

# NATURAL, CULTURAL & HISTORIC RESOURCES

*Data collected from the EO418 plan (2004) and the Open Space and Recreation Plan (2004)*

## FACTS

### 1. FLORA AND FAUNA

A trip through Easthampton includes a drive in the country, a view from a mountaintop, and a glimpse across a river. The features that set Easthampton apart from the surrounding cities and towns include the resources so important to ecosystem concerns: the Oxbow and the Mount Tom Range, the farmlands found in the Park Hill and East Street areas, and the ponds in the center of town. This combination of ponds, open fields, and the mountain range create a landscape that is uniquely Easthampton. Excellent views of and from the range are found throughout Easthampton. The view from Nashawannuck Pond in the center of town continues to define Easthampton. The East Street area, in its location at the base of the range, provides a close-up view of the range while wide-angle vistas are found in areas along Park Hill in the northwestern corner of town. The Route 10 corridor, which is zoned for Highway Business, serves as a gateway to the city and offers unexpected mountain glimpses. Preservation of the best remaining views along this road, perhaps in the form of a city park, could help to retain the character of Easthampton and signal visitors that they have arrived in Easthampton. The planning board, to the extent that it is legally able, should review development proposals for consistency with Section 12.79(b) of the City's Zoning Ordinance, "Protection of city amenities on abutting properties through the minimizing of any detrimental or offensive uses or destruction of unique or important natural, scenic or historic features on the site".

Easthampton's vegetation is characteristic of the Connecticut River Valley region. The Northern Hardwood forest type meets the Oak-Hickory forest type in this area of western Massachusetts. The presence of this transition zone, along with the land-use history of Easthampton, contributes to a

diversity of plant species. Forests once covered the area, but were harvested and cleared in the late 1700s to make way for farming. The slopes of the Mount Tom Range, the protected lands of the New England Forestry Foundation and stretches of land along the Manhan River are among the areas where forests of significant size are currently found. Forest land in Easthampton typically tends toward mixed hardwoods. Coniferous stands, generally hemlock and white pine are found along the Mt. Tom range and in stream valleys as well as in old fields. Pockets of pitch pine are found in the sandy soils of the southern part of town.

Forest fragmentation is a threat to several species of birds and mammals in New England. Some species require uninterrupted, interior forest as habitat and many species of migratory songbirds require interior forest for reproductive success. For this reason, preserving these unbroken forests area is important.

The Arcadia Wildlife Sanctuary maintains over 600 acres of marsh, meadow, forest, pond, and streams along the Oxbow in Easthampton and Northampton. Many species of wildlife inhabit the area on a seasonal and year-round basis including deer, rabbit, fox, grouse, pheasant, muskrat, turtles, wood ducks, herons, hawks, owls, swallows, pike, largemouth bass, chain pickerel, yellow perch, and brown bullheads. Arcadia Wildlife sanctuary manages over a hundred acres of grassland in Easthampton/Northampton. This is critical habitat in Massachusetts as farmland is either developed or succeeds to forest. Rare bird species such as the Eastern Meadowlark, bobolinks and savannah sparrows have been observed nesting in the area. Also, great blue herons have a rookery near the grasslands.

The slopes of the Mount Tom Range, the Connecticut River Oxbow, and the Manhan River watershed are of particular value as wildlife habitats. The Mount Tom Range functions as a wildlife refuge as well as a major migration route for birds. Rare species of moths, butterflies, reptiles and amphibians including Marbled, Jefferson, Four-toed, and Spring Salamanders as well as Eastern Box Turtles are

found within the range. Many large raptors are often in the vicinity.

In addition to land creatures, the Manhan River and a few of its tributaries currently support a native trout population and the North Branch of the Manhan supports one of the few native brown trout populations in Massachusetts. This diverse area contains habitats for three species of rare turtles, bald eagles, the endangered zebra clubtail dragonfly as well as rare plants. The sandy riverbed of the meandering Manhan River provides important habitat for several rare freshwater mussel species as well as rare dragonflies. These species of dragonflies are good indicators of ecosystem health, confirming that this core habitat contains high-quality freshwater habitat for other aquatic species as well.

