



OPEN SPACE AND NATURAL RESOURCES ELEMENT

TECHNICAL PAPER

The overall landscape of East Longmeadow is hilly due to glacial action, with rich wetlands concentrated in the valleys between the hills. The land now called East Longmeadow, Massachusetts, was initially inhabited by Agawams who were members of the Pocumtuc Confederacy, where economic and subsistence cycles consisted of hunting, gathering, planting and harvesting in their seasons, in the various villages throughout the area. As East Longmeadow was first settled in 1720, the story of the town is one of steady progression. During the colonial period, the common pasturelands that made up the town were slowly developed into small farms until red and brown sandstone was discovered underneath the soils. The sandstone later became widely used building material in monuments and building across the United States, including the Smithsonian Institution in Washington, D.C. Now primarily a suburban community for people working in the larger Springfield and within seven miles of Interstate 91, East Longmeadow continues to offer small-town amenities and charm maintaining a mix of rural, suburban, industrial and urban elements forming a vibrant, evolving community.

INVENTORY AND EXISTING CONDITIONS

Geology and Topography

The soils and topography of East Longmeadow are result of the great Wisconsin Glacier that covered all of New England during the Pleistocene Period. As the glacier advanced through the Connecticut River Valley, drumlins formed – McCarthy Hill located at the curve on Mapleshade Avenue and where Oak Bluff Circle and Breezy Knoll Road meet. As the glacier retreated, left behind was a general layer of unstratified glacial till and lingered in the center of the Connecticut River Valley. The landscape opens up with view to the south and eastward towards the Minnechaug and Wilbraham Mountains.

