

East Brimfield Lake Master Plan

Thames River Basin

Worcester County, Massachusetts

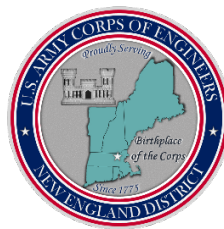
June 2025

DRAFT REPORT



**US Army Corps
of Engineers®**
New England District

The East Brimfield Lake Master Plan was produced by the U.S. Army Corps of Engineers Regional Planning and Environmental Center (RPEC) for the New England District (NAE).



EXECUTIVE SUMMARY

East Brimfield Lake Master Plan
U.S. Army Corps of Engineers
Prepared by the Southwestern Division
Regional Planning and Environmental Center (RPEC)
June 2025

ES.1 PURPOSE

The East Brimfield Lake Master Plan (hereafter Plan or Master Plan) is a complete revision of the 1998 *East Brimfield Lake Master Plan* and its supplements. The revision is a framework built collaboratively to guide appropriate stewardship of U.S. Army Corps of Engineers (USACE) administered resources at East Brimfield Lake over the next 25 years. The 1998 Master Plan (1998 MP) has served well past its intended 25-year planning horizon and does not reflect the growing population around the lake and regional recreation needs.

East Brimfield Lake was authorized in 1941 as a single purpose flood control project and is part of the USACE comprehensive flood control plan for the Thames River Basin which includes a total of six flood control dams and reservoirs. In addition to this primary mission, the USACE has an inherent mission for environmental stewardship of project lands while working closely with stakeholders and partners to provide regionally important outdoor recreation opportunities.

During the 2025 Master Plan revision, Geographic Information System (GIS) mapping technology was utilized to digitize the maps to show the 1998 MP acres of all fee lands as a basis for the 2025 East Brimfield Lake Master Plan. Due to this more precise measurement technology, discrepancies between the acreages documented in the 1998 plan and the recalculated acres were found. The 2025 East Brimfield Lake Master Plan revision reflects the recalculated 1998 MP acres throughout the document. Both the 1998 MP and the 2025 MP acres may differ from the acres on record with the USACE New England District Real Estate Office or those documented within the Water Control Manual for the East Brimfield Lake and Dam, which is maintained by the USACE New England District. Any water control management and real estate studies or transactions should be coordinated with the appropriate USACE offices.

The Master Plan and supporting documentation provide an inventory and analysis of goals, objectives, and recommendations for USACE lands and waters at East Brimfield Lake, Massachusetts with input from the public, stakeholders, and subject matter experts. The Master Plan is primarily a land use and outdoor recreation strategic plan that does not address the specific authorized purposes of flood risk management or water supply. Although water management is addressed in the 2001 Thames River Basin Master Water Control Manual (MWCM), the Master Plan acknowledges that fluctuating water level for flood risk management and water supply can have a dramatic effect on outdoor recreation, especially at boat ramps and swim beaches.

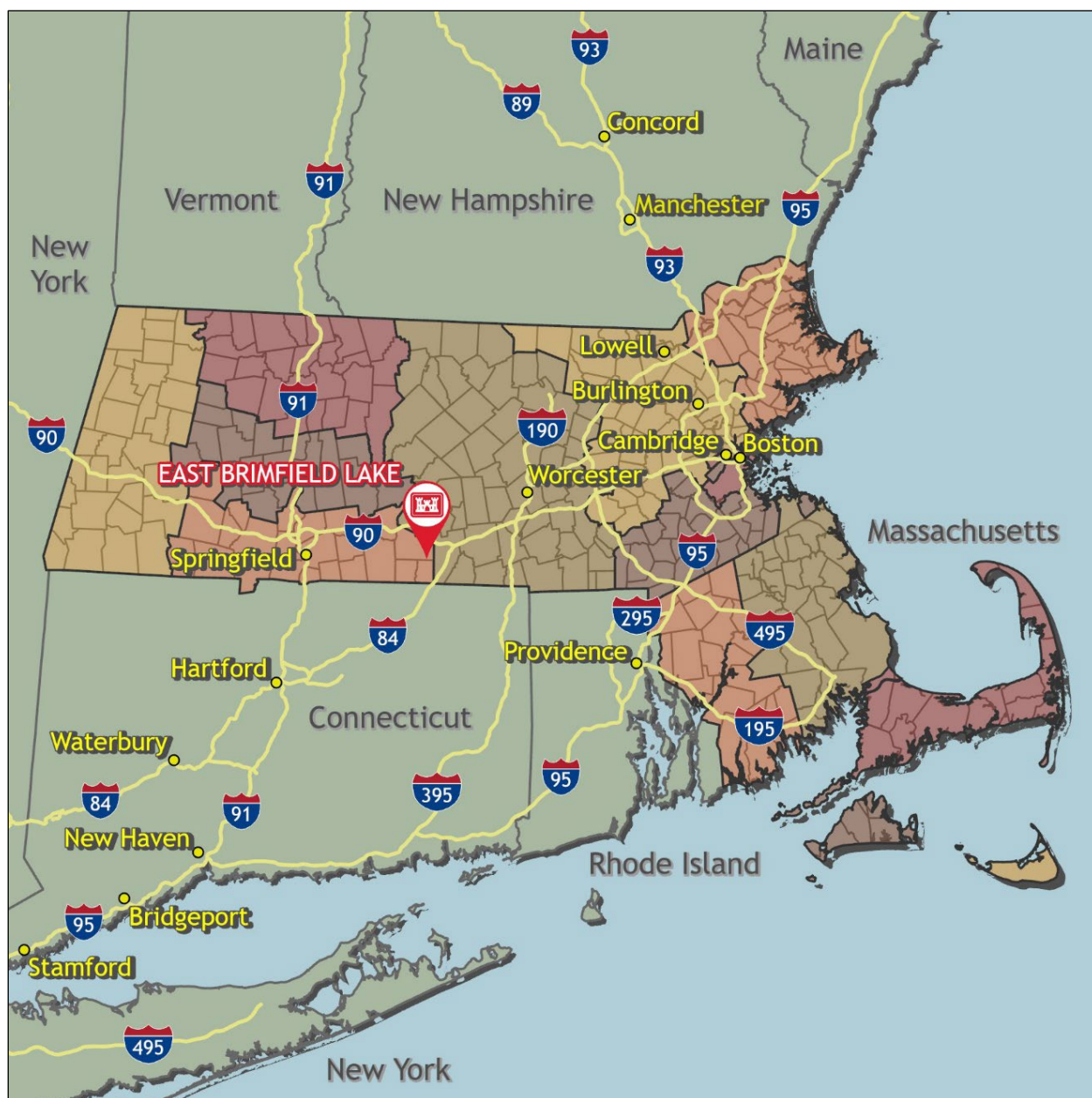


Figure ES. 1 Vicinity Map of East Brimfield Lake

The mapping used for this Master Plan revision uses modern satellite imagery and Geographic Information System (GIS) mapping, resulting in different acreage calculations than that of the 1998 Master Plan. Using GIS measurements, East Brimfield Lake has a water surface of 379 acre feet at the conservation (normal) pool of 632 feet NGVD29 and approximately 1,749 acres of federal land lie above the conservation pool with a shoreline of approximately 11 miles (Long Pond 5 miles; East Brimfield Lake 4 miles; Lake Siog 2 miles) at the top of the conservation pool. All elevations in this document are NGVD29 unless noted otherwise.

ES.2 PUBLIC INPUT

To ensure a balance between operational, environmental, and recreational outcomes, USACE obtained both public and agency input toward the Master Plan. An Environmental Assessment (EA) was completed in conjunction with the Master Plan to evaluate the impacts of alternatives and can be found in Appendix B.

On April 30, 2024, a public open house was held at the Sturbridge Town Hall (Veterans Memorial Hall) in Sturbridge, Massachusetts to inform the public of the intent to revise the Master Plan. The public input period remained open for 30 days from April 30, 2024 to May 30, 2024. At the public information meeting a presentation was given that included the following topics:

- What is a Master Plan?
- What a Master Plan is Not
- Why Revise a Master Plan?
- Overview of the National Environmental Policy Act (NEPA) process
- Master Planning Process
- Instructions for submitting comments

USACE received 8 comments for East Brimfield Lake. These comments and the USACE response can be found in Appendix E.

A public open house will be held for the East Brimfield Lake Draft Master Plan revision. The purpose of this open house will be to provide attendees with information regarding the proposed Master Plan revision as well as to provide them with the opportunity to provide comments on the proposed East Brimfield Lake Draft Master Plan. The open house will the same topics as the initial public open house. The open house will begin a 30-day comment period where the public and stakeholders can provide comments on the Draft Master Plan. These comments will be reviewed and addressed as the USACE revises a final version of the Master Plan.

ES.3 RECOMMENDATIONS

The following land and water classification changes (detailed in Chapter 8) were a result of the inventory, analysis, synthesis of data, documents, and public and agency input. In general, all USACE land at East Brimfield Lake was reclassified either by a change in nomenclature required by regulation or changes needed to identify actual and projected use. Table ES.0.1 illustrates the prior and revised land and water classifications, which includes small decreases in Project Operations and High Density Recreation. Multiple Resources Management, a 1998 Master Plan land classification, was decreased, however this was largely due to the updated naming of this land classification which is reflected in the increase of Low Density Recreation and Wildlife Management also reflected in the table. Additionally, the update sets aside land under the Environmentally Sensitive Area classification for environmental, cultural, and/or aesthetic preservation.

**Table ES.0.1 Change from 1998 Land and Water Surface Classifications to 2025
Proposed Land and Water Surface Classification**

Prior Land Classifications (1998)	Acres	Proposed Land Classifications (2025)	Acres	Net Difference
Project Operations	55	Project Operations (PO)	37	(18)
Recreation Lands	73	High Density Recreation (HDR)	70	(3)
Multiple Resources Management (MRM)	1,543	Multiple Resource Management Lands (MRML)	0	(1,543)
—	—	Low Density Recreation (MRML-LDR)	148	148
—	—	Wildlife Management (MRML-WM)	1,241	1,241
Environmentally Sensitive Area (ESA)	71	Environmentally Sensitive Area (ESA)	251	180
LAND TOTAL	1,742	LAND TOTAL	1,747	5
Prior Water Surface Classifications (1998)	Acres	Proposed Water Surface Classifications (2025)	Acres	Net Difference
Open Recreation	385	Open Recreation	370	(15)
—	—	Restricted	3	3
WATER TOTAL	385	WATER TOTAL	373	(12)
TOTAL FEE	2,127	TOTAL FEE	2,120	(7)

*1998 acres are approximate based on digitizing the 1998 land and water classification map. Total fee acreage differences from the 1998 totals to the 2025 totals are due to improvements in measurement technology, deposition/siltation, and erosion. Totals also differ due to rounding while adding parcels. REMIS reports total fee of 2,070.

The acreages of the conservation pool and USACE land lying above the conservation pool were measured using satellite imagery and Geographical Information System (GIS) technology. The GIS software allows for more finely tuned measurements and, thus, stated acres may vary from official land acquisition records and acreage figures published in the 1998 Master Plan. Some changes may also be due to erosion and siltation. A more detailed summary of changes and rationale can be found in Chapter 8.

ES.4 PLAN ORGANIZATION

Chapter 1 of the Master Plan presents an overall introduction to East Brimfield Lake. Chapter 2 consists of an inventory and analysis of East Brimfield Lake and associated land resources. Chapters 3 and 4 lay out management goals, resource objectives, and land classifications. Chapter 5 is the resource management plan that identifies how project lands will be managed for each land use classification. This

includes current and projected overall park facility needs, an analysis of existing and anticipated resource use, and anticipated influences on overall project operation and management. Chapter 6 details special topics that are unique to East Brimfield Lake. Chapter 7 identifies the public involvement efforts and stakeholder input gathered for the development of the Master Plan, and Chapter 8 gives a summary of the changes in land classification from the previous Master Plan to the present one. Finally, the appendices include information and supporting documents for this Master Plan revision, including Land Classification and Park Plate Maps (Appendix A).

An Environmental Assessment was developed with the Master Plan, which analyzed alternative management scenarios for East Brimfield Lake, in accordance with federal regulations including the National Environmental Policy Act of 1969, as amended (NEPA); regulations of the Council on Environmental Quality; and USACE regulations, including Engineer Regulation 200-2-2: Procedures for Implementing NEPA. The EA is a separate document that informs this Master Plan and can be found in its entirety in Appendix B.

The EA evaluated two alternatives as follows: 1) No Action Alternative, which would continue the use of the 1998 Master Plan, and 2) Proposed Action, the adoption and implementation of this Master Plan. The EA analyzed the potential impact these alternatives would have on the natural, cultural, and human environments. The Master Plan is conceptual and broad in nature, and any action proposed in the Plan that would result in significant disturbance to natural resources or result in significant public interest would require additional NEPA documentation at the time the action takes place.

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CHAPTER 1 – INTRODUCTION

1.1 GENERAL OVERVIEW

East Brimfield Lake is located one mile southwest of the village of Fiskdale in the town of Sturbridge, Worcester County, Massachusetts. The reservoir impounds the upper reaches of the Quinebaug River and portions of it fall in the towns of Brimfield, Holland, and Sturbridge within Worcester and Hampden Counties. East Brimfield Lake occurs approximately 64.5 miles upstream of the Quinebaug River's confluence with the Shetucket River. The project location is shown on Figure 1-1. The Quinebaug River flows into the Shetucket River, which then converges with the Yantick River to form the Thames River in Norwich, Connecticut. The Thames River then drains into the Atlantic Ocean at Fishers Island Sound in New London, Connecticut. The U.S. Army Corps of Engineers' (USACE) New England District (formerly New England Division) built East Brimfield Dam and continues to operate the project.

The Master Plan is intended to serve as a comprehensive land and recreation management guide with an effective life of approximately 25 years. The focus of the plan is to guide the stewardship of natural and cultural resources and make provision for outdoor recreation facilities and opportunities on federal land associated with East Brimfield Lake. The Master Plan identifies conceptual types and levels of activities, but does not include designs, project sites, or estimated costs. All actions carried out by the USACE, other agencies, and individuals granted leases to USACE lands must be consistent with the Master Plan. The Master Plan does not address the flood risk management or water supply purposes of East Brimfield Lake. The New England District first created a Master Plan for the reservoir in 1962. According to the naming convention of the time, the authors named this document Master Plan Design Memorandum No. 10. The USACE supplemented this plan in 1968 to account for the addition of a 13-foot-high box-shaped weir upstream of the gates which created a 360-acre pool. The New England District revised this Master Plan for East Brimfield Lake in 1998. The 1998 Master Plan has served past its intended planning horizon of 25 years.

National USACE missions associated with water resource development projects may include flood risk management, water supply, water quality, navigation, recreation, environmental stewardship, and hydroelectric power generation. Most of these missions serve to protect the built environment and natural resources of a region from the climate extremes of drought and floods. This helps to create a more resilient and sustainable region for the health, welfare, and energy security of its citizens. Mitigation, while not a formal mission at USACE lakes, may be implemented to achieve the stewardship and recreation missions. Maintaining a healthy vegetative cover and native tree cover where ecologically appropriate on Federal lands within the constraints imposed by primary project purposes helps reduce stormwater runoff and soil erosion, mitigates air pollution, and moderates temperatures.

