000)

Among the additional long-term projects outlined in the FY 2010 Community Preservation Plan is the stabilization of the barn at 110 Billerica Road, the preparation of a Historic and Cultural Resources Preservation Plan, a Commercial Façade Improvement Program, a Residential Façade Improvement Program, funding for the continuation of the inventory of historic structures, and the restoration of the box tombs in the Forefather’s Burial Ground.

## CULTURAL ORGANIZATIONS

The presence of strong cultural organizations in the Town of Chelmsford helps establish and strengthen its identity and plays a key role in shaping and promoting the image and character of the community. It is easy to take our cultural richness for granted and forget that others may not be aware of the range of cultural opportunities that the community offers. Remaining a dynamic community with broad cultural offerings requires the active promotion of cultural assets, and requires commitment and collaboration. Knowledge is the first step towards active engagement.

The Chelmsford business community has long recognized the value of arts and culture through its support of local organizations and sponsorship of cultural events. In fact, many businesses locate in this area precisely because the cultural opportunities offered in Greater Lowell are an attraction to employees. As the local economy diversifies, it is important to continue to create partnerships among cultural organizations and businesses. Such cross promotion of Chelmsford as a culturally diverse place to work and live will benefit both the business and arts communities. This point was raised during the public input sessions conducted for the Master Plan.

The Chelmsford Cultural Council is funded through the Massachusetts Cultural Council and the Town. The Council awards grant funding to local artists and organizations that contribute to the town's cultural community. The grants awarded fund individual artists, educational projects, and collaborative proposals that bring together artists, organizations and local cultural groups. In 2008, the Council received \$8,400 from the Massachusetts Cultural Council, and used \$2,625 of its own resources to fund 16 grant applications which included the following:<sup>53</sup>

- Concert of New England Folk Music
- Christmas and Winter Concerts by the Chelmsford Community Band
- Hansel and Gretel: An Intergenerational Opera Production
- The Battle of Bunker Hill
- A Concert of Classical Songs for Children
- No Child Left Inside Program
- Dance/Concert at the Senior
- St. Patrick's Day Program by the Chelmsford Council on Aging
- Shakespeare: Lunatic, Lover, Poet – Chelmsford Senior Center
- Our Stories: Storytelling Workshop for Seniors
- Requiem Performance by the Westford Chorus
- Three Apples Storytelling Festival and Library Preview
- Carmina Burana
- Winter and Spring Concerts by the Acton Community Chorus
- Poland 2007 – A Public Television Production
- Senior Citizen Musical Program

The Council has also created the International Exchange Grant Program. The program offers 6<sup>th</sup> grade teachers the opportunity to receive a \$1,000 grant to facilitate an international exchange of cultural knowledge between a 6<sup>th</sup> grade classroom in Chelmsford and another classroom located outside of the United States.

The Chelmsford Arts Society promotes the arts through education, networking and scholarships. The Society focuses on displaying artwork in local business establishments and sponsors field

<sup>53</sup> Town of Chelmsford FY 2008 Annual Report.

trips and other events throughout the year. Currently, the Arts Society is searching for a permanent home and gallery space.

Other cultural entities in town include the Illumination Opera, the Chelmsford Community Band and the Chelmsford Friends of Music. The Illumination Opera, [www.illuminationopera.com](http://www.illuminationopera.com) is a new entity, and according to the Opera's webpage, "focuses on intergenerational projects to bring the opera experience to the community, involving performers of all ages". The Friends of Music organization, [www.cfom.org](http://www.cfom.org), works with schools to assist with the music programs at all grade levels. The Community Band, [www.chelmsfordband.org](http://www.chelmsfordband.org), presents concerts on Tuesday evenings during the summer months. The summer concert series is held on the Common.

There are a number of long-standing, annual events in Town which continue to be popular and contribute to the town's quality of life and sense of community. Among these are the Fourth of July celebration, the Memorial Day parade and the Arts Festival in the Town Hall. The Fourth of July celebration has been held every year for 42 years and is well attended. The event is family-oriented and includes carnival rides, game and food booths, fireworks and a parade. During the Fourth of July celebration, the Arts Society holds an art show at Town Hall. This display is the main annual event for the Arts Society and has been taking place for forty years. The Memorial Day Parade is held in both North Chelmsford and the Center, on alternating years.