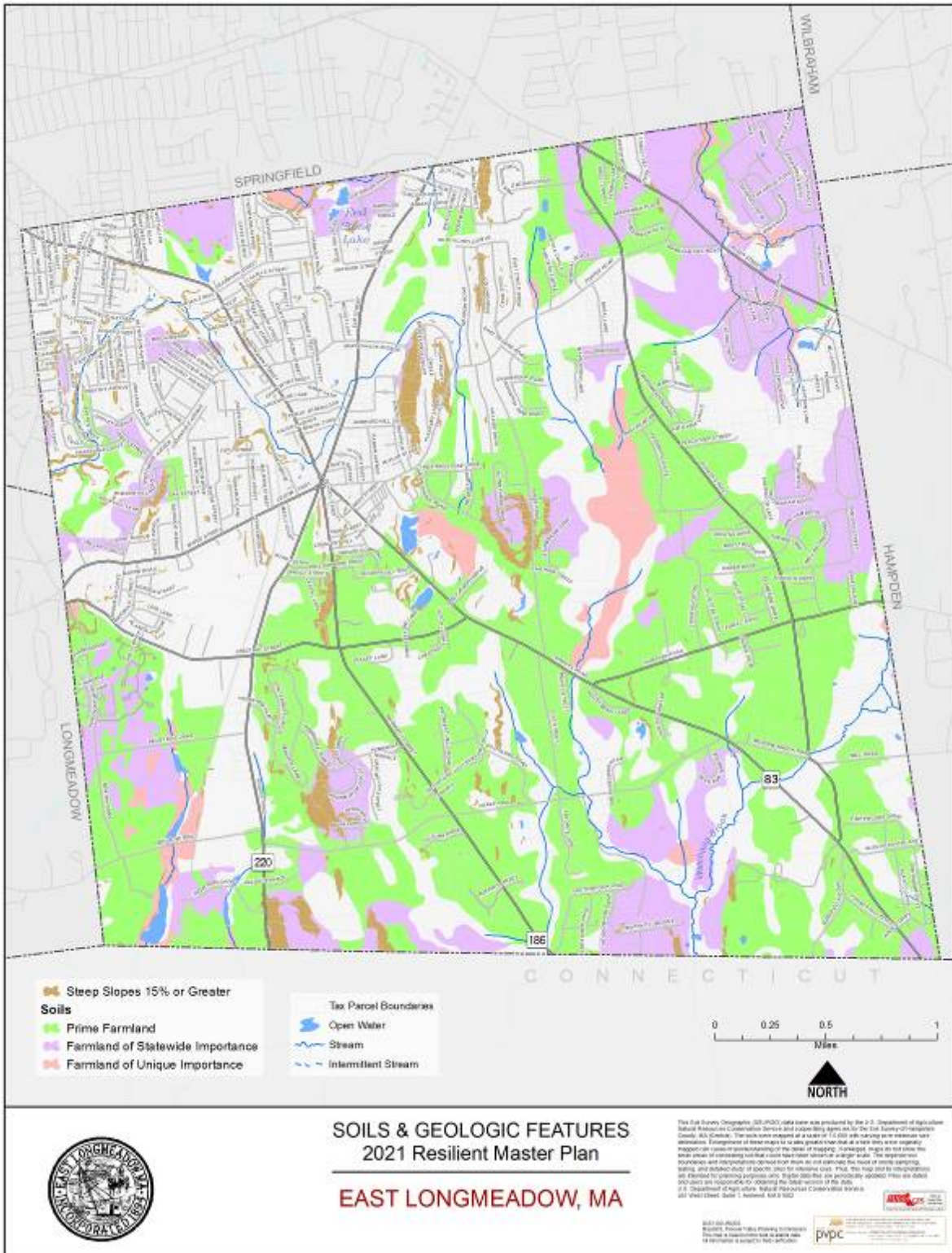
Agricultural Soils

In addition to supporting and constraining habitat and human development, soil characteristics also influence agricultural productivity. Natural Resource Conservation Service (NRCS) soil data contains a classification system for evaluating agricultural soil productivity. This system identifies soils as Prime farmland soils, Farmland of Statewide Importance and Farmland of Unique Importance. Prime Farmland is defined by the NRCS as “land that has the best combination of physical and chemical characteristics for economically producing sustained high yields of food, feed, forage, fiber, and oilseed crops, when treated and managed according to acceptable farming methods.” Farmland of Unique Importance are defined as “land other than prime farmland or farmland of statewide importance that might be used for the production of specific high value food and fiber crops.”

The soils that make up East Longmeadow are Walpole – Scarborough – Wilbraham, Urban Land, Sandy and Gravelly – Windsor – Agawam, and Cheshire – Urban Land, Loamy. The Cheshire – Urban Land, Loamy soil area occupies about 47 percent of the town. West of Shaker Road, the soils were formed by the Chicopee delta, are sandy and well-drained.

Map 1 shows areas of prime farmland soils in East Longmeadow. Areas of Prime Farmland Soils and Farmland Soils of Unique Importance are scattered throughout town.

Map 1 - Prime Farmland Soils



Wetland and Water Resources

Development in East Longmeadow has historically been dictated by its terrain and landscape, as its natural resources led to its development as an agricultural village, reliant on farming and its quarries.

The town is intersected by many streams which flow into the Connecticut River. Making up thirteen miles of streams, there are three large and two small watersheds in East Longmeadow: Pecousic, Watchaug, Freshwater and Jawbuck Brooks, and the Mill River and its tributary Schneelock Brook. The majority of these waters are on private land.

There are approximately 607 acres of wetlands in East Longmeadow. Wetland habitats in town occur primarily along the streams and tributaries as well as in lands adjacent to the major ponds in East Longmeadow. The wetlands, streams, rivers and lakes provide critical wildlife habitat and recreational opportunities. Wetland habitats in town occur primarily along the streams and rivers as well as in lands adjacent to major ponds.

The Massachusetts Wetlands Protection Act (MGL 131, Section 40) protects wetlands, water sources, and adjoining land areas by preventing or minimizing impacts to these resources.