**State listed species that have been identified as endangered (e); threatened (t); or special concern (sc) in Easthampton include:**

Shortnose Sturgeon *A. brevirostrum* (e)  
Spotted Turtle *C. guttata* (sc)  
Wood Turtle *C. insculpta* (sc)  
Triangle Floater (mussel) *A. undulata* (sc)  
Yellow Lampmussel (mussel) *L. cariosa* (e)  
Eastern Pondmussel (mussel) *L. nasuta* (sc)  
Brook Snaketail (dragonfly) *O. asperses* (sc)  
Zebra Clubtail (dragonfly) *S. scudderi* (e)

Several types of wetlands are found in Easthampton: wet meadows, marshes, shrub, and forested wetlands as well as the Oxbow. A few types of floodplain forest communities flourish in the lands along the Oxbow, on the banks of the Manhan, and along its tributaries. Species found in these areas include green ash, sycamore, red and silver maple, and American elm. Arcadia Wildlife Sanctuary and the Pascommuck Conservation Trust and have taken measures to preserve the lands on which these wetland species grow by purchasing and preserving strips along both the Oxbow and Manhan River.

The bulk of wetlands in Easthampton are the floodplains of the Manhan River. There are also pockets of wetlands scattered throughout the city, including marshes and shrub swamps off of Florence Road and around Bassett Brook and a large amount of marshland located in and around the Oxbow. These wetlands and floodplains are important for their natural resource and their economic value to the community. They provide flood storage, pollution filtration and habitat for wildlife. Development on wetlands and flood plains impairs

their function and causes costly and sometimes irreparable damage to people, property, and wildlife.

Vernal pools, temporary pools of water which form in the spring and usually dry up in the summer, are another important wetland resource. They are particularly important habitat for amphibians. Few vernal pools have been certified in Easthampton, leaving these resources vulnerable to impacts as they may not be easily identified during other seasons of the year. Many amphibians that rely on vernal pools or wetlands as breeding habitat also need uplands for the rest of their life cycles. Development around vernal pools and wetlands needs careful attention to the upland requirements of species, as well as the immediate wetland resource area.

Under the BioMap project, the Massachusetts Natural Heritage and Endangered Species Program has conducted analysis of habitat areas critical to the success of rare plant and animal communities. The two areas most important to the long-term viability of such species are the Mt. Tom range and the Manhan River/Oxbow.

**Plants that the state has identified as endangered (e); threatened (t); or special concern (sc) in Easthampton include:**

Climbing Fumitory *A. fungosa* (t);  
Boreal Wormwood *A. campestris* (e)  
Purple Clematis *C. occidentalis* (sc)  
Autumn Coralroot *C. odontorhiza* (sc)  
New England Blazing Star *L. borealis* (sc)  
Swamp Lousewort *P. lanceolata* (e)  
False Pennyroyal *T. brachiatum* (e)

The Mt. Tom/East Mountain ridge is one of the state's most important rare species sites. A tremendous amount concentration of rare plant and animal species is located within this Core Habitat. Among the noteworthy rare plant populations is a fine stand of Black Maple as well as populations of rare herbaceous plants, such as Cornel-Leaved Aster and Purple Clematis. Also found in area is a large Hickory-Hop Hornbeam forest of excellent quality that is associated with many rare species. Hickory-Hop Hornbeam forests are open, mixed hardwood forests dominated by various Hickory species with significant numbers of Hop Hornbeam trees in the subcanopy.

Another Core Habitat encompasses areas along the Manhan River and several of its tributaries and associated wetlands. A small river floodplain

forest of unusually high quality is found here. The Silver Maple-Green Ash forest occurs on alluvial soils of small rivers and streams. This rare type of forest can be easily impacted by alterations of water flow or pollution and is usually associated with a suite of invasive, exotic species. Easthampton's Silver Maple-Green Ash forest, however, has remained in excellent condition and is disturbance free. The Transitional Floodplain and High-Terrace Floodplain forests here are also important occurrences of these uncommon community types, especially because of their proximity to each other.

Because rare species generally survive best in very large habitat areas, adding protection adjacent to the existing conserved land of the range will help to ensure the long-term viability of these species.

## **2. AGRICULTURAL LAND**

Agricultural crops such as corn and hay as well as apple orchards comprise the majority of vegetation from north of Plain Street to the Nonotuck Park area and from the Manhan River to Northampton. A few small-scale vegetable farms and now a community supported agriculture farm called "Ol' Turtle Farm" are found throughout town. Several farms along East Street have been converted to residential use in recent years. In addition to the economic contribution, farms and fields also provide historic and scenic value to the city.

The Connecticut River Valley, stretching through Franklin, Hampshire and Hampden Counties comprises a third of the state's farmland land, holds 27% of the state's farms and produces over \$105 million dollars of crops, vegetables, dairy produces and tobacco on some of the richest and most productive soils in the Commonwealth. The American Farmland Trust lists the Connecticut River Valley as one of the twenty most threatened agricultural regions in the United States. The region was ranked in the top twenty not only because of the intensity of its development pressure, but also because such pressure threatens some of the most uniquely productive prime and important agricultural soil in the world. According to the 1997 report *Farming on the Edge*, published by the American Farmland Trust, 58% of the Connecticut River Valley contains high quality farmland in areas with a high rate of urban development.