There are two primary cultural focal points in Town: the Center Town Hall on North Road and the Adams Library on Boston Road. The Old Town Hall is considered by some to be a "cultural icon". On November 7<sup>th</sup> a Grand Opening Ceremony was held for the Center for the Arts established at the Old Town Hall. The Center for the Arts includes an art gallery and office space rented as studio space based on a lottery system. Meeting space is also available to town organizations. (A lack of meeting space was identified as a community need during the public input process.) The Center for the Arts will be used by the Chelmsford Arts Society, the Illumination Opera, the Community Jazz Band and others. During the public input sessions, participants suggested that the Town should examine the feasibility of establishing an Arts District, should a large space, such as a mill, become available.

The Chelmsford Library plays a significant role in the cultural and artistic offerings within the town, with over 900 programs being provided in FY 2008.<sup>54</sup> These programs included book discussion groups, conversation circles, movie nights, guest lecturers and authors, informational seminars, puppeteers, musical performances, arts receptions and children's programs. The Library has established partnerships with the Friends of the Library, volunteers, local agencies, the school system, non-profit organizations and businesses in order to offer its unique programming. During the public input sessions for the Master Plan, participants commented that the hours at the MacKay Library need to be increased to better serve young families.

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<sup>54</sup> Town of Chelmsford FY 2008 Annual Report

## ISSUES AND OPPORTUNITIES

Natural resources are closely linked with the Town's identity and sense of place, and preserving these resources is critical to the quality of life for the town's residents. Although fiscal conditions present one of the greatest challenges to future conservation efforts, the Master Plan Committee recommends that Community Preservation funds be used to purchase land or deed restrictions for properties containing natural resources such as aquifers, water resources and wildlife habitat.

While the Master Plan Committee finds that the Town's zoning bylaw and other development regulations are effective in protecting natural and cultural resources, the Town could still do more to encourage or require development practices that will further preserve and protect these resources. For example, the town's subdivision regulations presently prohibit the use of many low impact development (LID) measures for managing storm water. The Land Use and Zoning section of the Master Plan provides more detailed information on LID techniques (see page 56) and recommends that the Town modify its subdivision regulations to allow and encourage the use of Low Impact Development techniques, as a means of improving water quality while reducing maintenance costs.

Eleven streams within the Town of Chelmsford suffer from some form of impairment. The Master Plan Committee recommends that the town implement a program to minimize the application of road deicing chemicals and lawn fertilizers to the extent feasible. In addition, the Town should require the preparation of an Integrated Pest Management Program for sizable projects that come before the Planning Board and/or Conservation Commission. The Conservation Commission should work with DEP, surrounding communities, environmental organizations and neighborhood residents to develop a program to improve environmental conditions and water quality these waterway.

The Town should develop education and awareness programs to encourage the protection of natural resources. Such programs should include the Conservation Commission, the Water Districts, the Town Engineer, and the School Department, as well as private non-profit and volunteer organizations such as the Open Space Stewards and the Chelmsford Land Trust. The town should also tap into existing state and federal public education programs and materials provided by the Environmental Protection Agency (EPA), the Massachusetts Department of Public Health (DPH), and the Massachusetts Department of Environmental Protection (DEP).

In 2004, the Chelmsford Board of Selectmen adopted a policy requiring one-to one replacement for tree removal occurring on town-owned land. In addition, the Chelmsford Open Space Stewards have worked with Jones Farm to open a town nursery at Sunny Meadow Farm to cultivate trees for this purpose. The town needs to build upon these efforts by developing a forestry management plan for the community's remaining forested lands. Such a plan typically covers a ten-year period and outlines goals and objectives, provides a detailed property

description and resources inventory, and contains a list of management recommendations with an implementation schedule. The stewardship section of the plan addresses other issues such as wildlife and recreation. The Department of Conservation and Recreation (DCR) administers a competitive grant program to fund the development of such plans. In addition to this proactive program, the town should establish a policy to address tree protection, tree maintenance, and tree replacement for new development and redevelopment proposals undergoing site plan review.