Anyone proposing to remove, fill, dredge, build upon, degrade, discharge into, or otherwise alter resources or areas within the areas listed below must submit an application to the Conservation Commission for review:

- 200 feet of any perennial stream or river
- 100 feet from any freshwater wetland, wet meadow, marsh, vernal pool, reservoir, pond of any size, or lands subject to flooding or inundation by ground or surface water
- 100-year floodplains

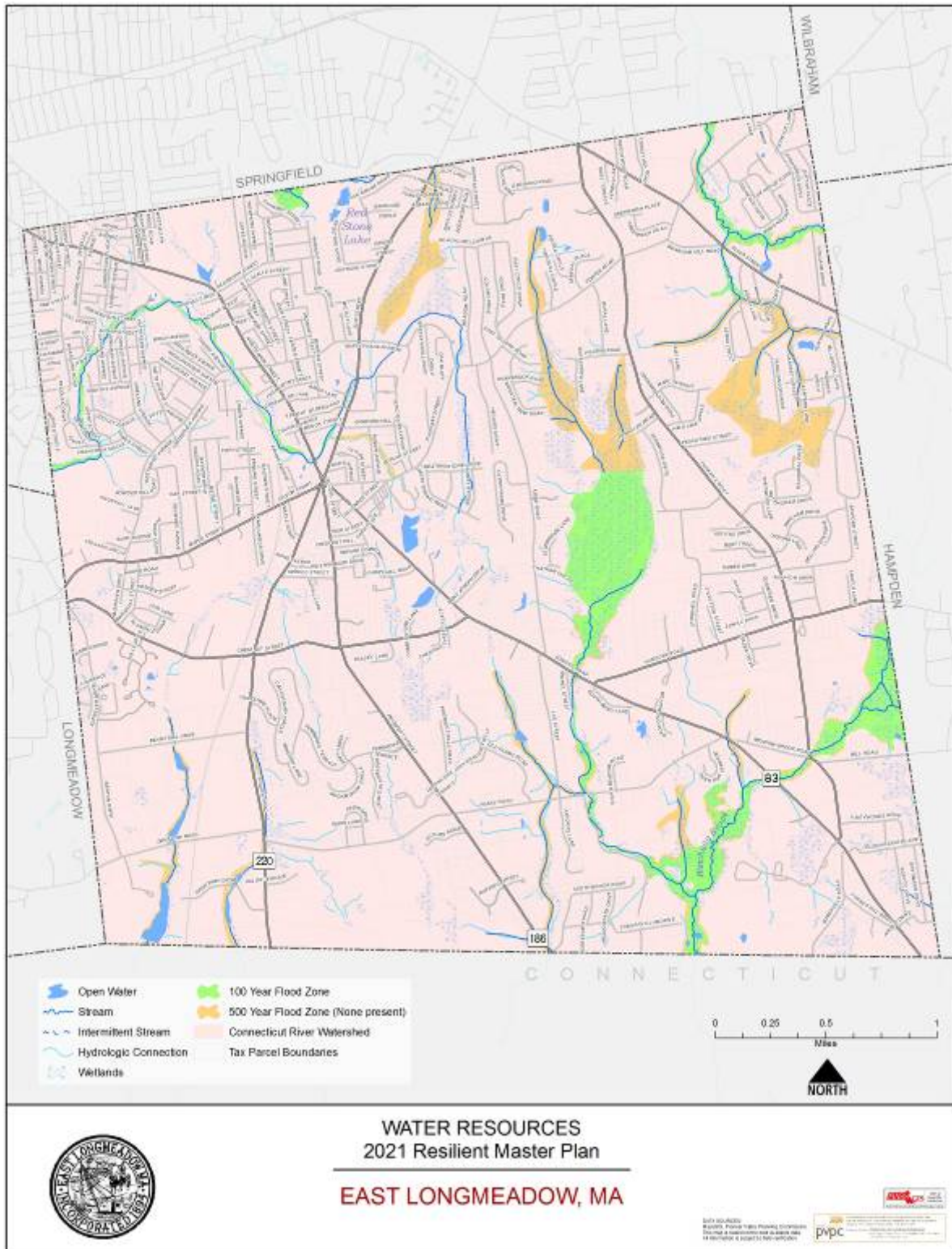
Isolated wetlands that have not been delineated by the State are not protected unless they are certified vernal pools.

Flood plains and flood hazard areas are designated areas next to rivers, streams and lakes that are likely to flood during large storms. These areas should be left undeveloped so as to prevent damage to structures and other properties. Some flood plains are productive agricultural land, having accumulated sediment during flood conditions. This is demonstrated by some parts of towns where there is land in the flood zone area and also is designated as Farmland Soil of Unique Importance.