High costs of production, high land costs, low commodity prices, taxes, restrictive ordinances, nuisance complaints and lack of infrastructure are all reasons that farms become non-viable. Development surrounding farms contributes to loss farm viability through increased pressure on

farming "nuisances" or increased land prices. Restrictions on everyday operations make farms less efficient—a first step in the conversion of farmland to development. The conversion of farmland to urban development is not random; it is affected by the market place and government policies.

- Between 1971 and 1985, the region lost more than 2,000 acres of intensively cultivated land. (*UMass McConnell Land Use Data, 1971-1999 and EOEA Buildout Reports, 1999-2001*)
- From 1987 to 1997, the region had a decrease of nearly 30,000 acres in farms (*U.S. Census of Agriculture*)
- The number of farms in Massachusetts decreased dramatically from a peak of 37,007 to a low of 4,497 in 1974, but rebounded by 1997 to 5,574 farms (*Massachusetts Benchmarks, Winter 1999*).
- From a low point in 1974, all three counties gained farms from 1974 to 1987—a regionwide gain of 520 farms. Nevertheless, all three counties lost farms from 1987 to 1997, a regionwide loss of 230 farms. There were modest gains over the past five years (*US Census of Agriculture*).
- In the valley there are 268 farms protected from development through the placement of agricultural preservation restrictions. This comprises approximately 20,000 acres—less than 13% of the valley's farmland. The remaining farmland is under high risk of development (*Massachusetts Department of Agriculture*).

Agriculture is significant in terms of land, economic impact and employment in the Pioneer Valley and in Easthampton. A typical farm in the Connecticut River Valley is family-owned, less than 50 acres in size, and operated by a farmer in his mid-fifties. Increases in the amount of developed land are cutting into the available supply of high quality farmland. The region lost 15% of its farmland in only ten years. Between 1971 and 1995 the rate at which land was urbanized in the Connecticut River Valley increased from 1,110 to 1,492 acres per year. The construction of single family homes in suburban and rural communities accounts for most of the land development in the valley. The number of farms in the Connecticut River Valley—nearly 140,000 acres—remains unprotected. This region anchors an increasingly profitable, although threatened, agricultural economy in Massachusetts.

As of 2002, there were 32 farms in Easthampton; were 15 farms of 1 to 49 acres and were 17 farms of 50 to 999 acres. Of the 32 farms, 16 reported incomes of

less than \$50,000 and 10 reported incomes of \$50,000 to \$249,999. There are 15 full time owners and 11 part-time owners. No farms reported being certified to sell organically produced commodities. Eleven farms reported that cropland was used for pasture or grazing and 8 farms reported that cropland was idle or used for cover crops or soil-improvement but not harvested and not pastured or grazed. Zero farms reported being under conservation restrictions or state APR programs. Previous reports have identified farmland protection in the Park Hill area and along East Street as priorities.

### **3. WATER RESOURCES**

Easthampton is part of the Connecticut River Watershed and more specifically, the Manhan River subwatershed. In Easthampton, the Manhan River is the main tributary stream to the Connecticut River. The North Branch of the Manhan, Hannum Brook, and Basset Brook flow into the Manhan from the north. From the south, Broad Brook, White Brook, Wilton Brook and Brickyard Brook flow into a series of man-made ponds in the center of town. These waters eventually reach the Manhan River about a mile above where it empties into the Oxbow, and thence into the Connecticut River itself. Areas along the Manhan River and Oxbow are frequently subject to flooding.

### **THE BARNES AQUIFER**

The Barnes Aquifer supplies water to four municipalities within the Connecticut Valley of western Massachusetts including the cities of Westfield and Holyoke as well as the towns of Easthampton and Southampton. Currently 11 municipal wells supply 5 million gallons of water per day to 60,000 people in these communities. The Barnes Aquifer runs north-south through Southampton, Westfield, Easthampton, the southern end of Northampton, and the western edge of Holyoke. There is generally considered to be a groundwater flow divide in the area of the Hampton Ponds in Westfield such that groundwater north of the Hampton Ponds tends to flow north and groundwater to the south of the Hampton Ponds tends to flow south to the Westfield River. The aquifer ranges in thickness from 50 to 250 feet providing an abundant depth for well development (Dufresne-Henry, 1990). The saturated thickness of the aquifer decreases toward the western and eastern edges of the aquifer and to the south.

The Town of Southampton operates one municipal well known as the College Highway Well. The City of Westfield has developed six wells in the Barnes Aquifer. Well yields in Westfield are estimated to range between 75,000 gpd/ft (10,000

ft<sup>2</sup>/day) and 135,000 gpd/ft (18,000 ft<sup>2</sup>/day) (Dufresne-Henry, 1989).