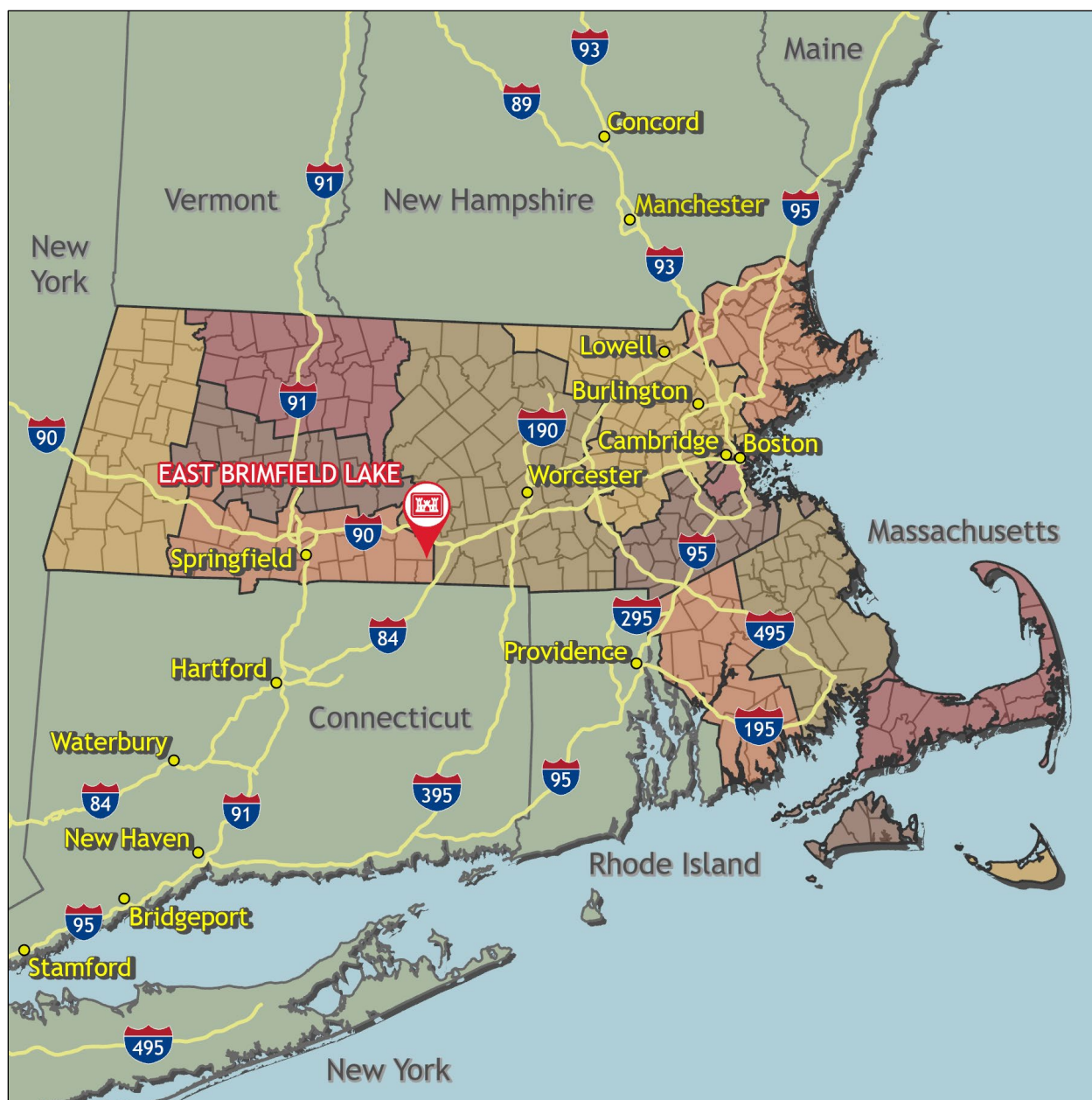


Figure 1.1 East Brimfield Lake Vicinity Map

1.2 PROJECT AUTHORIZATION

The Rivers and Harbors Act of 1941 (also known as the Flood Control Act of 1941), Public Law 77-228, United States 77th Congress authorized East Brimfield Lake as part of the Thames River Basin flood control system consisting of six USACE-operated reservoirs and one local protection project.

The Flood Control Act of 1944, Public Law 78-534, United States 78th Congress, as amended, authorized the development and use of reservoirs for recreation and water conservation purposes.

1.3 PROJECT PURPOSE

The USACE initiated construction of East Brimfield Dam in May 1958 and completed it in June 1960 at a cost of \$7,020,000. East Brimfield Lake is an integral part of the Thames River Flood Control Program. Working with the other five USACE reservoirs, East Brimfield helps mitigate flood risk towards industrial, commercial, and residential centers within the Thames River watershed in Massachusetts and Connecticut. This project primarily provides flood protection downstream to Sturbridge, Massachusetts. The East Brimfield team also oversees the flood control mission and operations of Westfield Dam and Conant Brook Dam.

East Brimfield Lake also provides various recreation opportunities. The project area supports several trails, including a section of the Grand Trunk Trail, an important regional rails-to-trails network. The lake also provides swim beaches, boat ramps, fishing areas, and picnic sites. The lake maintains a permanent pool at 628 feet mean sea level (MSL), corresponding to 373 surface acres. This pool level provides opportunities for paddling, boating, and fishing. The project supports a popular canoe trail as well. The project also allows hunting for white-tailed deer, wild turkey, waterfowl, and other species in large swathes of the fee-owned lands. Historically, the state of Massachusetts leased many of the recreation areas at East Brimfield Lake.

In addition to these missions, the USACE has an inherent mission for environmental stewardship of project lands while working closely with stakeholders and partners to provide regionally important outdoor recreation opportunities. Other laws, including but not limited to Public Law 91-190, National Environmental Policy Act of 1969 (NEPA) and Public Law 86-717, Forest Cover Act, place emphasis on the environmental stewardship of Federal lands and USACE-administered Federal lands, respectively.

1.4 PURPOSE AND SCOPE OF MASTER PLAN

In accordance with Engineering Regulation (ER) 1130-2-550, Recreation Operations and Maintenance Policies, Change 07, dated 30 January 2013 and Engineering Pamphlet (EP) 1130-2-550, Recreation Operations and Maintenance Guidance and Procedures, Change 05, dated 30 January 2013, most USACE water resources development projects having a federally owned land base require a Master Plan. The Master Plan works in tandem with the Operational Management Plan (OMP), which is the task-oriented implementation tool for the resource objectives and development needs identified in the Master Plan. This revision of the Master Plan aims to bring the Master Plan up to date to reflect current ecological, socio-demographic, and outdoor recreation trends that are impacting the lake, as well as those anticipated to occur within the next 25 years.

The East Brimfield Lake Master Plan (hereafter Master Plan) is the strategic land use management document that guides the efficient, cost-effective, comprehensive management, development, and use of recreation, natural resources, and cultural

resources throughout the life of the East Brimfield Lake project. It is a vital tool for responsible stewardship and sustainability of the project's natural and cultural resources for the benefit of present and future generations. The Master Plan guides and articulates USACE responsibilities pursuant to federal laws to preserve, conserve, restore, maintain, manage, and develop the land, water, and associated resources. It is a dynamic and flexible tool designed to address changing conditions. The Master Plan focuses on carefully crafted resource-specific goals and objectives. It ensures that equal attention is given to the economy, quality, and needs in the management of resources and facilities, and that goals and objectives are accomplished at an appropriate scale.

The master planning process encompasses a series of interrelated and overlapping tasks involving the examination and analysis of past, present, and future environmental, recreational, and socioeconomic conditions and trends. With a generalized conceptual framework, the process focuses on the following four primary components:

- Regional and ecosystem needs
- Project resource capabilities and suitability
- Expressed public interests that are compatible with East Brimfield Lake's authorized purposes
- Environmental sustainability elements

It is important to note what the Master Plan does not address. The Master Plan does not address details of design, management and administration, and implementation. The East Brimfield Lake OMP instead covers these topics. In addition, the Master Plan does not address the specifics of regional water quality, shoreline management (a term used to describe primarily vegetation modification or permits by neighboring landowners), or water level management, nor does it address the operation and maintenance of prime project operations facilities such as the dam embankment, gate control outlet, and spillway. Additionally, the Master Plan does not address the flood control, water supply, and low flow augmentation purposes of East Brimfield Lake with respect to management of the water level in the lake.

The previous Master Plan was sufficient for prior land use planning and management but changes in outdoor recreation trends, regional land use, population, current legislative requirements, and USACE management policy have occurred over the past decades. Additionally, factors such as increasing fragmentation of wildlife habitat, national policies related to land management, climate change, and growing demand for recreational access and protection of natural and cultural resources affect East Brimfield Lake and the region in general. In response to these escalating pressures and trends, USACE is implementing and adopting a full revision of the 1998 East Brimfield Lake Master Plan. The Master Plan revision will update land classifications and include new resource management goals and objectives.

1.5 BRIEF WATERSHED AND PROJECT DESCRIPTION

East Brimfield Lake is within the Upper Quinebaug River watershed and the Headwaters Quinebaug River sub-watershed. These watersheds are part of the larger Quinebaug River regional watershed and the Thames River major watershed, which drains large portions of Massachusetts and Connecticut. The Quinebaug River regional watershed covers the eastern half of the Thames River major watershed and drains 744 square miles, over 50% of its total area. The Upper Quinebaug River watershed drains a total of 305 square miles. The vast majority of the drainage area occurs in Massachusetts with the remainder in Connecticut. The watershed stretches north-northwest about 13.7 miles and is nearly 14.5 miles at its widest. Two USACE projects, West Thompson Lake and Westville Lake, also fall within the Upper Quinebaug River watershed. The Headwaters Quinebaug River sub-watershed drains 26,966.48 acres, about 42.1 square miles. The sub-watershed stretches almost 11.4 miles north-northeast and is 6.6 miles at its widest. The lands drained by these watersheds are primarily mixed woodlands with abundant ponds and wetlands. The area supports some agriculture and includes several small towns.

The East Brimfield Dam is a rolled earth fill and rock embankment with a length of 520 feet and a maximum height of 55 feet. The dam crest reaches an elevation of 672.2 MSL National Geodetic Vertical Datum of 1929 (NGVD 29). All elevations in this document are NGVD29 unless noted otherwise. The dam's right abutment has an emergency chute type or overflow concrete ogee spillway section at elevation 653 feet MSL that is 75 feet long. The outlet works consists of a 10.5 feet horseshoe-shaped conduit about 210 feet long. This conduit has an invert at elevation 619 feet MSL. Two 6.25 feet by 11 feet electrically operated sluice gates control discharge through the conduit. The outlet works is capable of releasing 3,300 cubic feet of water per second.

The permanent weir upstream of the main outlet works also supports the flood control function at East Brimfield Dam. This structure has a crest elevation of 632 feet and supports a permanent pool. East Brimfield personnel use two 24-inch gates in the weir to make releases from the permanent pool.

The flood control structures at East Brimfield Lake support a permanent pool of 13-feet throughout the year. The top of this pool reaches elevation 632 feet MSL. At this elevation East Brimfield Lake stores about 2,300 acre-feet of water. In flood events, when East Brimfield Lake's level reaches the spillway crest elevation of 653 feet MSL, it boasts a surface area of 2,270 acres and net storage of 29,900 acre-feet. This corresponds roughly to 8.3 inches of runoff from the drainage area of 67.5 square miles. At this elevation, East Brimfield Lake extends upstream about 5.5 miles.

1.6 PROJECT ACCESS

East Brimfield Lake lies within the town limits of Sturbridge, Brimfield, and Holland, Massachusetts. The nearest settlement is Fiskdale, a small village of 2,797 people according to the 2020 Census. This village, within the town limits of Sturbridge,

is about 1 mile east of the lake. The towns of Holland, Brimfield, and Sturbridge are relatively small as well, with populations of 2,603, 3,772, and 9,867, respectively. Sturbridge's city center is approximately 2.6 miles east from East Brimfield Lake. Brimfield is about 3.5 miles west-northwest and Holland about the same distance southwest. Larger towns like Charlton, Southbridge, and Webster, Massachusetts are relatively close to the lake as well. Charlton, with its population of 13,315, lies about 8.5 miles east-northeast. Southbridge has a population of 17,740 and lies about 5.5 miles southeast. Webster is about 14 miles east-southeast from the lake and has a population of 17,776. East Brimfield Lake is also relatively close to large cities in the region like Springfield, Worcester, and Boston, Massachusetts, Hartford, Connecticut, and Providence, Rhode Island. Worcester is about 19.3 miles northeast, Springfield is about 24 miles due west, and Boston about 57 miles east-northeast. Hartford is about 36 miles southwest and Providence about 42 miles southeast of the lake.

United States Highway 20 crosses the lake via a causeway and provides easy access from Sturbridge, Brimfield, and Charlton. Sturbridge and East Brimfield Road provides access to either side of the lake from Holland. Other local roads provide varying levels of access. Interstate 90 provides access from Springfield, Worcester, and Boston. Interstate 84 provides easy access from Hartford.

1.7 PRIOR DESIGN MEMORANDA AND PLANNING REPORTS

Design Memoranda (DM) and Project Reports approved and set forth design and development plans for all aspects of the project including the prime flood risk management facilities, real estate acquisition, road and utility relocations, reservoir clearing, and the master plan for recreation development and land management prior to 1999, when the use of DMs was terminated. The USACE prepared all DMs for East Brimfield Lake in 1956. These DMs include Hydrology and Hydraulics, Geology and Soils, Embankment Design, Structural Design, and Structural Computation. A list of the DMs for East Brimfield Lake is listed in Table 1.1 and the manuals and reports for East Brimfield Lake is listed in Table 1.2.

Table 1.1 East Brimfield Lake Design Memoranda

DM No.	Design Memoranda Title	Date Approved
1	Hydrology	31 Aug 1956
2	Hydraulic Design	19 July 1957
3	Geology and Soils	24 Aug 1956
4	General	08 Mar 1957
5	Embankment Design	22 Aug 1956
6	Structures	09 Oct 1956
7	Real Estate Requirements	28 Nov 1956
8	Relocations	01 Feb 1957
9	Concrete Materials	05 Nov 1957
10	Master Plan for Reservoir Development	31 Jan 1962
10A	Supplement A; Master Plan for Reservoir Development, Thames River Flood Control, East Brimfield Reservoir, Quinebaug River, Massachusetts	Feb 1968

Table 1.2 Manuals and Reports for East Brimfield Lake

Subject	Date
Operations and Maintenance (O&M) Manual*	July 1994
Water Control Manual	July 1967, revised 1980 and 2001
Emergency Action Plan	December 2024

*Document under revision during the 2025 East Brimfield Master Plan revision.

1.8 PERTINENT PROJECT INFORMATION

Table 1.3 provides general pertinent information for East Brimfield Lake. Table 1.4 provides pertinent data regarding key reservoir elevations and storage capacity at East Brimfield Lake.

Table 1.3 General Pertinent Information for East Brimfield Lake

Location	
Basin	Thames River
Stream	Quinebaug River
River Mile	64.5 miles upstream of the Quinebaug River's confluence with the Shetucket

Location	
County	Worcester and Hampden
State	Massachusetts
Drainage Area	
Above Dam	67.5 square miles
Dam	
Type	Rolled earth fill and rock embankment
Length	520 feet
Height	55 feet
Top Width	24
Spillway	
Type	Emergency chute/overflow Ogee spillway
Crest Elevation	653 ft. NGVD29
Width	75 feet
Design Discharge	22,900 Cubic Feet per Second (CFS)
Real Estate Acquisition	
Fee Purchase	2,070 acres (644 ft. NGVD29)
Flowage Easement	647 acres (656 ft. NGVD29)

(Source: Thames River Basin MMWC 2001: East Brimfield Lake)

Table 1.4 Pertinent Data for East Brimfield Lake

Reservoir Feature	Elevation (ft, NGVD29)	Stage (feet)	Surface Area (acres)	Capacity (acre-feet)	Capacity (inches of runoff)
Streambed	619	0	0	0	0
Permanent Pool	628	9	260	1,130	0.31 (net)
Conservation (Normal) Pool	632	13	360	1,190	0.33 (net)
Spillway Crest	653	34	2,300	29,900 (net)	8.3
Maximum Surcharge (Design Criteria)	667.3	48.3	3,500	-	-
Top of Dam	672.2	53.2	4,000	-	-

(Source: Thames River Basin MMWC 2001: East Brimfield Lake)

*Surface acre references within the text of the 2025 Master Plan align with Table 4.1 Change from 1998 Land and Water Surface Classifications to 2025 Land and Water Surface Classification.