Over 86 percent of respondents to the Master Plan Community Survey found very or somewhat important that the town should be protecting the natural environment. This could mean building further from waterways, using Low Impact Development (LID) to allow natural filtration of stormwater, and planning for natural disasters.



Map 2 Water Resources



Critical Habitat Areas

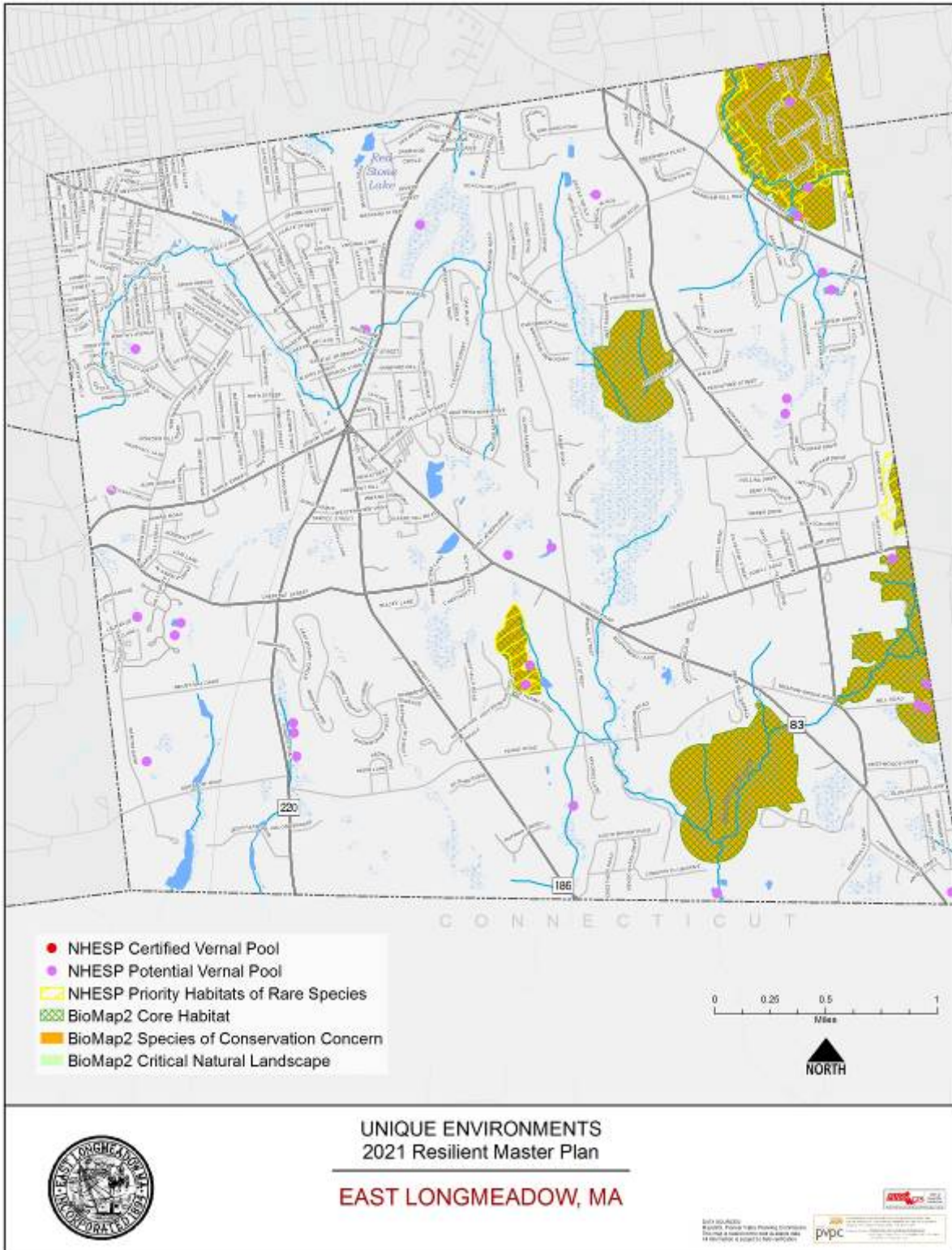
The State's Natural Heritage and Endangered Species Program (NHESP) is responsible for the conservation and protection of rare and endangered plant and wildlife species and the natural communities that make up their habitats. Map 3 shows areas in East Longmeadow that are part of this inventory, as well as locations of certified vernal pools that are protected through the Wetlands Act, and locations of potential vernal pools that have not yet been verified. If a potential vernal pool is checked and meets the criteria (<https://www.mass.gov/service-details/vernal-pool-certification>), it can be certified in accordance with the Wetlands Protection Act.