## **4. PRE-DISASTER MITIGATION (NATURAL HAZARDS)**

### **ADD: PRE-DISASTER MITIGATION INFORMATION**

## **5. HISTORIC RESOURCES**

Easthampton began as an agricultural community during the Contact and Colonial Periods. Small mills began to appear along the Manhan River, which connects to the Connecticut River, by the late 1600s. By the middle of the 19<sup>th</sup> century, the industrial revolution had taken root. Large scale manufacturing located close to the Manhan River and three mill ponds were created to harness the power of the river. The national button and elastic factories were the largest factories during this period. The canal that linked Northampton with Long Island Sound proved a failure, before giving way to the iron horse in the middle part of the 19<sup>th</sup> century. The mills attracted skilled workers from England, Germany, Ireland, Poland and Canada. The large companies fared well into the early part of the 20<sup>th</sup> century. But by the 20<sup>th</sup> century's end, many of Easthampton's factories had downsized, closed or relocated due in part to increasing global competition. The Eastworks mill building has found new life as a mixed-use facility housing apartments, stores, and restaurants. Commercial development is primarily located along the major transportation spines: from Route 141 to Cottage and Union Streets terminating at the downtown center at Main Street and along Route 10 connecting to Northampton. Easthampton continues to have a significant manufacturing and industrial base compared to its more agrarian neighbors. The arts and cultural scene has flourished in recent years, attracting artists and small entrepreneurs.

There are many historic structures and districts throughout the city. From the commercial district downtown to the mill buildings, many impressive buildings remain. The Emily Williston Library and the old Town Hall are other notable buildings. An extremely interesting artifact that appears in a number of places is the remains of the New Haven-Northampton Canal. This canal actually connected to Long Island Sound for a short period in the 19<sup>th</sup> century, before being displaced by the railroads.

There is one national historic district which is centrally located around town hall. The Historic Commission is investigating a second national historic district for parts of Pleasant Street. The Easthampton Historic Commission provides

development review for projects including demolition delay orders.

## CHALLENGES & OPPORTUNITIES

(From presentation at MPC Dec meeting)

NASHWANNUCK POND

## TOOLS AND CASE STUDIES

### REGULATORY

#### Update Tree / Planting Section of Subdivision Regulations

With Public Works/Engineering and the City Tree Warden, determine the best method for creating a healthy design for street trees in harmony with sidewalks and underground utilities. This can include tree protection, tree replacement, and street tree planting during subdivision development. *Example: Granby*

#### Adopt Public Shade Tree Ordinance

A Public Shade Tree Ordinance reinforces MGL Chapter 87 and outlines the powers of the Tree Warden, procedures for removing shade trees, procedures for planting public shade trees, and penalties for violating provisions of the law. The Tree Ordinance can also establish the creation of a Tree Committee, a list of recommended street trees, and a Tree Fund. *Examples: Northampton, Westfield, Springfield, Lexington, Amesbury, Cambridge, Newton.*

#### Demolition Delay Ordinance

A Demolition Delay Bylaw can be a very effective tool in helping to protect historically significant resources in the community. While a demolition bylaw, alone, cannot prevent demolitions indefinitely, the opportunity of delaying the demolition of a significant resource can often have a positive outcome.

Generally, in a town with a demolition bylaw, a property owner requesting a demolition permit from the Building Department must first receive approval from the Historical Commission. If the Historical Commission determines that the building is preferably preserved, a delay period is imposed. The delay period provides a window of opportunity to consider other alternatives to the demolition of the building. Nevertheless, after the delay period has expired, the Building Inspector can sign the demolition permit and demolition can proceed. A

demolition bylaw cannot indefinitely prevent a demolition from occurring.

#### Viewshed Bylaw

There are two common types of viewshed bylaw. The first allows new development subject to some type of design review. A stricter type of viewshed bylaw sharply curtails the types of new development allowed in viewsheds in order to preserve scenic areas in a relatively undisturbed state. These bylaws require sensitive siting or screening of buildings allowed in the viewshed. Other bylaws that can be used to protect scenic areas are Hillside and Ridgeline Development bylaws.

### NON-REGULATORY

#### Tree Canopy Inventory

Inventory street trees, species, and condition throughout city. Serves as basis for maintenance and replacement plan. Establish City tree nursery for growing replacement trees. *Example: Southampton*

#### Adopt Design Standards

These can be incorporated into a town's bylaws and applied to new development projects in one or more districts to insure that new developments fit into the community character of the city. They can also be applied in the context of site plan review for certain types of development projects, or as part the city's subdivision regulations.

## GOALS AND STRATEGIES