CHAPTER 2 – PROJECT SETTING AND FACTORS INFLUENCING MANAGEMENT AND DEVELOPMENT

2.1 HYDROLOGY

2.1.1 Surface Water

Surface waters are categorized by hydrologic units. Hydrologic units are classified by the United States Geologic Survey (USGS) using a Hydrologic Units Code (HUC) system. As shown in Figure 2.1, the units are classified from largest HUC with a two-digit region (i.e., the Mid-Atlantic Region), encompassing the largest area, to a twelve-digit sub-watershed HUC. East Brimfield Lake is classified by sub-watersheds as follows:

- 01 (HUC 2: Region) – New England Region
- 0110 (HUC 4: Sub-region) – Connecticut Coastal
- 011000 (HUC 6: Basin) – Connecticut Coastal
- 01100001 (HUC 8: Sub Basin) – Quinebaug River
- 0110000101 (HUC 10: Watershed) – Upper Quinebaug River
- 011000010102 (HUC 12: Sub-watershed) – Headwaters Quinebaug River

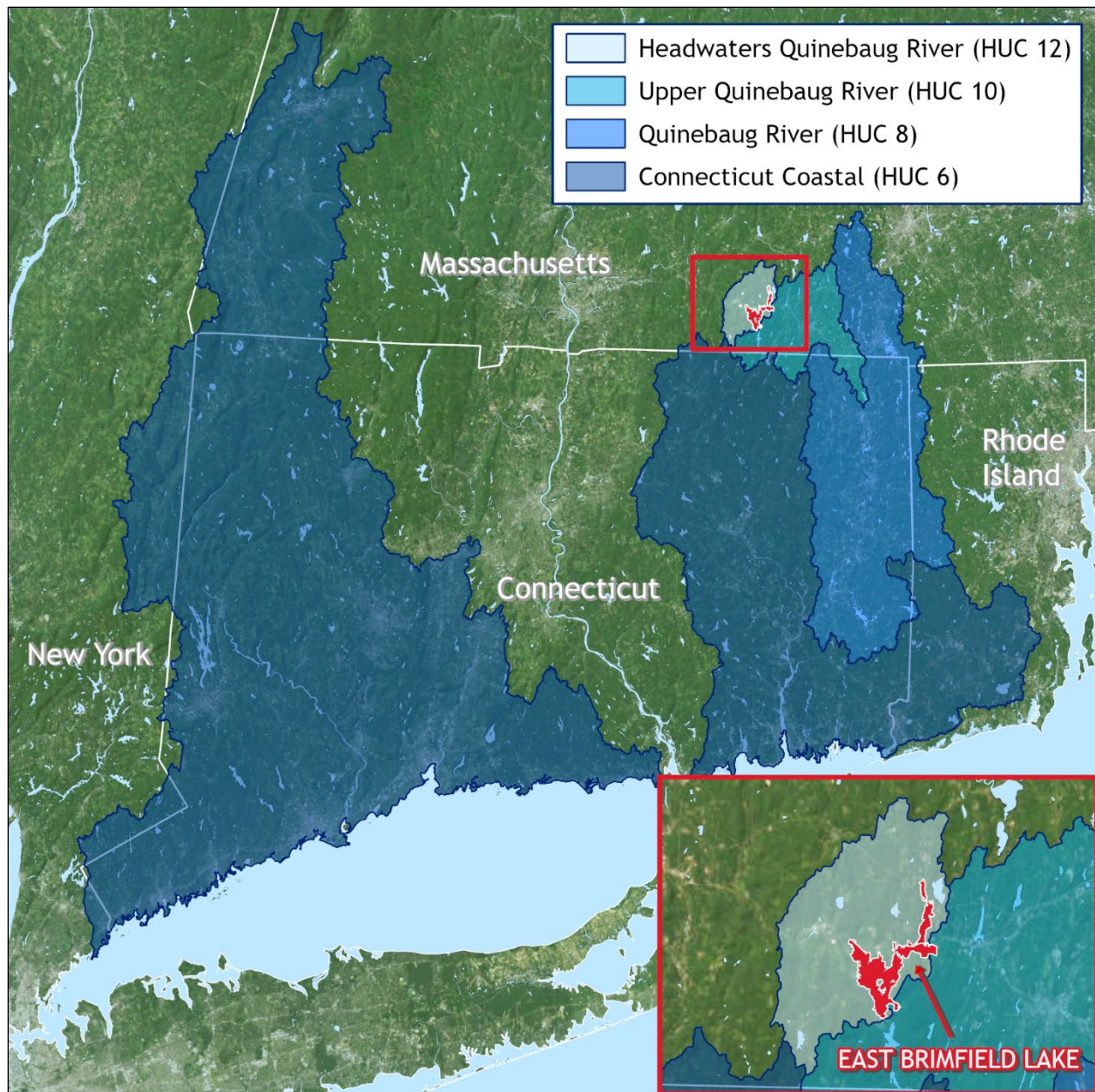


Figure 2.1 Hydrology (HUC 6, 8, 10,12) Map for East Brimfield Lake (USGS 2023)

2.1.2 Ground Water

The groundwater at East Brimfield Lake is limited to New England crystalline-rock aquifers as shown in Figure 2.2. Igneous and metamorphic rocks, primarily gneiss and schist, characterize the aquifers in Massachusetts. Well depths of 100-400 feet are common, with the potential for some wells exceeding 1,000 feet before reaching water. Groundwater generally yields 1-20 gallons per minute but can exceed 300 gallons per minute. Groundwater is generally suitable for most uses but may corrode pipes and appliances. The nearest major aquifer is the northernmost portion of sandstone Early Mesozoic Basin Aquifers, approximately 23 miles to the west. The state data indicates

that a several medium yield aquifers capable of providing 100-300 gallons per minute occur within 10 miles of the lake. Two of these aquifers contains high yield areas capable of producing over 300 gallons per minute. Overall, some groundwater resources are available in the area. Outside of the aquifers mapped by the USGS and the state wells may have low yields. In the scattered local and larger regional aquifers wells may have higher yields. Groundwater resources should not affect the management East Brimfield Lake's lands and resources (USGS n.d. a, USGS n.d. b, USGS n.d. c, USGS 2024, MassGIS 2007).

2.1.3 Bathymetric Surveys

Surveys were conducted in 2024 by staff from the Marine Operation program using a shallow-water swath bathymetry system. The depths are adjusted to the normal pool level of 13 feet (631.3 feet NAVD88). The hydroacoustic surveys were performed to support fisheries and aquatic habitat mapping work being performed at the East Brimfield Flood Risk Management Project. East Brimfield Lake and Long Pond were surveyed on April 23-25, 2024, and Lake Siog was surveyed on May 1st, 2024. Survey maps are included in Appendix A.

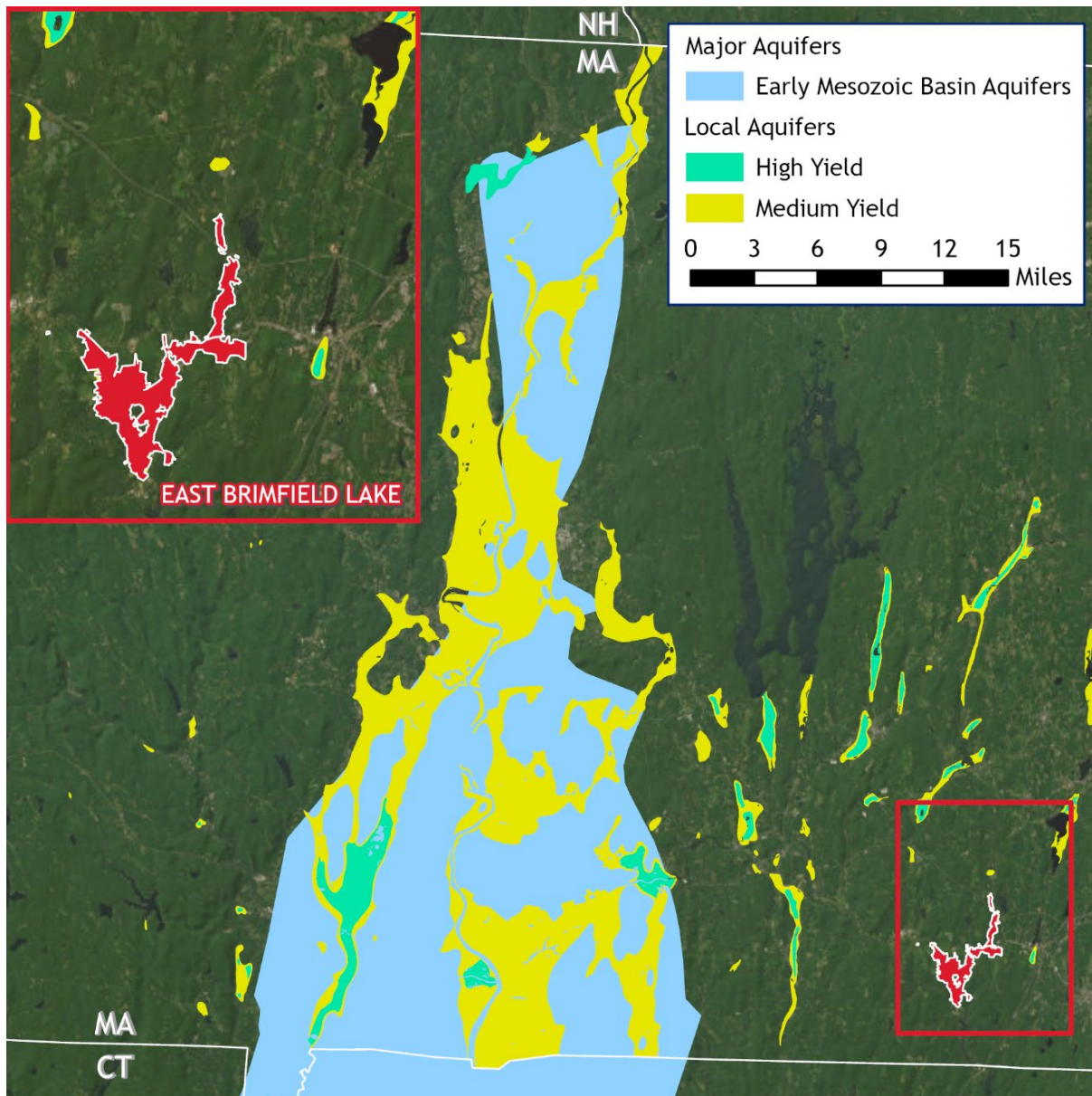


Figure 2.2 Groundwater Map for East Brimfield Lake (USGS, 2007, 2023)

2.2 SEDIMENTATION AND SHORELINE EROSION

Maintenance of a relatively stable permanent pool has helped to minimize shoreline erosion, thereby contributing to overall good water quality conditions. Erosion/runoff control will be an integral part of resource management activities, such as harvesting operations, access road construction and trail development. Control measures, including proper layout, improved drainage, minimum vegetation removal, erosion bars and seeding, will be accomplished in all management and contract work before jobs are completed. Results of erosion control efforts will be monitored to ensure erosion is controlled. Frequent inspection will be made of problem areas after erosion

has been controlled and periodic maintenance will be scheduled as needed to prevent degradation.

Five prehistoric archeological sites were identified during the walkover inspection portion of the survey in areas of previous disturbance including machine stripping or grading of soil, wave action or erosion along Holland and Long Ponds, and construction of an unpaved access road. Integrity of these remains is generally good. At the time of the 1988 survey, no prehistoric sites appeared to be threatened by maintaining a permanent pool. One shoreline site appears to be unaffected by erosion, while four other sites could be threatened by inundation during a seasonal flood or periods of high water. One site identified during the survey has been subjected to some surface erosion and protective measures should be taken to minimize further erosion, possibly through the use of some type of ground cover (wood chips or bark mulch, for example).

2.3 WATER QUALITY

The East Brimfield Lake project area contains water storage for conservation and flood damage reduction of the Quinebaug River. The project site is approximately 2,070 acres total, of which 1,189 acres are wetlands, including 407 acres of open water. Major water bodies include East Brimfield Lake, Long Pond, Lake Siog (Holland Pond), and Lost Lake. East Brimfield Lake's project area provides recreational opportunities including boating, canoe trails, fishing, and swimming, and serves as habitat for fish, waterfowl, and other wildlife. To ensure public health and safety of the water resource for the multiple uses, USACE monitors the water quality of Lake Siog at the swimming beach throughout the summer recreation season.

The Commonwealth of Massachusetts protects its waters through established water quality standards based on classified uses of each water body. According to the 2022 Integrated List of Waters, East Brimfield Lake and Holland Pond are classified as Class B cold-water, high quality water systems. East Brimfield Lake is listed as impaired in two use categories and in attainment for two use categories (MassDEP 2022; MassGIS 2021). Holland Pond is listed as impaired in four use categories. A summary of information for East Brimfield Lake and Holland Pond data from the 2022 Integrated Report is presented in Table 2.2. Additionally, the Massachusetts Department of Environmental Protection (MassDEP) conducts water quality testing and monitors surface waters through their Water Quality Monitoring Program (MassDEP 2020). East Brimfield Lake was last sampled for average pH, total dissolved solids, and dissolved oxygen in June, August, and September 2016 (Table 2.1).

Table 2.1 Water Quality Monitoring Sample Averages (avg.) at East Brimfield Lake in 2016 (MassDEP 2020)

Month	Avg. pH	Avg. Total Dissolved Solids	Avg. Dissolved Oxygen
June	6.8	141 mg/l	7 mg/l
August	6.8	149 mg/l	6.8 mg/l
September	6.9	159 mg/l	5.6 mg/l

Table 2.2 MassDEP 2022 Integrated List of Waters Report Data for East Brimfield Lake and Lake Siog/Holland Pond (MassGIS 2021)

Assessed Use Category	Assessment Determination	Date Listed as Impaired	Impairment Cause	Impairment Source
East Brimfield				
Fish Consumption	Impaired	2018/20	Mercury in fish tissue	Atmospheric deposition; source unknown
Aquatic Life	Impaired	2018/20	Non-native aquatic plants	Introduction of non-native organisms
Primary Contact Recreation	Attaining	2018/20	-	-
Secondary Contact Recreation	Attaining	2018/20	-	-
Holland Pond (Lake Siog)				
Fish Consumption	Impaired	2018/20	Mercury in fish tissue	Atmospheric deposition; source unknown
Aesthetic	Impaired	2022	Harmful algal blooms	Source unknown
Primary Contact Recreation	Impaired	2022	Harmful algal blooms	Source unknown
Secondary Contact Recreation	Impaired	2022	Harmful algal blooms	Source unknown
Aquatic Life	Not assessed	2022	-	-

2.4 AIR QUALITY

The Clean Air Act (CAA) establishes the framework for modern air pollution control and delegates primary responsibility for regulating air quality to the States, with oversight by the U.S. Environmental Protection Agency (EPA). The EPA develops rules and regulations to preserve and improve air quality as minimum requirements of the CAA, and delegates specific responsibilities to state and local agencies. Seven specific pollutants (called criteria pollutants) have been identified to be of concern with respect to the health and welfare of the public. The criteria pollutants are carbon monoxide

(CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), particulate matter 10 micrometers or less in aerodynamic diameter (PM₁₀), particulate matter 2.5 micrometers or less in aerodynamic diameter (PM_{2.5}), and lead (Pb). The EPA has established the National Ambient Air Quality Standards (NAAQS) for these pollutants. Attainment zones are areas where the NAAQS have been met. The EPA publishes Air Quality Statistics report each year that compares data on these criteria pollutants to the national standards. In 2023, both Worcester and Hampden counties were in attainment of all national pollutant standards (EPA 2023).