The NHESP has mapped Core Habitat and Critical Natural Landscapes throughout the Commonwealth that are significant for conserving biological diversity through the BioMap2, which classifies landscapes as Core Habitat (CH) or Critical Natural Landscape (CNL) as seen in Map 3.

East Longmeadow contains 599 acres of Core Habitats, with no areas of Critical Natural Landscape. Core Habitats are mostly located on the eastern side of the town: Core 942, Core 920, Core 1013, Core 1264 and Core 994. These landscapes, taken on the whole, provide vital habitat for species of conservation concern, that are threatened or of special concern, such as the Blue-spotted Salamander, Eastern Spadefoot, Four-toed Salamander, Northern Black Racer, Eastern Worm Snake, Climbing Fern, and the Lily-leaf Twayblade (BioMap2, 2012). For instance, Blue-spotted Salamander of species of special concern and is found in three of the Core Habitats crossing into Springfield, Wilbraham and Hampden. These salamanders thrive in mature deciduous and mixed deciduous-coniferous forests and woodland, using vernal pools, swamps, and marshes for breeding.



Map 3 Natural Heritage Inventory



Open Space

A portion of the town of East Longmeadow is protected from future development, however, development can lead to fragmentation of woodlands and farmlands which jeopardize the benefits of the small-town character the town seeks to maintain. There are approximately 1,500 acres of land, or 18 percent of total land which is afforded some level of protection.

Figure 1 Open Space Ownership in East Longmeadow

Classification	Acres	Percent of Open Space in Town (%)
Town Owned – School/Recreation	247	2.97
Town Owned – Conservation	297	3.57
Town Owned – Other	24	0.03
Significant Agricultural Lands	408	4.90
Private – Recreation	256	3.08
Private – Other	267	3.21
Totals	1,499	18.02

Figure 2 Significant Open Space and Recreational Land in East Longmeadow

Name	Acres	Owner
Watchaug Meadows	281.8	Town of East Longmeadow Conservation Commission
Brown/Koch Farm	70	Town of East Longmeadow
Heritage Park	46	Town of East Longmeadow
Mary Swords Conservation Area	40	Town of East Longmeadow Conservation Commission
Jarvis Nature Sanctuary	35.9	Town of East Longmeadow Conservation Commission

Watchaug Meadows

Watchaug Meadows, extends south of Porter Road between Parker Street and Kibbe Road and south to Hampden Road. This area contains small water-filled quarries and drains north to the Mill River and South to the Scantic River, via Watchaug Brook. This conservation area is used for nature studies, hiking, and cross-country skiing.

Brown Farm and Koch Properties

Belonging to the Watchaug Meadows Conservation Area, the Brown Farm and Koch Properties has been identified as an area of opportunity for various components supporting the residents of East Longmeadow, according to a Conditions Assessment completed in 2013. There are current trails that have been identified and the Boy Scouts have installed exercise equipment and benches in addition to the mapping endeavor.

Mary Swords Conservation Area

This area is hardwood swamp with small but scenic quarries, open to the public. It is located on the low-lying lands east of Elm Street and north of Mapleshade Road.