The Town should develop and implement an invasive species management plan. Invasive and exotic species such as multiflora rose, oriental bittersweet, and purple loosestrife, are commonly found in many areas of town. The implementation of this management plan will involve the participation of the Conservation Commission, Highway Department and volunteers from non-profit organizations.

The citizens of Chelmsford recognize the importance of preserving the remnants of the Town's agricultural heritage, as evidenced by the formation of the Agricultural Commission in 2009. The majority of remaining farmlands in town are not permanently protected and the Town needs to work to preserve these enterprises through a variety of mechanisms. The Town should actively encourage property owners to consider measures to conserve their land in perpetuity. When land is proposed for development, the Town should work with property owner to explore other options, such as the Agricultural Preservation Restriction program, or the Town may want to consider purchasing the development rights or purchasing the property in fee, using Community Preservation Act (CPA) funds, as has been done in the past.

The public process for preparing this Master Plan has made it evident that the Town clearly values its historic resources. The Town should prepare a Historic and Cultural Resources Preservation Plan to inventory these resources and to outline a strategy to maintain, preserve, protect and promote these resources. The town needs to promote the town's rich cultural and historic fabric and charm in a way that builds awareness and support for its preservation, while at the same time promoting tourism and benefiting the local economy. In this regard, an information booth and/or board on the Town Common and or in the Old Town Hall should be established.

Town officials, boards and commissions need to work more closely with the Historic Commission to preserve historic features such as stonewalls, facades and historic foundations by incorporating the preservation of these assets into the Town's existing bylaws and regulations. The land use and zoning section of this Master Plan recommends the creation of design guidelines for select areas throughout town. These design guidelines should emphasize that preservation of these historic features is a priority for the community. In addition, the Town's subdivision regulations and zoning bylaw should provide guidance for the development community relative to this issue.

The Town should participate in the Historic Landscape Preservation Initiative administered by the Massachusetts Department of Conservation and Recreation. Under this program, DCR will assist the community in undertaking a reconnaissance survey to help develop an integrated and proactive planning approach for heritage landscape preservation.

The Master Plan Committee has found that the Town needs to improve its efforts to maintain town-owned historical buildings, as evidenced by the condition of the two historic town halls. A maintenance plan is needed for all of the Town's structures, including the historic properties. The Master Plan Committee believes that the preservation and maintenance of Chelmsford's historic public buildings should be a priority for the allocation of Community Preservation funds.

Resources should be made available to provide support to several boards and commissions, including the Historical District Commission, Historical Committee, Community Preservation Committee, and Agricultural Commission. This should include assistance in applying for grant money. The Town should also establish a program that provides low-interest loans to finance facade improvements for private properties located within a designated historic district or on a scenic roadway. These low interest loans would be provided in exchange for a preservation restriction on the property. In general, the Master Plan Committee believes that a covenant or preservation restriction in perpetuity should be required for all historic preservation projects receiving Community Preservation loans.

The Master Plan Committee finds that the Town needs to improve the level of protection and storage facilities for the town's historical documents and archives. Documents stored at Town Hall and at the Library are vulnerable to theft, vandalism, and damage from fire, insects, rodents and moisture. The Historical Society and the Library have begun to scan many of these documents, but the handling and storage of the original materials needs to be adequately addressed. The Town needs to institute procedures to train staff in accessioning, storing, and preserving historical record and documents. The Town should also consider constructing an Archives Center to stabilize and preserve Chelmsford's historic records.

The Town currently has several roadways that are designated as scenic roads, however, most local officials and residents are unfamiliar with the designation, and do not know whether there are procedures in place to administer or enforce the scenic roadway bylaw. Although Town Meeting has designated historic roads on three separate occasions, there is no mention of MGL statute, the designated roads, or a bylaw within the Town Code. The Town should review the bylaw and the administrative procedures to determine whether they are practical, consistent with the operating procedures of the Town, enforceable, and up-to-date. Local boards, committees and residents should be educated as to the significance of the designation, and should become familiar with the permitting procedures that are to be followed.