A General Conformity determination is not required for the 2025 MP since it would not contribute or produce any emissions that would equal or exceed the de minimis thresholds defined by the EPA for non-attainment areas (40 CFR §93.153).

2.5 CLIMATE AND GREENHOUSE GASES

2.5.1 Climate

Climatic regions are described by the Köppen-Geiger climate classification system and represented by three letters, according to their main climate group and precipitation and temperature subgroups. Most of central Massachusetts is classified as a hot-summer humid continental climate (Köppen classification Dfa) (WBG n.d.). A humid continental climate can be broadly described as having four distinct seasons with large seasonal temperature differences, warm to hot summers, and cold, snowy winters. The Northeast region of the United States experiences extreme heat, flooding, droughts, and poor air quality (U.S. Global Change Research Program (USGCRP) 2023), as well as an increase in extreme precipitation events and more severe and long-lasting heatwaves.

The average monthly climate data for East Brimfield Lake (Station USC00192107) is presented in Figure 2.3 which includes the average precipitation each month and the average minimum, maximum, and daily average temperature for each month (NCEI 2020).

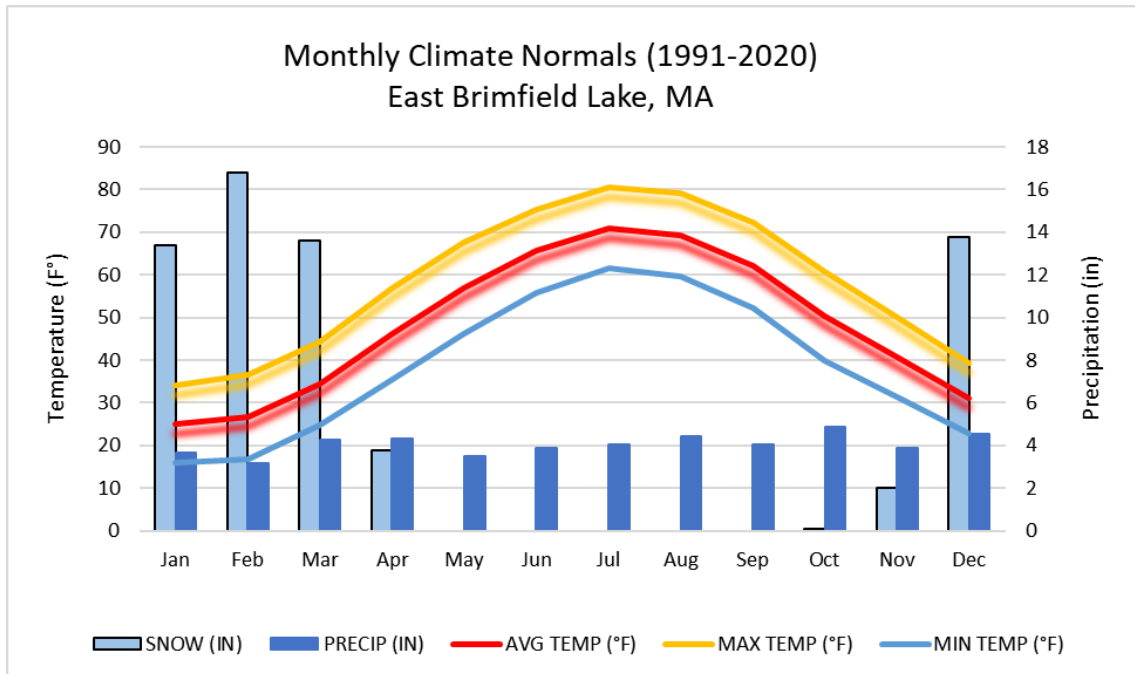


Figure 2.3 Average Monthly Climate for East Brimfield Lake, Massachusetts, 1991-2020 (NCEI 2020)

2.5.2 Greenhouse Gases

The EPA Facility Level Information on Greenhouse gases Tool (FLIGHT) provides data on large emitters of GHGs. Within 10 miles to the east of East Brimfield Lake in Worcester County there are three large GHG contributors, all of which had reported emissions for 2022 (EPA 2022). Table 2.3 describes these facilities. There are no other facilities within a 15-mile radius of East Brimfield Lake and Dam project area.

Table 2.3 EPA Facility Level Information on Greenhouse Gases Tool (FLIGHT) Facilities Near East Brimfield Lake (EPA 2022)

Facility Name	City	GHG Quantity (mt CO ₂ e)	Facility Type
Southbridge Recycling & Disposal Park	Southbridge	5,528	General Stationary Fuel Combustion; Municipal Solid Waste Landfills
Millennium Power	Charlton	444,270	General Stationary Fuel Combustion; Electricity Generation
TGP Station 264 Charlton	Charlton	32,159	General Stationary Fuel Combustion; Petroleum and Natural Gas Systems

2.6 TOPOGRAPHY, GEOLOGY, AND SOILS

2.6.1 Topography

The East Brimfield Lake project is located in the northward continuation of the eastern upland area of Connecticut. The topography in the project area is hilly, but relief

is moderate, at about 300 feet. Small lakes, ponds, and poorly drained marshy areas are common in the valley. The hills and valleys are oriented northeastward. These are more or less parallel to the strike of the underlying bedrock formations and the direction of ice movement during continental glaciation. The Quinebaug River valley is a partly filled pre-glacial valley. At the dam site, the valley is a narrow gap or notch situated between a bedrock hill on the right and a glacial till hill on the left. The valley widens upstream of the damsite and is between 1,000 and 2,000 feet wide in many areas.

East Brimfield Lake's watershed has three major drainage areas; the northern portion includes Long Pond and Alum Pond and has a drainage area of about 15 square miles; the western portion, whose major tributary is Mill Pond, has a drainage area of around 18 square miles; and the southern portion, which includes the upper Quinebaug River and Hamilton Reservoir, has a drainage area of approximately 32 square miles. Total drainage area at the dam is 67.5 square miles. From the outlet of Hamilton Reservoir (elevation 683 feet MSL), the upper Quinebaug River flows north through Holland Pond (elevation 635 feet) and enters a very marshy area at the Holland-Brimfield town line. Mill Brook enters in this area, having drained the northwest corner of the Quinebaug basin in Brimfield. Following several meanders through this flat, swampy section, the river turns east and enters the large East Brimfield Reservoir - Long Pond complex formed by the East Brimfield Dam. From Holland Pond to the East Brimfield Reservoir, the Quinebaug travels three miles yet falls only three feet. From the reservoir, the Quinebaug continues east through Fiskdale, then southeast through Sturbridge to Southbridge and Westville Lake, dropping 45 feet over a distance of 4.8 miles.

The rate at which flooding develops in this section of the Quinebaug River is influenced by the oblong, narrow shape of its basin and the amount of natural storage in numerous swamps, lakes, and millponds. Tributaries to the Quinebaug River above Southbridge, Massachusetts have moderate slopes that are conducive to rapid runoff. The main stem of the upper Quinebaug has extensive wetlands in Brimfield and Sturbridge.

2.6.2 Geology

East Brimfield Lake's watershed is mostly bedrock overlain with glacial deposits. This results in a fairly stable watershed with minimal sediment loads in the rivers, at least compared to other parts of the country. Landslides are very rare. The nature of the watershed soils tends to make runoff and groundwater very soft with minimal buffering capacity. Valleys in the region are largely occupied by glacial stream deposits laid down during the melting of the ice. The area is predominantly underlain with schist with occasional granite outcrops. Exposed schist is generally highly weathered and fractured. Other types of metamorphic rock present include phyllite, quartzite, and gneiss. All have been folded, and the trend of the folds is in a north-south to a northeast-southwest direction.

2.6.3 Soils

The non-irrigated land capability classification from the Natural Resource Conservation Service (NRCS) shows there are 8 possible general classifications (Class

I through Class VIII), but only 6 occur at East Brimfield Lake. The erosion hazards and plant cultivation limitations for use increase as the class number increases. Class I has few limitations, whereas Class VIII has many. The NRCS' Web Soil Survey provided the soil class data for project lands in Table 2.4. This data is a standard component of natural resource inventories on USACE lands. This data, however, is not recorded in the USACE Natural Resource Management (NRM) system.

Table 2.4 Soil Classifications at East Brimfield Lake

Soil Class	Acreage
Class I	0
Class II	454
Class III	36
Class IV	84
Class V	717
Class VI	28
Class VII	320
Class VIII	35

(Source: NRI Level I Inventory)

The descriptions of the soils and land capability classifications below demonstrate the relative general potential for project lands. The different soils are mapped in Figure 2.4. The NRCS maintains detailed information on all soil types surrounding East Brimfield Lake in various websites and datasets.

- Class I soils have slight limitations that restrict their use.
- Class II soils have moderate limitations that reduce the choice of plants or require moderate conservation practices.
- Class III soils have severe limitations that reduce the choice of plants or require special conservation practices, or both.
- Class IV soils have very severe limitations that restrict the choice of plants or require very careful management, or both.
- Class V soils have little or no hazard of erosion but have other limitations, impractical to remove, that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
- Class VI soils have severe limitations that make them generally unsuited to cultivation and that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
- Class VII soils have very severe limitations that make them unsuited to cultivation and that restrict their use mainly to grazing, forestland, or wildlife.
- Class VIII soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use to recreation, wildlife, or water supply or for aesthetic purposes.

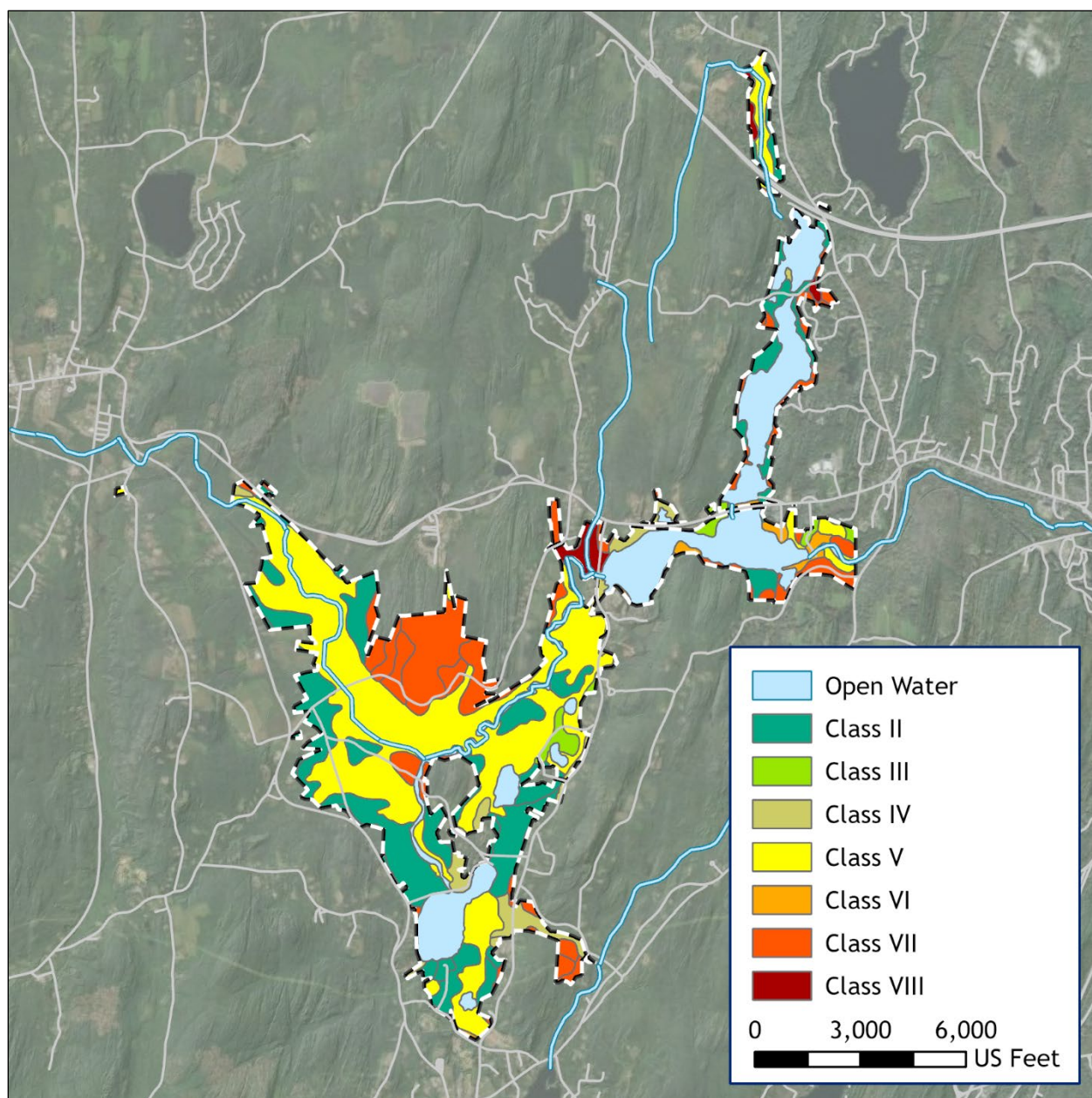


Figure 2.4 Soil Classification Map (NRCS, 2023)

2.6.4 Prime Farmland

Section 1541(b) of the Farmland Protection Policy Act (FPPA) of 1980 and 1995, 7 U.S.C. 4202(b) requires federal and state agencies, as well as projects funded with federal funds, to (a) use the criteria to identify and take into account the adverse effects of their programs on the preservation of farmland, (b) consider alternative actions, as appropriate, that could lessen adverse effects, and (c) ensure that their programs, to the extent practicable, are compatible with state and units of local government and private programs and policies to protect farmland. The prime farmlands are mapped in Figure 2.5.