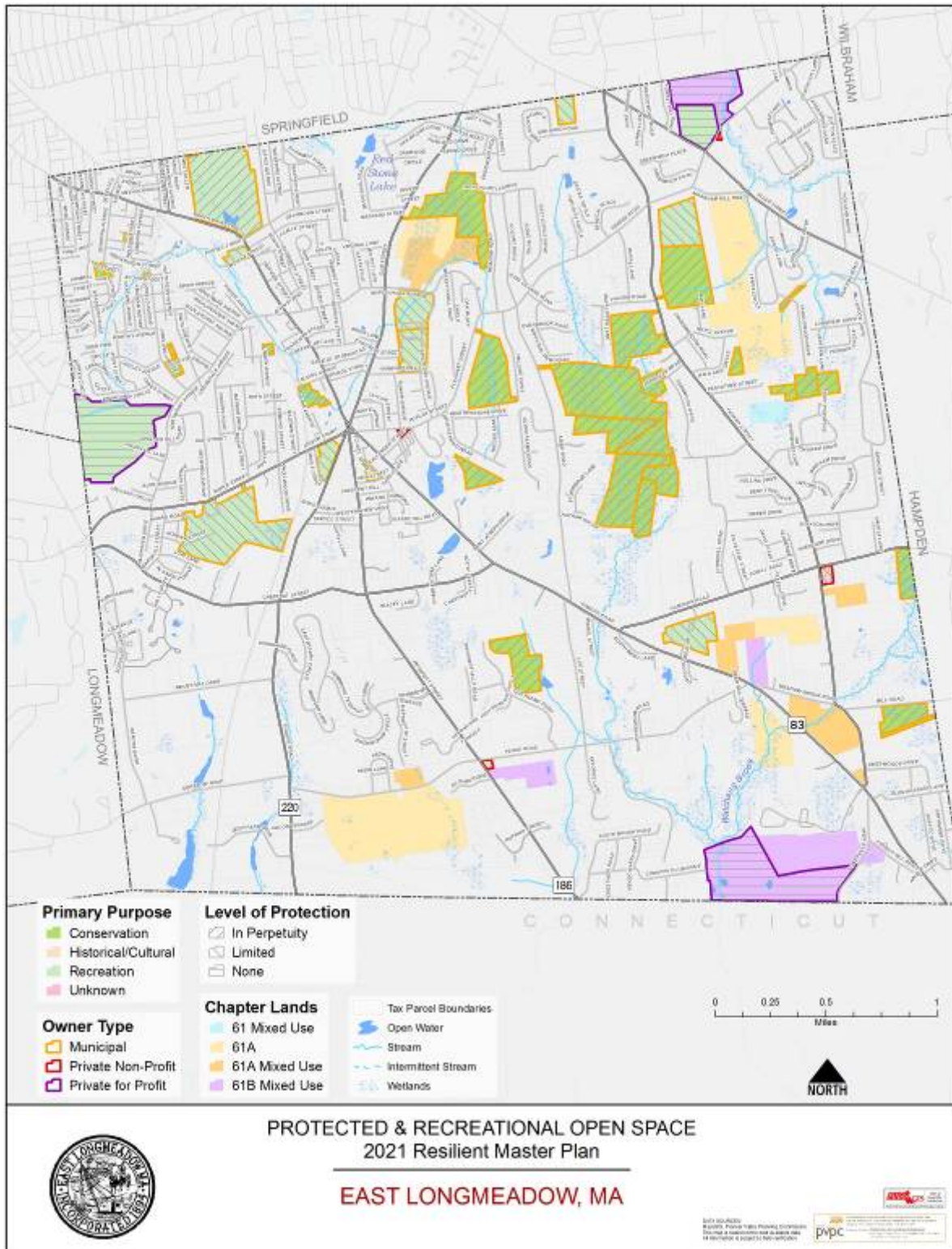
Jarvis Nature Sanctuary

Jarvis Nature Sanctuary is a beautiful area for passive recreation consisting of 20 acres of brushy field with the other, approximately 16 acres in mixed hardwood and evergreen forest.

Many other conservation areas that provide limited to public access can be found in the town's Open Space and Recreation Plan (2020).