The North Chelmsford/Vinal Square area contains an impressive number of mill era structures, most of which are eligible for inclusion in the National Register of Historic Places. Clearly, this

area is appropriate for the creation of a national or local historic district. However, during the public involvement process, some residents expressed concern regarding the political challenges of creating a formal historic district, and instead, suggested that the area be designated an “honorific” historic district. The concept of establishing an historic district of some sort should be further explored through a series of meetings and conversations with neighborhood residents and businesses. The possibility of creating an historic district in South Chelmsford should also be explored. An educational process should be initiated so that citizens understand the significance, restrictions and impact of creating either a National Register district or a local historic district.

## RECOMMENDATIONS

- The Town’s subdivision regulations should be modified to allow and encourage the use of Low Impact Development (LID) techniques for managing storm water.
- The use of deicing chemicals and lawn fertilizers should be minimized, and the town should require an Integrated Pest Management (IPM) Program for sizable development proposals. In addition, an IPM program should be utilized for addressing turf maintenance issues at the golf course and at the town’s playing fields by the appropriate board or department.
- A public education and awareness program that encourages the protection of natural resources should be established for town residents and the schools. The Town should emphasize the importance of educating its youth and the community regarding the significance of the Town’s history. The Town should also tap into existing state and federal public education programs.
- A forestry management program should be developed for the community’s remaining forested lands. In addition, the town should establish policies for tree protection, tree maintenance, and tree replacement for new development and redevelopment proposals undergoing site plan review. The public should be made aware of the Board of Selectmen’s tree protection and replacement policy.
- The Town should develop and implement an invasive species management plan.
- The Town should work with property owners to preserve the town’s remaining agricultural lands. The Town should also consider purchasing development rights for these agricultural properties or purchasing the properties in fee, where feasible and appropriate.

- A Historic and Cultural Resources Preservation Plan should be prepared to inventory resources, and outline a strategy to maintain, preserve, protect and promote the historic and cultural assets of the community.
- An information booth should be established on the Town Common and/or in the Old Town Hall to promote tourism and benefit the local cultural economy. In addition, the Town should encourage the State to reopen the Visitor's Center at the rest area on I-495 northbound in Chelmsford.
- Design guidelines established for areas throughout the community should emphasize the importance of historic preservation.
- The Town's subdivision regulations and zoning bylaw should be modified to provide the development community with guidance relative to the preservation of historic resources.
- The Town should participate in DCR's Historic Landscape Preservation Initiative, in order to develop an integrated and proactive approach to heritage landscape preservation.
- Efforts to routinely maintain and preserve Town-owned historic structures must be improved. A maintenance and preservation plan is needed for all Town-owned buildings, including its historic properties. The need for improved maintenance and preservation of these structures should be reflected in the funding priorities of the Community Preservation Committee.
- Resources should be made available to provide support to several boards and commissions, including the Historical District Commission, Historical Committee and Agricultural Commission. This should include assistance in applying for grant funds.
- The Town should establish a program that provides low-interest loans for façade improvements for private properties located in a designated historic district or along a scenic roadway. These low-interest loans should be provided in exchange for a preservation restriction or covenant in perpetuity.
- The Town should institute procedures and train staff in acquiring, storing, and preserving historical records and documents. The Town should also consider constructing an Archives Center to stabilize and preserve its historic records.
- The Town's Scenic Roads Bylaw and administrative procedures should be reviewed to determine whether they are practical, enforceable, up-to-date, and consistent with the practices and operating procedures of the town. Town staff, boards and commissions

should be educated in terms of the significance of the bylaw and the permitting procedures that are to be followed.

- The concept of establishing historic districts in North Chelmsford and in South Chelmsford should be further explored. An educational process should be initiated so that citizens understand the significance, restrictions and impact of creating a National Register district vs. a local historic district.
- Work with DEP, the surrounding communities, environmental organizations and neighborhood residents to develop a program to improve environmental conditions and water quality its waterways.