Table 2.5 Prime Farmlands Identified at the East Brimfield Lake and Dam (NRCS, 2023)

Map Symbol	Map Unit Name	Farmland Classification
245B	Hinckley loamy sand, 3 to 8 percent slopes	Farmland of statewide importance
254B	Merrimac fine sandy loam, 3 to 8 percent slopes	All areas are prime farmland
254C	Merrimac fine sandy loam, 8 to 15 percent slopes	Farmland of statewide importance
255B	Windsor loamy sand, 3 to 8 percent slopes	Farmland of statewide importance
255C	Windsor loamy sand, 8 to 15 percent slopes	Farmland of statewide importance
255D	Windsor loamy sand, 15 to 25 percent slopes	Not prime farmland
260A	Sudbury fine sandy loam, 0 to 3 percent slopes	All areas are prime farmland
307B	Paxton fine sandy loam, 0 to 8 percent slopes, extremely stony	Not prime farmland
307C	Paxton fine sandy loam, 8 to 15 percent slopes, extremely stony	Not prime farmland
312B	Woodbridge fine sandy loam, 0 to 8 percent slopes, extremely stony	Not prime farmland
3A	Scarboro and Walpole soils, 0 to 3 percent slopes	Not prime farmland
420B	Canton fine sandy loam, 3 to 8 percent slopes	All areas are prime farmland
422B	Canton fine sandy loam, 0 to 8 percent slopes, extremely stony	Not prime farmland

Map Symbol	Map Unit Name	Farmland Classification
422C	Canton fine sandy loam, 8 to 15 percent slopes, extremely stony	Not prime farmland
422E	Canton fine sandy loam, 15 to 35 percent slopes, extremely stony	Not prime farmland
53A	Freetown muck, ponded, 0 to 1 percent slopes	Not prime farmland
600	Pits, gravel	Not prime farmland
71A	Ridgebury fine sandy loam, 0 to 3 percent slopes, extremely stony	Not prime farmland
71B	Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony	Not prime farmland
73A	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	Not prime farmland

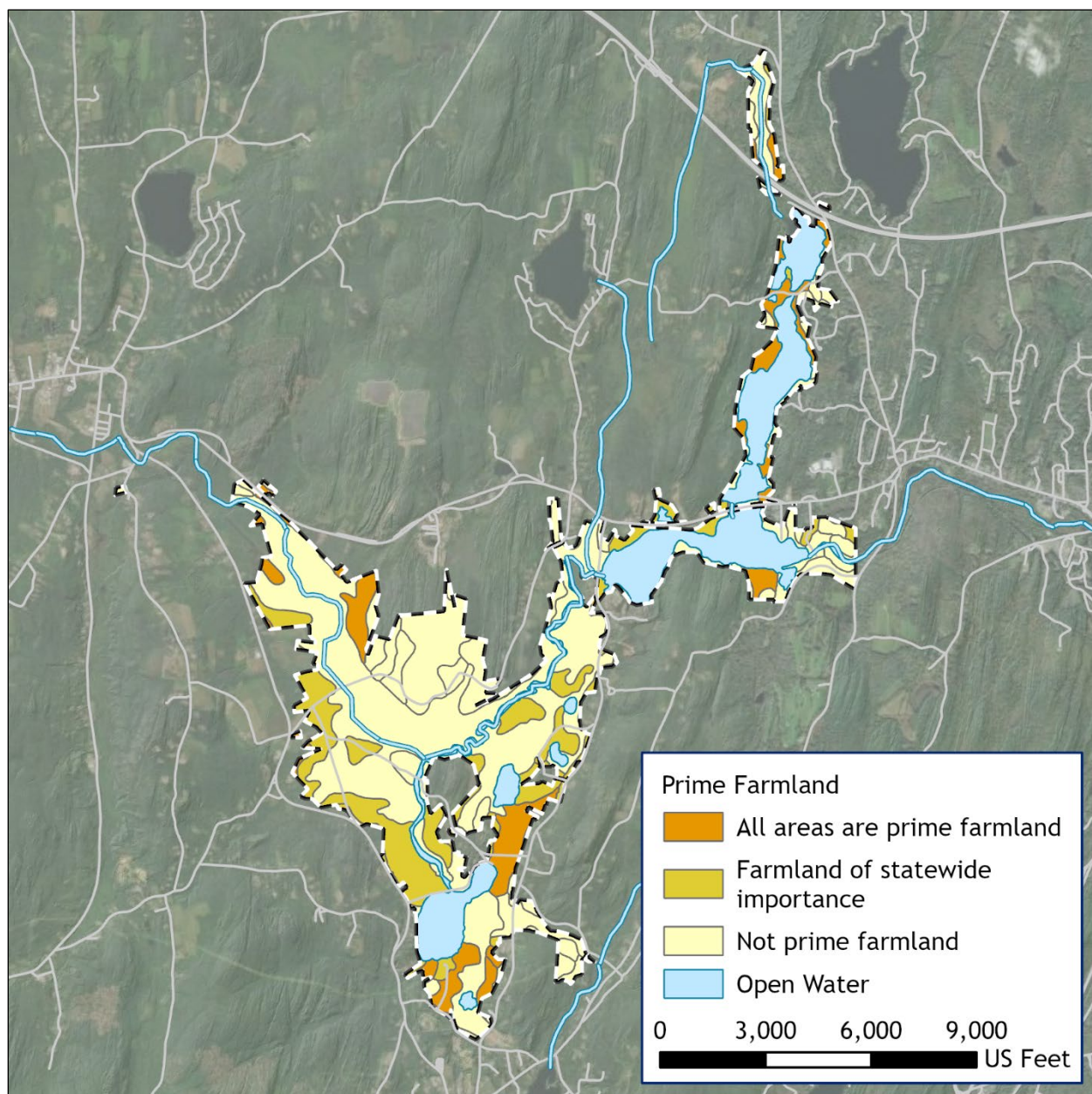


Figure 2.5 Prime Farmland Soils Map (NRCS, 2023)

2.7 NATURAL RESOURCE ANALYSIS

2.7.1 Fish and Wildlife Resources

Fish and wildlife found at the East Brimfield Lake project area are common in Worcester County, Hampden County, and Central Massachusetts (USACE 2022; USACE 1998; USACE 1994; Mass Audubon n.d.). A brief list of indigenous species of birds, fish, invertebrates, and mammals is found in Table 2.4. A more extensive list can be found in Appendix C. Hunting and fishing are permitted in accordance with Massachusetts fish and game laws. MassWildlife stocks the water bodies with trout

Table 2.6 Common Species Potentially Occurring at East Brimfield Lake

Common Name / Scientific Name	Common Name / Scientific Name
White-tailed deer (<i>Odocoileus virginianus</i>)	Eastern cottontail (<i>Sylvilagus floridanus</i>)
Eastern grey squirrel (<i>Sciurus carolinensis</i>)	Eastern chipmunk (<i>Tamias striatus</i>)
North American river otter (<i>Lontra canadensis</i>)	Groundhog (<i>Marmota monax</i>)
Coyote (<i>Canis latrans</i>)	Wild turkey (<i>Meleagris gallopavo</i>)
Wood duck (<i>Aix sponsa</i>)	Ring-necked pheasant (<i>Phasianus colchicus</i>)
Red-winged blackbird (<i>Agelaius phoeniceus</i>)	Mallard (<i>Anas platyrhynchos</i>)
Canada goose (<i>Branta canadensis</i>)	Northern spring peeper (<i>Pseudacris crucifer</i>)
Spotted salamander (<i>Ambystoma maculatum</i>)	Common snapping turtle (<i>Chelydra serpentina</i>)
Eastern American toad (<i>Anaxyrus americanus</i>)	Common musk turtle (<i>Sternotherus odoratus</i>)
DeKay's brown snake (<i>Storeria dekayi</i>)	Spinycheek crayfish (<i>Faxonius limosus</i>)

The most recent fishery survey was conducted by USACE in July 2024. The survey covered East Brimfield Lake, Long Pond, and Lake Siog. These species are noted in Table 2.7. One of these species, the brindle shiner (*Notropis bifrenatus*), is a protected Massachusetts species of special concern.

Table 2.7 Fish Species Reported in Surveys by the 2024 USACE Survey at East Brimfield Lake

Common Name / Scientific Name	Common Name / Scientific Name
East Brimfield Lake	
Brown bullhead (<i>Ameiurus nebulosus</i>)	Black crappie (<i>Pomoxis nigromaculatus</i>)
Bluegill (<i>Lepomis macrochirus</i>)	Chain pickerel (<i>Esox niger</i>)
Golden shiner (<i>Notemigonus crysoleucas</i>)	Largemouth bass (<i>Micropterus salmoides</i>)
Pumpkinseed (<i>Lepomis gibbosus</i>)	Yellow perch (<i>Perca flavescens</i>)
Yellow bullhead (<i>Ameiurus natalis</i>)	Central mudminnow (<i>Umbra limi</i>)
Long Pond	
Brown bullhead (<i>Ameiurus nebulosus</i>)	Black crappie (<i>Pomoxis nigromaculatus</i>)
Bluegill (<i>Lepomis macrochirus</i>)	Chain pickerel (<i>Esox niger</i>)
Golden shiner (<i>Notemigonus crysoleucas</i>)	Largemouth bass (<i>Micropterus salmoides</i>)
Pumpkinseed (<i>Lepomis gibbosus</i>)	Yellow bullhead (<i>Ameiurus natalis</i>)
Yellow perch (<i>Perca flavescens</i>)	
Lake Siog	
Brown bullhead (<i>Ameiurus nebulosus</i>)	Black crappie (<i>Pomoxis nigromaculatus</i>)
Bluegill (<i>Lepomis macrochirus</i>)	Banded killifish (<i>Fundulus diaphanous</i>)
Brindle shiner (<i>Notropis bifrenatus</i>) *	Chain pickerel (<i>Esox niger</i>)
Common carp (<i>Cyprinus carpio</i>)	Golden shiner (<i>Notemigonus crysoleucas</i>)
Largemouth bass (<i>Micropterus salmoides</i>)	Pumpkinseed (<i>Lepomis gibbosus</i>)
Redbreast sunfish (<i>Lepomis auritus</i>)	White sucker (<i>Catostomus commersonii</i>)
Yellow bullhead (<i>Ameiurus natalis</i>)	Yellow perch (<i>Perca flavescens</i>)

2.7.2 Vegetative Resources

The East Brimfield Lake project area sits within the Lower Worcester Plateau/Eastern Connecticut Upland Level IV ecoregion designated by the EPA (EPA n.d.; Griffith et al. 2009). Dominant forest-types in this region are transitional hardwoods (i.e. maple-beech-birch) and central hardwoods-pine (i.e. oak-hickory, oak-hemlock-white pine) (Griffith et al. 2009). Other tree species existing in the overstory may include alder, aspen, and black willow (USACE 1998). The last forest inventory for East Brimfield Lake occurred in 1994 and found stands of white pine/oak, white pine/hemlock, white pine/hardwood, white pine, mixed oak, grey birch/red maple, red maple, and poplar (USACE 1998). Less complete species surveys in 2008 and 2024 also noted oak-pine forests and hemlock woods (CME 2008; Terry 2024). The hemlock woods are dominated by hemlock along with yellow birch. An acidic graminoid fen is present and contains shrubs and shrubby trees throughout the sphagnum mat such as red maple (*Acer rubrum*), highbush blueberry (*Vaccinium corymbosum*), white pine (*Pinus strobus*), grey birch (*Betula populifolia*), and stepplebush (*Spirea tomentosa*) (CME 2008). The two wetlands in the project area are referred to as the North Wetland (borders Ayer Brook and flows into Long Pond) and the Large Wetland (a large area that includes Holland Pond) (Figure 2.4). Both wetland areas contain shrubs and trees such as silky dogwood (*Cornus amomum*), common winterberry (*Ilex verticillata*), and red maple (*Acer rubrum*) (CME 2008).

2.7.3 Threatened and Endangered Species

A list of federally threatened and endangered species was obtained through the USFWS Information for Planning and Consultation (IPaC) tool on September 23, 2024. Listed species and their critical habitats are managed by the USFWS. The project area is located within the range of the endangered northern long-eared bat (*Myotis septentrionalis*), the proposed endangered tricolored-bat (*Perimyotis subflavus*), and the threatened small whorled pogonia (*Isotria medeoloides*). The IPaC tool did not find any critical habitats for these species in the project area (USFWS 2024).

The IPaC tool also considers migratory birds and eagles that are protected under the Bald and Golden Eagle Protection Act of 1940 and the Migratory Bird Treaty Act of 1918. Some of these protected species are also considered Birds of Conservation Concern (BCC) because they are likely to become candidates for listing under the Endangered Species Act if there are no additional conservation actions (USFWS 2021). Birds identified as BCC according to the USFWS are denoted with an “*” in Table 2.6. Bird species considered for the BCC include nongame birds, game birds without a hunting season, subsistence-hunted nongame birds in Alaska, and Endangered Species Act (ESA) “candidate”, “proposed”, and recently “de-listed” species. The overall goal of the BCC designation is to accurately identify the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the USFWS’s highest conservation priorities (USFWS 2021).

Table 2.8 Federally Protected Migratory Birds Potentially Occurring at East Brimfield Lake

Common Name / Scientific Name	Common Name / Scientific Name
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Black-billed cuckoo * (<i>Coccyzus erythrophthalmus</i>)
Blue-winged warbler * (<i>Vermivora cyanoptera</i>)	Bobolink * (<i>Dolichonyx oryzivorus</i>)
Canada warbler * (<i>Cardellina canadensis</i>)	Chimney swift * (<i>Chaetura pelagica</i>)
Prairie warbler * (<i>Setophaga discolor</i>)	Rusty blackbird * (<i>Euphagus carolinus</i>)
Scarlet tanager * (<i>Piranga olivacea</i>)	Wood thrush * (<i>Hylocichla mustelina</i>)

* Birds that are of Conservation Concern (BCC) by the USFWS are denoted with an asterisk.

The project area was also surveyed for state-listed rare, threatened, and endangered species which were reported in 2008 and 2024 (CME 2008; Terry 2024). The most recent report surveyed the project area from May to November 2023 and found six state-listed species under the Massachusetts Endangered Species Act (MESA) using MassWildlife's updated 2020 list. The report referred to the Massachusetts State Wildlife Action Plan (SWAP) for their list of Species of Greatest Conservation Need (SGCN). These SGCN may be federally listed, state-listed, globally rare, or of regional concern (MassWildlife 2015). Table 2.7 lists the species surveyed in the 2008 and 2024 reports and includes data retrieved from the Massachusetts Natural Heritage and Endangered Species Program (NHESP) on prior surveys. SGCN are denoted with an "**". Twenty-three additional state-listed species were found to potentially occur in the area, according to MassWildlife's Rare Species Viewer map for the towns of Brimfield and Sturbridge (MassWildlife n.d.). Although these species were not found during the 2008 and 2024 surveys, their information is provided in Appendix C.

Table 2.9 State-Listed Species Surveyed at East Brimfield Lake

Common Name / Scientific Name	Last Recorded	State Listing
Eastern Whip-poor-will (<i>Antrostomus vociferus</i>)	May 25, 2023	Special concern
Ocellated darner (<i>Boyeria grafiana</i>)	Sep 23, 2023	Special concern
Long-bracted tick-trefoil (<i>Desmodium cuspidatum</i>)	Aug 20, 2023	Threatened
Little brown bat * (<i>Myotis lucifugus</i>)	Jun 7, 2023	Endangered, SGCN
Bristly buttercup (<i>Ranunculus pensylvanicus</i>)	Jun 6, 2023	Special concern
Spine-crowned clubtail (<i>Hylogomphus abbreviates</i>)	Aug 9, 2016	Special concern
Creeper (<i>Strophitus undulatus</i>)	Sep 21, 2023	Special concern
Wood turtle (<i>Glyptemys insculpta</i>)	Aug 20, 2022	Special concern
Marbled salamander (<i>Ambystoma opacum</i>)	Apr 8, 2006	Threatened

Common Name / Scientific Name	Last Recorded	State Listing
Water shrew (<i>Sorex palustris</i>)	Nov 3, 1996	Special concern
Purple clematis (<i>Clematis occidentalis</i>)	1983	Special concern
Least bittern (<i>Ixobrychus exilis</i>)	May 14, 2007	Endangered
Bridle shiner (<i>Notropis bifrenatus</i>)	Jul 18, 2019	Special concern
Triangle floater * (<i>Alasmidonta undulata</i>)	Sep 21, 2023	SGCN
Broad-winged hawk * (<i>Buteo platypterus</i>)	Jun 25, 2023	SGCN
Eastern red bat * (<i>Lasiurus borealis</i>)	Jun 8, 2023	SGCN
Silver-haired bat* (<i>Lasionycteris noctivagans</i>)	Jun 7, 2023	SGCN
Big brown bat * (<i>Eptesicus fuscus</i>)	Jun 7, 2023	SGCN
Hoary bat * (<i>Lasiurus cinereus</i>)	Jun 7, 2023	SGCN
White throated sparrow * (<i>Zonotrichia albicollis</i>)	May 26, 2023	SGCN
Wood thrush * (<i>Hylocichla mustelina</i>)	May 26, 2023	SGCN
Black and white warbler * (<i>Mniotilta varia</i>)	Sep 22, 2023	SGCN
Eastern towhee * (<i>Pipilo erythrophthalmus</i>)	May 26, 2023	SGCN
Scarlet tanager * (<i>Piranga olivacea</i>)	Jun 26, 2023	SGCN
American Woodcock * (<i>Scolopax minor</i>)	Jun 26, 2023	SGCN
Field sparrow * (<i>Spizella pusilla</i>)	May 25, 2023	SGCN
Ribbon snake * (<i>Thamnophis sauritus</i>)	Jun 26, 2023	SGCN
Northern leopard frog * (<i>Lithobates pipiens</i>)	May 24, 2023	SGCN
American black bear * (<i>Ursus americanus</i>)	Aug 20, 2023	SGCN

* Species of Greatest Conservation Need (SGCN) are denoted with an asterisk.