Map 4 – Protected & Recreational Open Space



Lands in Current Use

The Protected Recreational and Open Space (Map 4) shows private landowner parcels that have been enrolled in the Massachusetts Current Use program. Also known as Chapter 61 lands, they are taxed according to their use. Chapter 61 lands are managed for harvesting of wood, Chapter 61A lands for agriculture, and Chapter 61B for recreational use. Most of the land that is managed for recreational purposes allows access to trails and ponds. The town has identified that understand and consider forest management to maintain a healthy forest and possibly provide revenue to the town, in addition to actively managing to provide for maintenance to the town's trails.

Recreational Resources

In addition to the various passive recreation opportunities and the trails, the Town provides for recreation throughout town, both on private and public property, and opportunities for golfing in the area.

Heritage Park

Heritage Park is located in the northwest section of East Longmeadow on Main Street. The park has a recreational 4-acre warm water pond that can be used for ice-skating and is occasionally stocked for fishing. Additionally, there are two baseball fields, one soccer field, playground equipment, a pavilion and a dog park.

Pine Knoll Recreation Area

Pine Knoll, a 14 acre park that traverses Springfield and East Longmeadow, but that has over 9 acres in East Longmeadow that provides for a swimming pool, basketball court, badminton court, tennis court, sand volleyball court, and 3 modified soccer fields.

Center Field

Center Field, comprising 5.8 acres bounded by Maple Street, Shaker Road and Maple Court, has two baseball fields, 1 softball field and a small pond.

Multi-purpose school fields and recreation opportunities

The town's school department, with assistance by the Department of Public Works to manage and assist with maintaining play fields and facilities, offers opportunities for the schools and their playfields to provide for the town's residents: East Longmeadow High School, Birchland Park Middle School, Mapleshade Elementary School, Mountain View Elementary School, and Meadowbrook Elementary School.

Elmcrest Country Club

Located off Somersville Road, Elmcrest Country Club boasts an 18-hole golf course that opened in 1965.



Franconia Golf Course

Franconia Golf Course is an 18-hole golf course owned by the City of Springfield that is open to the public. The course opened in 1929.

Fenway Golf

Fenway Golf, located on Allen Street, has multiple golf activity opportunities through mini-golf, pitch and putt, driving range and batting cages. Pine Knoll is Fenway Golf's 18-hole Par 3 Golf Course.

The majority of respondents to the East Longmeadow Master Plan Community Survey (80%) responded that it was somewhat or very important to increase recreation opportunity, playing fields and trails. Free response survey answers included improving parks, like Heritage, in addition to, field quality and recreation centers. The Parkland Acquisitions and Renovations for Communities (PARC) Grant Program can assist the town with acquiring and developing land for park an outdoor recreation purposes. These grants can be used by East Longmeadow to acquire parkland, build a new park, or to renovate an existing park.

As mentioned previously, preserving open space like farmland and forests is very important to the town (64.8%). Depending on the priorities identified by the Community Preservation Committee, Community Preservation Act funds can be utilized to acquire, create, and preserve open space, in addition to rehabilitating or restoring open space that has been acquire or created using those CPA funds – like Brown Farm and the Koch properties in Watchaug Meadows.

ISSUES AND OPPORTUNITIES

Although some of East Longmeadow's lands are protected via state conservation programs, the land that is not conserved may be vulnerable to impacts from human use. There is a sentiment to protect the farmlands, open spaces, scenic areas to maintain the small-town character that the town embraces. In addition to the support for the town's open spaces and passive recreation opportunities, the town finds itself as a town wanting to expand its recreational options, as there has been many suggestions to support the youth and sports teams.

These sentiments suggests that planning for the protection of natural resources and open space, along with expanding and maintaining the recreation opportunities, should be major priorities for the Town.

Expanding and Improving Recreational Opportunities

The growth of youth sports has increased usage of existing playing fields throughout town during the spring, summer and fall seasons, resulting in general deterioration of playing surfaces and erosion. Other than restricting access and cutting programming, the options are creating a comprehensive field maintenance plan or building more fields, so some can be allowed to rest. The pandemic has generally allowed the fields to rest due to an abundance of caution of virus spread and social distancing and what did or did not happen in contact sports during this time. However, as the town finds itself recovering in more ways than one, youth sports will be revived and the town will need to address some of the issues due to overuse of playing fields. Efforts have been made in the last five years to improve play fields conditions. Due to soil compaction, all athletic play fields



should be aerated a minimum of twice a year, and the DPW provides that service to provide a loosening of those soils. The DPW recently acquired a new tractor to support these efforts. The high school has a synthetic turf field for field hockey, football, lacrosse and soccer.