2.7.4 Invasive Species

Executive Order 13112 defines an invasive species as a plant or animal that is non-native to an ecosystem and whose introduction causes, or is likely to cause, economic and/or environmental harm, or harm to human health. Invasive species can thrive in areas beyond their normal range of dispersal and are characteristically adaptable, aggressive, and highly reproductive. Invasive species outside of their normal range lack predators, competitors, and parasites, allowing their populations to grow rapidly, resulting in a negative effect on native plants, animals, and ecosystem functions. Surveys completed in 2008 and 2024 reported invasive plants found at East Brimfield Lake (Table 2.8) (CME 2008; Terry 2024). Significant infestations of purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*) were documented in the 2024 report. Invasive aquatic species are denoted with an “**”.

Table 2.10 Invasive Species Surveyed at East Brimfield Lake

Common Name / Scientific Name	Common Name / Scientific Name
Common reed (<i>Phragmites australis</i>)	Purple loosestrife (<i>Lythrum salicaria</i>)
Variable watermilfoil (<i>Myriophyllum heterophyllum</i>) *	Japanese knotweed (<i>Reynoutria japonica</i>)
European watermilfoil (<i>Myriophyllum spicatum</i>) *	Honeysuckle (<i>Lonicera spp.</i>)
Multiflora rose (<i>Rosa multiflora</i>)	Curly leaf pondweed (<i>Potamogeton crispus</i>) *
Glossy buckthorn (<i>Rhamnus frangula</i>)	Carolina fanwort (<i>Cabomba caroliniana</i>) *
Hawkweed (<i>Hieracium spp.</i>)	Japanese barberry (<i>Berberis thunbergii</i>)
Common buckthorn (<i>Rhamnus cathartica</i>)	Black locust (<i>Robinia pseudoacacia</i>)
European buckthorn (<i>Frangula alnus</i>)	Yellow iris (<i>Iris pseudacorus</i>)
Winged euonymus (<i>Euonymus alatus</i>)	Autumn olive (<i>Elaeagnus umbellata</i>)
Black swallow-wort (<i>Cynanchum louiseae</i>)	Oriental bittersweet (<i>Celastrus orbiculatus</i>)
Garlic mustard (<i>Alliaria petiolata</i>)	Sycamore maple (<i>Acer pseudoplatanus</i>)
Norway maple (<i>Acer platanoides</i>)	

* Aquatic invasive species are denoted with an asterisk.

Invasive species can change community structure, composition, and ecosystem processes in ways that may not be anticipated or desirable. Careful management can minimize these negative impacts. Methods suggested to reduce invasives include hand-pulling, chemical control, prescribed fire, cutting, mowing, excavation, and water inundation (Terry 2024). Chemical, mechanical, and manual methods are used extensively by staff and volunteers at the project to manage invasive species; they include:

- Hand pulling
- Cutting
- Mowing
- Digging
- Brush hogging/cutting
- Pulling with a mini excavator and tractor
- Chemical treatment

These methods are effective if repeated frequently during a growing season to exhaust a plant's root reserves, or if used in combination with other techniques. An invasive species management plan for the project will be developed in the future as funding becomes available. This plan would then be directly incorporated into the Master Plan during future updates or revisions.

2.7.5 Ecological Setting

The EPA's ecoregion classifications describe the broader ecological setting of East Brimfield Lake. North America is divided into 15 broad, Level I ecological regions, 50 more detailed Level II ecoregions, and 182 Level III ecoregions that are nested within level II regions. Massachusetts contains the Level I eastern temperate forests region and the northern forests region. The project area sits in the nested Level II mixed wood plains region of the broader eastern temperate forests (EPA 2024). Its Level III classification is the northern coastal zone (Figure 2.6). The overall characteristic in the northeastern coastal zone is irregular plains with low to high hills, nutrient-poor soils, and continental glacial lakes and ponds (Griffith et al. 2009).

East Brimfield Lake resides in the Worcester Plateau/Eastern Connecticut Upland Level IV ecoregion. The region is characterized by low hills, irregular rolling plains, and an abundance of glacial drumlins (Griffith et al. 2009). The geologic relief, or difference in elevation between the high and low points, varies from 300 to 500 feet, and consists of gneiss, schist, and granofel metamorphic rock (Griffith et al. 2009). The soil on the uplands developed from glacial till, typically coarse-loamy, mesic Inceptisols (i.e. Woodbridge, Paxton, and Hollis soils). The valleys consist mostly of sand, gravel, and silt deposits.

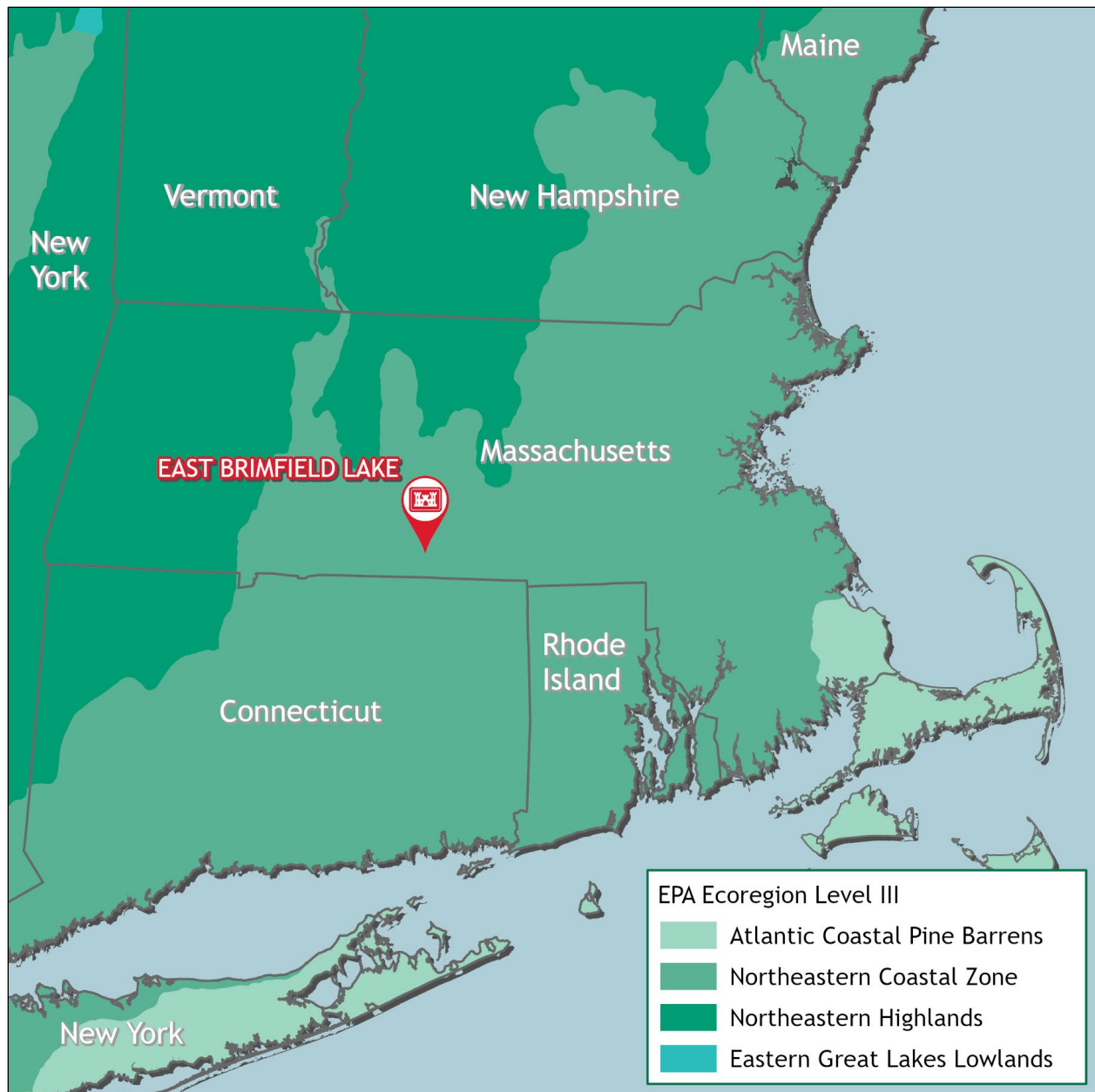


Figure 2.6 EPA Level III Ecoregions of Massachusetts (ESRI n.d.; EPA 2024)

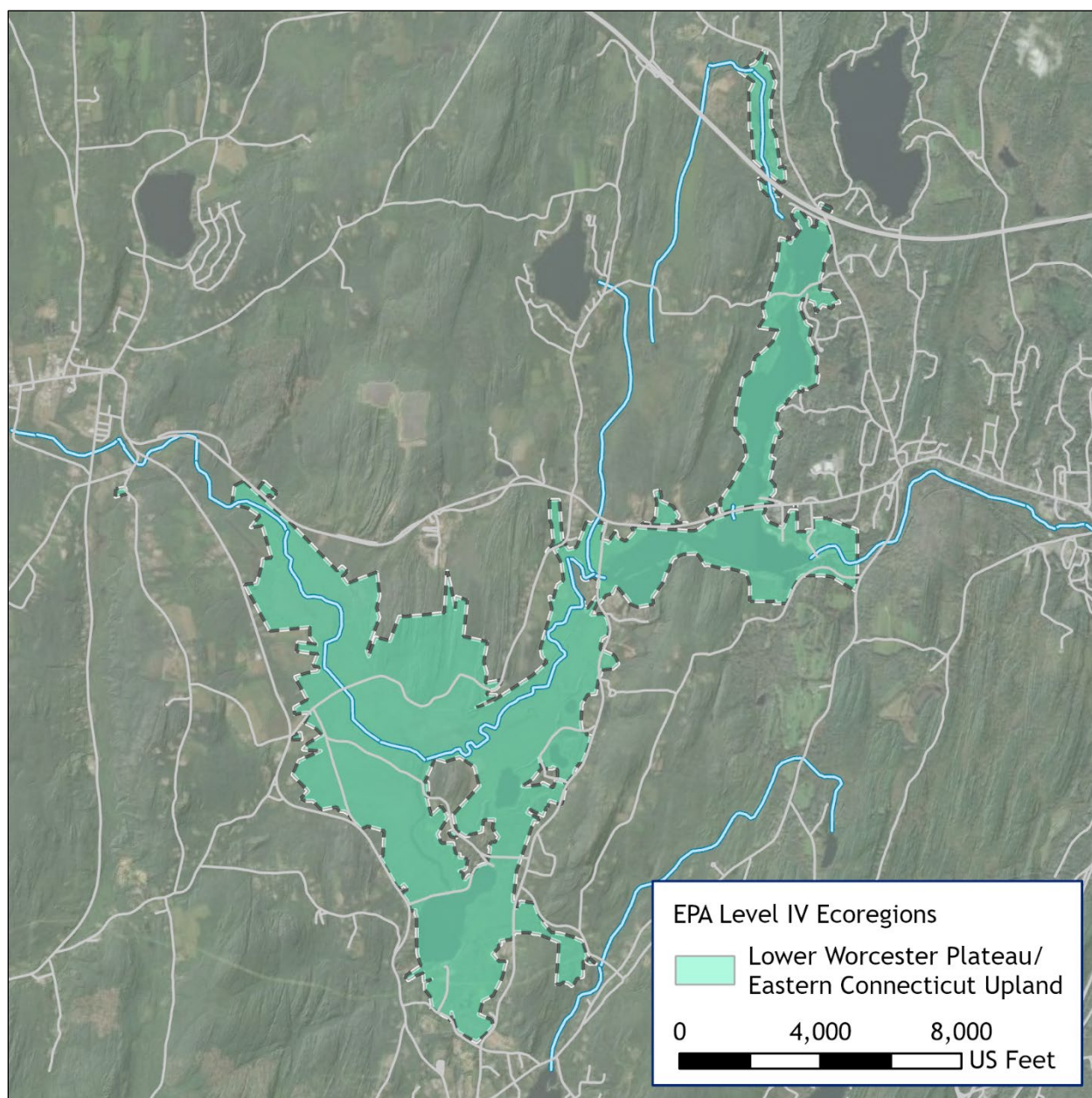


Figure 2.7 EPA Level IV Ecoregion at East Brimfield Lake (ESRI n.d.; EPA 2024)

The Worcester Plateau/Eastern Connecticut Upland climate is humid continental, having slightly cooler temperatures and slightly shorter growing seasons than the bordering lowland regions (Griffith et al. 2009). The variation in annual precipitation range (40-50 inches) is more similar to the western bordering regions than the along the coast. The number of days being frost-free ranges from 120-160. Freezing temperatures can be expected from late October to late April (USACE 1998).

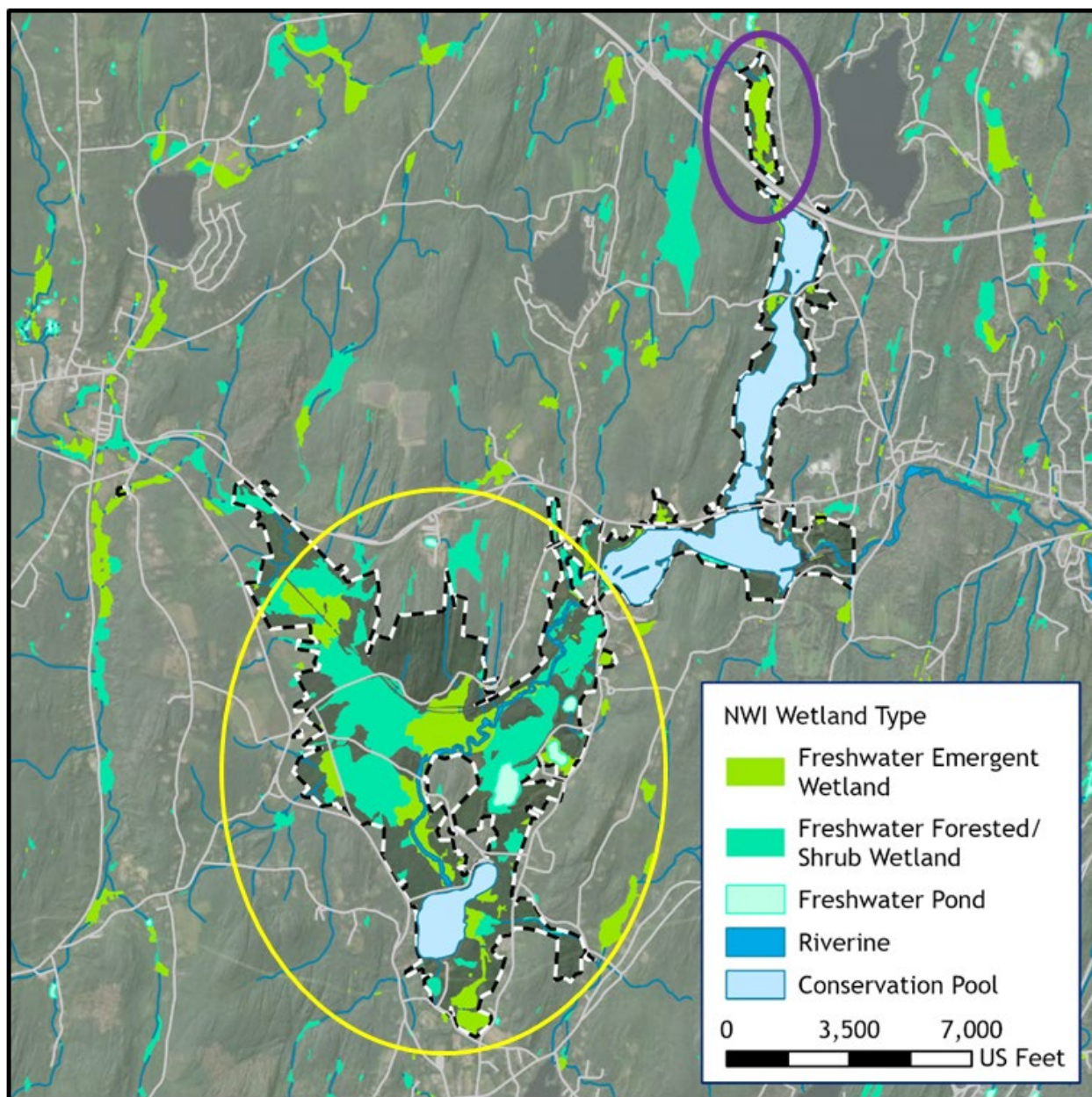
Vegetation throughout the ecoregion was originally forested with significant areas of wetlands. Much of Massachusetts had been historically deforested for farming by European settlers, but has since returned to mostly forests, woodlands, and urban development, with only minor areas for pasture and cropland (Griffith et al. 2009). The

major forest types are transition hardwoods (i.e. maple-beech-birch) and some central hardwoods (i.e. oak-hickory). The region has an abundance of ponds, small lakes, and acidic wetlands, with some freshwater marshes.

This region also supports unique habitats which can be found at the East Brimfield Lake project area. These special, exemplary, or biologically important community types are protected under MassWildlife's Natural Heritage & Endangered Species Program and support endangered, threatened, and rare species. Some of these community types found at the project area include a hemlock ravine, white pine/hemlock woods, acidic graminoid fen, and vernal pools (Terry 2024).

2.7.6 Wetlands

The USFWS maintains the National Wetlands Inventory, which is a wetlands database across the United States. Protected wetlands provide habitat for more than 50 percent of endangered, threatened, and rare species, as well as habitat for migratory birds and nursery habitat for fish (USFWS n.d.(a)). The East Brimfield Lake project area contains several types of freshwater emergent and freshwater forested/shrub wetlands, freshwater ponds, and riverine habitat (Figure 2.8).



* The North Wetland is within the purple circle and the Large Wetland is within the yellow circle.

Figure 2.8 Estimated Wetlands within East Brimfield Lake (NWI, 2023)

There are approximately 1,189 acres of wetlands present within the boundary of the East Brimfield Lake project. Table 2.11 summarizes the area coverage per wetland type. Two notable wetlands are the North Wetland and Large Wetland (Figure 2.4) (CME 2008). The North Wetland contains emergent marsh, wet meadow, shrub wetland, and red maple swamp habitats. The Large Wetland includes ponds, such as Holland Pond and Lost Lake, and is made of shrub swamps and emergent marshes. Sixteen vernal pool locations were confirmed in a 2008 survey (CME 2008). Large

areas of these wetlands are dominated by invasive aquatic species, such as common reed and purple loosestrife (CME 2008; Terry 2024).

Table 2.11 Wetlands at East Brimfield Lake

Wetland Type	Acreage
Freshwater Emergent Wetland	241
Freshwater Forested/Shrub Wetland	449
Freshwater Pond	26
Lake	381
Riverine	97

2.8 HAZARDOUS, TOXIC AND RADIOACTIVE WASTE

A review of the EPA EnviroMapper Database that includes Superfund sites, toxic releases, water discharges, air emissions, and hazardous wastes, indicates that there are no sites known to be within the East Brimfield Lake project (EPA 2025).

The EPA's EnviroMapper tool reports that there are 146 hazardous, toxic, and/or radioactive waste sites within a 5-mile buffer of the East Brimfield Lake project area. These facilities range from Resource Conservation and Recovery Act (RCRA) sites, Toxic Release Inventory (TRI) sites, brownfields, and Superfund sites. There are no Superfund or Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites within a 5-mile radius. None of these facilities occur within the East Brimfield Lake project boundary. Figure 2.9 shows the EnviroMapper sites found within a 5-mile buffer of the East Brimfield Lake project boundary.

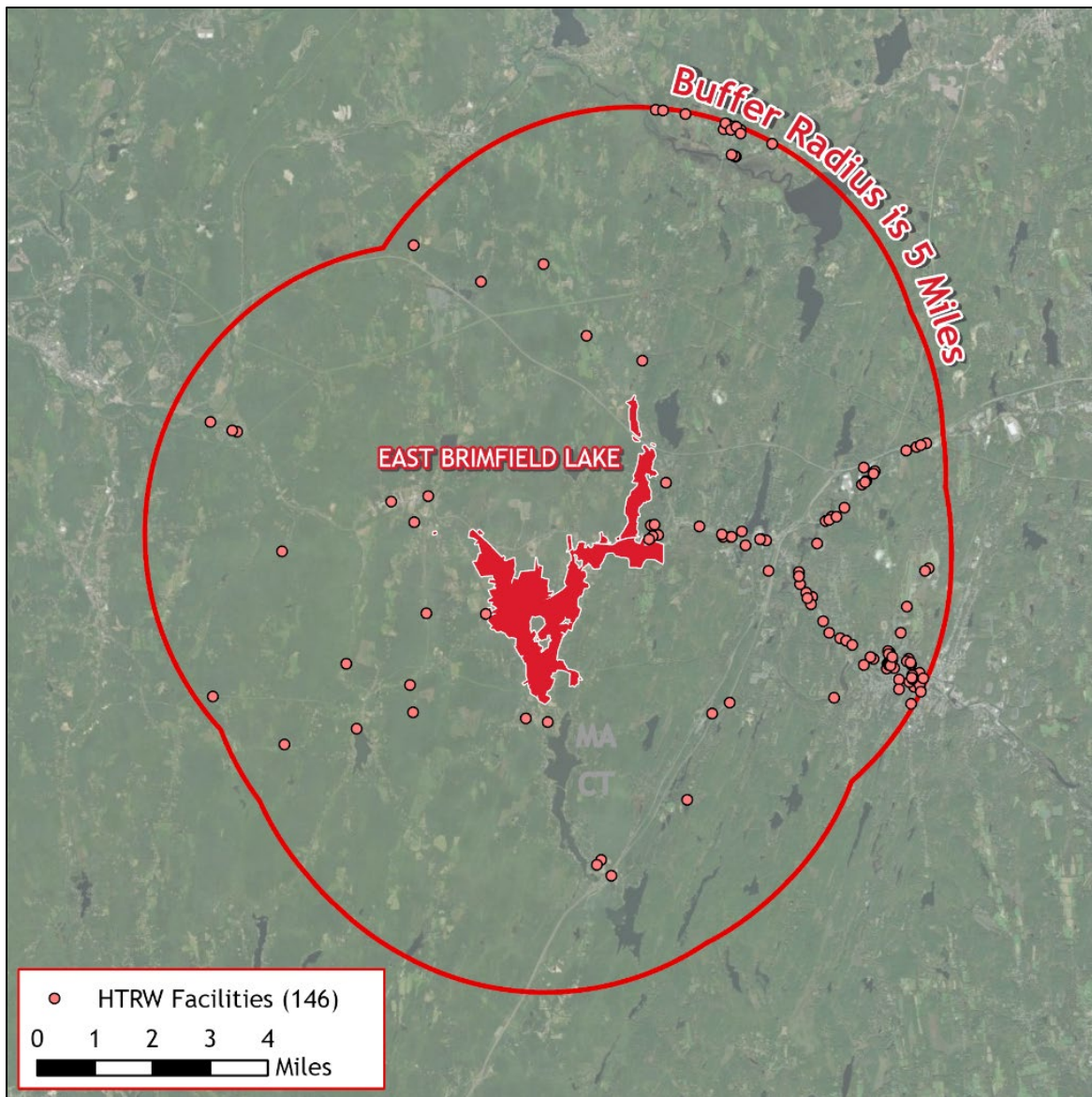


Figure 2.9 EPA EnviroMapper Hazardous, Toxic and/or Radioactive Waste Sites within 5 miles of East Brimfield Lake

2.9 HEALTH AND SAFETY

East Brimfield Lake staff work to provide public outreach programs on water safety and conservation of natural resources. In addition to the water safety outreach programs, USACE partners with the Sturbridge Police Department and Massachusetts Environmental Police (MEP) to protect the recreating public at East Brimfield Lake. Partnership support includes patrol and enforcement of natural resource regulations, boating regulations, and general law enforcement support. The Massachusetts Office of Fishing and Boating Access is also a long-standing partner in support of visitor health

and safety by assisting with boat ramp maintenance materials, informational kiosks and other resources to enhance visitor safety. USACE also ensures compliance with rules and regulations governing solid waste, wastewater, and potable water management on USACE fee land, including those areas operated by lessees.

2.10 AESTHETIC RESOURCES

East Brimfield Lake is situated in a relatively hilly portion of the Thames River Basin headwaters. Reflecting the diverse nature and beauty of New England, these forested rolling hills frame the river valley and the glacially formed kettle ponds of Lost Lake, Green, and Pork Barrel Ponds. The reservoir area is quite diverse; the western portion contains large wetland areas and several large ponds while the eastern portion consists largely of open water and surrounding hilly areas. These large wetland and open water areas, along with the adjacent upland areas, provide conditions suitable for diverse vegetation cover and support a large variety of fish and wildlife species. The forests and wetlands are home to deer, turkey, rabbit, fox, beaver, ducks, geese, and many other animals. The USACE and MassWildlife work together to monitor the population of Canada geese, survey bald eagles, and stock trout.

There are numerous opportunities for excellent scenic views. Some areas are admired for their scenic attractiveness (intrinsic scenic beauty that evokes a positive response), scenic integrity (wholeness of landscape character), and landscape visibility (how many people view the landscape and for what reasons and how long). The overlook area at the dam and a vista along Route 20 provide views of both project features and the permanent pool. In particular, scenic views can be enjoyed along a six-mile canoe trail, which twists and turns from Holland Pond to East Brimfield Lake on the Quinebaug River. Other scenic views are provided at the most developed recreation areas.

The combination of topographic relief, open water areas, ease of access, and diversity of vegetation and wildlife provide a varied landscape and an aesthetically pleasing experience for visitors throughout the passing seasons. The continuation of management practices that provide for the greatest diversity of indigenous plant and wildlife species within a multiple use framework will contribute to maintaining the natural and scenic qualities of this project. Other management practices to be continued are the maintenance of viewing areas, and protection of visually and environmentally sensitive areas (USACE 2022).

2.11 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

Cultural resources preservation and management is an equal and integral part of all resource management at USACE-administered operational projects. The term “cultural resources” is a broad term that includes, but is not limited to, historic and prehistoric archaeological sites, deposits, and features; burials and cemeteries; historic and prehistoric districts comprised of groups of structures or sites; cultural landscapes; built environment resources such as buildings, structures (such as bridges), and objects; traditional cultural properties; and sacred sites. These property types may be listed on the National Register of Historic Places (NRHP) if they meet the criteria

specified by the NRHP (36 CFR Part 60), reflecting significance in architecture, history, archaeology, engineering, and culture. Cultural resources that are identified as eligible for listing in the NRHP are referred to as “historic properties,” regardless of category. A Traditional Cultural Property (TCP) is a property that is eligible for inclusion in the NRHP based on its associations with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community. Ceremonies, hunting practices, plant-gathering, and social practices, which are part of a culture’s traditional lifeways, are also cultural resources.

Stewardship of cultural resources on USACE Civil Works water resources projects is an important part of the overall Federal responsibility. Numerous laws pertaining to identification, evaluation, and protection of cultural resources, Native American Indian rights, curation and collections management, and the protection of resources from looting and vandalism, establish the importance of cultural resources to our Nation’s heritage. With the passage of these laws, the historical intent of U.S. Congress has been to ensure that the Federal government protects cultural resources. Additionally, as stewards of cultural resources and in compliance with federal laws, it is incumbent upon the USACE to consult with the State Historic Preservation Officer (SHPO), Tribal Nations, the Advisory Council on Historic Preservation (ACHP), and other interested stakeholders in the preservation and management of cultural resources.

Guidance is derived from a number of cultural resources laws and regulations, including but not limited to Sections 106 and 110 (of the National Historic Preservation Act (NHPA) of 1966 (as amended) (54 U.S.C. 306108 et seq.); Archaeological Resources Protection Act (ARPA) of 1979; Native American Graves Protection and Repatriation Act (NAGPRA); and 36 CFR Part 79, Curation of Federally-Owned and Administered Archeological Collections. Implementing regulations for Section 106 of the NHPA and NAGPRA are 36 CFR Part 800 and 43 CFR Part 10, respectively. All cultural resources laws and regulations should be addressed under the requirements of the National Environmental Policy Act (NEPA) of 1969 (as amended), as applicable. USACE summarizes the guidance provided in these laws in ER and EP 1130-2-540.

Summary of Resources and Previous Investigations

The cultural history of New England spans approximately 12,500 years of human occupation. This history is generally divided into pre-contact (prior to Native American contact with Europeans) and post-contact (after Native American contact with Europeans) frameworks that are further subdivided into more specific time periods based technological variation, settlement patterns, land use, and subsistence and consist of (Gall 2011; Lothrop et al. 2018):

Pre-Contact Periods

- Paleo-Indian Period (10,500 to 8,000 BC)
- Early Archaic Period (8,000 to 6,000 BC)

- Middle Archaic Period (6,000 to 3,000 BC)
- Late Archaic Period (3,000 to 1,000 BC)
- Early Woodland Period (1,000 BC to 500 AD)
- Middle Woodland Period (500 to 900 AD)
- Late Woodland Period (900 to 1600 AD)

Post-Contact Periods

- Contact and Early Historic (1500 to 1675 AD)
- Colonial (1675 to 1775 AD)
- Federal (1775 to 1830 AD)
- Early Industrial (1830 to 1870 AD)
- Late Industrial (1870 to 1915 AD)
- Modern (1915 AD to Present)

Cultural resources within East Brimfield Lake include a record of occupations by indigenous populations from as early as the Late Archaic (ca. 3000 BC) through the Contact period (1500 to 1675 AD) and into the present day. Pre-contact archaeological sites in the project area range from small scatters of stone tools to large base camps representing multiple episodes of occupation. Sites are typically found on broad, level terraces with the larger basecamps occurring around glacial kettle ponds. Pre-contact artifacts include stone projectile points, chipped stone tools, ceramics and burned rock. Notable pre-contact sites in the project area include large campsites like the Holland Pond Site (Late Archaic to Late Woodland period), the Pond Bridge Site (Early to Middle Woodland) and the Cross Road Site. Smaller campsites include the Lost Lake I Site (Late Archaic to Late Woodland), the Lost Lake II Site (Middle to Late Woodland), and the Pokeweed Hill Site (Late Archaic). Other notable pre-contact sites include the Pond Road Site, the Quinebaug Narrows Site, the Morse Road Site, the Mill Brook Marsh Site, and the Jitterbug Site (Gall 2011).

Post-contact sites begin to appear in the project area in the 17th century and the nearby village of Brimfield is founded in the 1720s. The sites consist of homesteads, farms, villages, stores, roads and railroads, and light industrial sites, such as craft shops, gravel mining, and mills (sawmills, grist mills, lead mills and cotton mills). The mill sites typically have associated dams or weirs and 11 of these are found within the project area. Two notable villages emerged in the project area around mill sites including the village of East Brimfield in the late 18th century (homes, shops, grist mill, and saw mill) and the village of Fullerville in the early to middle 19th century, which included the E.G. Fuller Cotton Mill and Dam Site and the residential C.B. Drake/G.F. Roper Site. Other notable mill sites include the Pierce Grist Mill Site, the J.W. Draper Saw and Grist Mill Site, the William James Saw and Grist Mill Site, the Saw Mill and Dam site, the Lumbard Saw Mill Site, and Moore/Alexander Grist Mill and Dam Site.