The town has explored redevelopment plans and upgraded facility plans for Heritage Park and Pine Knoll, respectively. One of the issues at Pine Knoll is that most of the buildings are not winterized. This severely limits the length of programming that can be hosted at this site. If all structures were winterized and underwent additional code upgrades, Pine Knoll could be open to community programming year round for residents of all ages rather than just the summer children's camp programming that it currently hosts. Making the space available to senior residents would also open up another funding pool such as AARP Community Challenge grant funding and perhaps help establish a sustainable funding source for continued maintenance of the facilities and grounds if we were able to rent out the space for private events too (Weddings, birthdays, graduations, fundraisers, retreats etc.)

Fragmented Habitats

East Longmeadow's development in certain parts of town has fragmented woodlands and farmlands and many of the natural resource areas that have been established in town. These changes can compromise the resource areas and change wildlife habitats, along with undermining the beauty of untouched landscape. Protecting the surrounding and the benefit this provides ensures an environmentally and economically sound future for the town. Fragmenting these large resource areas divides populations of native plants and animals and makes each part more vulnerable to the short-term impacts of floods, drought and disease, in addition to climate change which is absolute. Land left in the natural state for conservation and drainage reasons can also provide opportunities for appropriate recreational activities, including hiking and cross-country skiing.

Additionally, as farmland and important agricultural lands get divided up and affected by development, it can become harder to farm efficiently. A recent approval for a new subdivision brings this issue to the forefront.

Connect Wildlife and Trail Corridors

Trails are available for public use on public and some private lands throughout East Longmeadow. A system of connected trails and corridors for wildlife habitat migration would add value to these resources. East Longmeadow is an awardee of the Rivers, Trails and Conservation assistance program offered by the National Park Service. National Park Service staff provide free, on-location facilitation and planning expertise drawing from project experiencers across the country and adapting best practices to the community's specific needs. They also help with the following:

- Define project vision and goals
- Inventory and map community resources
- Identify and analyze key issues and opportunities
- Engage collaborative partners and stakeholders
- Design community outreach and participation strategies
- Develop concept plans for trails, parks, and natural areas
- Set priorities and build consensus
- Identify funding sources
- Develop a sustainable organizational framework to support the project



The length and time phasing of assistance is generally 1-2 years depending on the project scope.

Continued maintenance of the town's Open Space and Recreation Plan would provide detailed information on the habitat and natural resource areas in town and would result in a plan for improvements or protections to these resources going forward. The town completed an update in 2020, and will not be due for an update until 2027. A strategy of connecting parcels into larger blocks and corridors would deter fragmentation of landscapes and habitats, while also opening opportunities for continuous trails crossing East Longmeadow and linking up with trails in neighboring towns, as Enfield, Connecticut, has reached out to the town to explore this trail connection.

Community Resilience

Protecting the natural resources in East Longmeadow contributes to the Town's resiliency in a number of ways:

- Minimizing disruption to natural ecosystems whenever possible helps to protect wildlife habitat, and promotes residents' wellness by increasing opportunities to experience nature. Undeveloped land can provide storage for floodwaters.
- Evaluating the potential impacts of climate change can help the Town better plan and adapt to changing climactic conditions and their effects on other natural and man-made systems. This evaluation and planning could lead to specific projects that Town may wish to undertake to adapt systems to future changes in conditions.
- Increasing awareness around best practices for reducing stormwater runoff and pollution will help to protect water quality.
- Supporting viable wildlife and native plant populations helps maintain biodiversity. When protected land has covers variable terrain and contains multiple microclimates, it provides microhabitats which can help maintain species as the climate changes. Greenbelts and wildlife corridors facilitate migration.