Residential sites include the C. Dion/F. Lombard Farm Site, the Janes Hill House Site, the E. Blodgett/A.J. Bagley Site, and the Morse Road Triangle House Site. Two rail lines, the Trolley Line Site and the Grand Trunk Railroad, provided transportation within the region during the later 19th and early 20th century (Gall 2011).

In addition to post-contact residential, commercial, and industrial sites, the attractive nature of the project area encouraged seasonal recreation in the early to middle 20th century. There are 26 recreational sites found within the project area, primarily adjacent to glacial kettle ponds. Recreation sites in the project are typically cottages or small house sites. Notable recreation sites in the project area include the Lost Lake Cottage Site, the Long Pond House Site, the Long Pond Summer Cottages Site, and the Champeaux Road House Site. After USACE purchased the land within the project area in the 1960s, all extant buildings were either demolished or relocated. The inundation of the reservoir flooded the village of East Brimfield (Gall 2011).

There have been two previous cultural resources investigations within East Brimfield Lake project area. The first of these investigations was an archaeological reconnaissance conducted by Public Archaeology Laboratory, Inc. (PAL) in 1988 (Public Archaeological Laboratory, Inc. 1988). This reconnaissance delineated areas of archaeological sensitivity based on a low, medium, or high probability for archaeological sites to occur. During this reconnaissance, the investigators did limited subsurface testing and identified a total of 11 pre-contact sites and 33 post-contact sites. The second investigation was conducted by Richard Grubb & Associates, Inc. (RGA) in 2011. This investigation included an intensive archaeological survey of 220 acres in sensitivity areas previously identified by PAL, which included 34 areas of high sensitivity, 5 areas of moderate sensitivity, and two areas of archaeological interest identified by USACE. Seventeen moderate sensitivity areas identified by PAL were not investigated. RGA excavated 4,864 shovel tests and recovered 1,675 pre-contact artifacts and 2,014 post-contact artifacts. It is important to note that archaeological investigations have only been conducted within specific areas and not over the entirety of the project area. Locations within the project area that are inundated, marshlands, or steep slopes have low potential for the recovery of archaeological deposits (Gall 2011).

The investigations by RGA resulted in the identification of 56 pre-contact archaeological sites and 70 post-contact archaeological sites. Of the 56 pre-contact sites investigated, 12 sites are considered not eligible for inclusion in the National Register of Historic Places (NRHP) and the remaining 44 have an undetermined eligibility. Thirty-four of the post-contact sites are considered not eligible for inclusion in the NRHP and the remaining 36 sites have an undetermined eligibility (Gall 2011).

Long-Term Cultural Resource Objectives

Cultural and environmental formation processes have affected cultural resources within the East Brimfield Lake project. These formation processes include the displacement of pre-contact archaeological sites by European settlement of the region that included deforestation, agriculture, and the construction of dams, houses, roads. Looting has also been documented in the project area and is often exacerbated by increased access to site locations. The construction of the lake has had the largest

impact to cultural resources, especially to historic age buildings and structures. The primary ongoing threat to cultural resources within the lake area is erosion resulting from surface runoff, inundation, and recreation.

A Historic Properties Management Plan (HPMP) was created by USACE for East Brimfield Lake (Atwood n.d.), but it predates the 2011 investigations by RGA. The HPMP should be updated to incorporate the latest cultural resources information and expanded into a comprehensive Integrated Cultural Resources Management Plan (ICRMP) to cover both archaeological and above-ground resources. Additionally, the USACE has acquired an abundance of data from previous investigations for the East Brimfield Lake project but lacks a robust synthesis of these data. It is recommended that the USACE develop a comprehensive ICRMP in consultation with the Massachusetts SHPO, Native American Tribes, and other stakeholders to synthesize the existing data, address the effects of cultural and environmental processes on cultural resources and recommendations for managing these impacts, and outline procedures for management of these resources during construction and operations activities. Until an ICRMP is developed, future activities that have a potential to affect cultural resources should look to the 2011 investigations by RGA and the existing HPMP for guidance. Finally, any future activities that have a potential to affect cultural resources must comply with Section 106 and 110 of the NHPA, NAGPRA, and ARPA.

2.12 DEMOGRAPHICS AND ECONOMIC RESOURCES

2.12.1 Zone of Interest

East Brimfield Lake is on the border of Hampden County and Worcester County, Massachusetts. It is less than one mile west of Fiskdale, Connecticut. The zone of interest (50-mile radius) for the socio-economic analysis covers portions of three states including Connecticut, Massachusetts, and Rhode Island (Table 2.12). Counties within the zone of interest are listed below.

- Hartford County, CT
- Tolland County, CT
- Windham County, CT
- Franklin County, MA
- Hampden County, MA
- Hampshire County, MA
- Worcester County, MA
- Providence County, RI

2.12.2 Population

The total population in the zone of interest in 2021 was 3,377,949 (Table 2.12). Approximately 26.6% of the zone of interest's population resides in Hartford County,

CT, and 25.4% in Windham County, MA, 19.4% in Providence County, RI, and 13.8% in Hampden County, MA. The remaining counties in the zone of interest each account for less than 5% of the zone's population.

Table 2.12 Population Estimates, and Projections (2010, 2020, 2021)

Geographical Area	2010 Population	2020 Population	2021 Population Estimate	Population Projection Estimates in 2040
Connecticut	3,577,073	3,570,549	3,605,330	3,654,015
Massachusetts	6,557,254	6,873,003	6,991,852	7,102,574
Rhode Island	1,052,886	1,057,798	1,091,949	1,070,104
Hartford County, CT	894,478	892,153	898,636	949,277
Tolland County, CT	152,781	150,947	150,120	154,561
Windham County, CT	118,519	116,657	116,503	134,875
Franklin County, MA	71,369	70,529	71,085	63,652
Hampden County, MA	463,678	466,647	466,265	441,146
Hampshire County, MA	158,094	161,361	161,810	154,612
Worcester County, MA	799,553	826,655	856,858	871,384
Providence County, RI	627,070	636,161	656,672	635,851
Zone of Interest Total	3,285,542	3,321,110	3,377,949	3,405,358

Source: U.S. Census Bureau, 2021 American Community Survey 5-Year (2017-2021), U.S. Census Bureau, 2020 American Community Survey 5-Year (2016-2020), U.S. Census Bureau, 2010 American Community Survey 5-Year (2006-2010), Connecticut Open Data, Connecticut Town Populations 2015-2040, UMass Donahue Institute, UMDI-V2024 Massachusetts Population Projections, Rhode Island Statewide Planning Program, Rhode Island Population Projections 2010-2040.

From 2021 to 2040, the population in the zone of interest is expected to increase by 0.81% from 3,377,949 to 3,405,358, an average annual growth rate of 0.04%. In comparison, the forecasted populations of Connecticut and Massachusetts are expected to increase by 1.35%, and 1.58%. The population of Rhode Island is expected to decrease by 2%. Counties within the zone of interest that are expected to grow include: Hartford County, CT(5.64%), Tolland County, CT(2.96%), Windham, CT(15.77%), and Worcester County, MA(1.70%). Counties forecasted to decrease in population include: Franklin County, MA(-10.46%), Hampden County, MA(-5.39%), Hampshire County, MA(-4.45%), and Providence County, RI(-3.17%). Population for the years 2010 and 2020 are included for historical reference.

The distribution of the population by gender (Table 2.13) indicates approximately 49% male and 51% female. Figure 2-10 shows the population by age group for Connecticut, Massachusetts, Rhode Island, and the entire zone of interest. The zone of interest is consistent by age group when compared to the three states.

Table 2.13 Population Estimate By Gender (2021)

Geographical Area	Male	Female
Connecticut	1,768,860	1,836,470
Massachusetts	3,413,174	3,578,678
Rhode Island	534,283	557,666
Hartford County, CT	438,965	459,671
Tolland County, CT	75,675	74,445
Windham County, CT	58,073	58,430
Franklin County, MA	34,792	36,293
Hampden County, MA	226,473	239,792
Hampshire County, MA	75,480	86,330
Worcester County, MA	424,801	432,057
Providence County, RI	321,795	334,877
Zone of Interest Total	1,656,054	1,721,895

Source: U.S. Census Bureau, 2021 American Community Survey 5-Year (2017-2021)

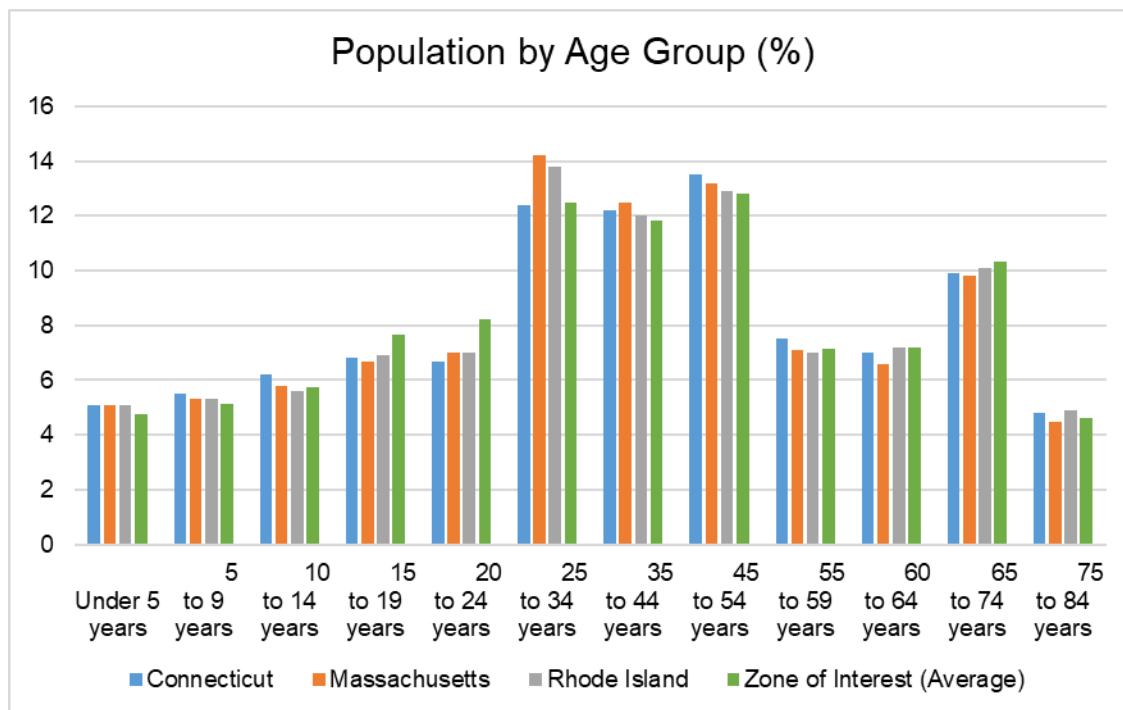


Figure 2.10 Percent of Population by Age Group

Population by race and Hispanic Origin is displayed in Table 2.14. The zone of interest is approximately 66.8% White, 4.5% Asian, 17.5% Hispanic or Latino, 7.5% Black, and 3% two or more races. The other race categories each account for less than 1%. By comparison, the population in the state of Connecticut is 65% White, 17%

Hispanic or Latino, 10% Black, 12% American Indian or Alaskan Native, 4.6% Asian, 0.02% Native Hawaiian/Other Pacific, 0.52% Some Other Race, and 2.9% Two or More Races. Massachusetts is 70% White, 12% Hispanic or Latino, 6.7% Black, 0.11% American Indian or Alaskan Native, 6.8% Asian, 0.03% Native Hawaiian/Other Pacific, 0.94% Some Other Race, and 3.4% Two or More Races. Rhode Island is 71% White, 16% Hispanic or Latino, 5.4% Black, 0.27% American Indian or Alaskan Native, 6.8% Asian, 0.05% Native Hawaiian/Other Pacific, 0.74% Some Other Race, and 3.18% Two or More Races.

Table 2.14 Population Estimate by Race/ Hispanic Origin (2021)

Area	White	Hispanic or Latino	Black	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races
Connecticut	2,340,848	610,065	359,156	4,225	165,872	761	18,819	105,584
Massachusetts	4,871,674	864,202	467,943	7,977	477,667	1,910	65,840	234,639
Rhode Island	770,700	178,673	59,203	2,968	37,153	539	8,033	34,680
Hartford County, CT	530,356	169,097	115,881	1,070	50,830	216	3,830	27,356
Tolland County, CT	124,144	9,043	4,330	133	7,254	3	998	4,215
Windham County, CT	94,501	14,545	2,234	127	1,584	12	218	3,282
Franklin County, MA	63,485	3,140	786	56	1,163	19	266	2,170
Hampden County, MA	283,947	123,235	35,811	465	11,518	13	1,112	10,164
Hampshire County, MA	133,763	9,805	3,865	134	8,353	138	434	5,318
Worcester County, MA	637,645	104,707	39,976	953	43,256	247	5,772	24,302
Providence County, RI	388,467	157,516	51,135	1,555	27,122	512	6,697	23,668
Zone of Interest	2,256,308	591,088	254,018	4,493	151,080	1,160	19,327	100,475

Source: U.S. Census Bureau, 2021 American Community Survey 5-Year (2017-2021)

2.12.3 Education and Employment

Table 2.15 displays the highest level of education attained by the population ages 25 and over. In the zone of interest, 4.3% of the population have less than a 9th grade education, another 6% have between a 9th and 12th grade education, 27.8% have at least a high school diploma or equivalent, 17.3% have some college education, 8.7% have an associate degree, 20.6% have a bachelor's degree, and 15.2% have a graduate or professional degree.

In Connecticut, 4.03% of the population have less than a 9th grade education, another 4.91% have between a 9th and 12th grade education, 26% have at least a high school diploma or equivalent, 17% have some college education, 8% have an associate degree, 22% have a bachelor's degree, and 18% have a graduate or professional degree.

In Massachusetts, 4.23% of the population have less than a 9th grade education, another 4.6% have between a 9th and 12th grade education, 23% have at least a high school diploma or equivalent, 15% have some college education, 7.68% have an associate degree, 25% have a bachelor's degree, and 20% have a graduate or professional degree.

In Rhode Island, 4.71% of the population have less than a 9th grade education, another 6.19% have between a 9th and 12th grade education, 28% have at least a high school diploma or equivalent, 18% have some college education, 8% have an associate degree, 21% have a bachelor's degree, and 14% have a graduate or professional degree.

Table 2.15 Population Estimate by Highest Level of Educational Attainment, Population 25 Years of Age and Older

Area	Population 25 years and over	Less than 9th grade	9th to 12th grade, no diploma	High school graduate (includes equivalency)	Some college, no degree	Associate's degree	Bachelor's degree	Graduate or professional degree
Connecticut	2,515,137	101,461	123,560	656,949	418,214	194,987	561,567	458,399
Massachusetts	4,902,868	207,481	225,734	1,137,085	739,611	376,608	1,215,939	1,000,410
Rhode Island	766,615	36,076	47,432	213,716	135,729	62,893	160,523	110,246
Hartford County, CT	628,684	26,534	34,412	162,392	106,152	52,600	137,915	108,679
Tolland County, CT	95,783	1,830	3,129	25,023	15,870	8,917	23,004	18,010
Windham County, CT	81,955	2,853	5,809	28,630	16,569	8,087	11,354	8,653
Franklin County, MA	53,932	917	2,533	15,077	8,809	5,644	11,297	9,655
Hampden County, MA	318,636	17,324	26,859	96,780	57,079	30,688	54,293	35,613
Hampshire County, MA	100,155	1,468	3,276	21,612	14,635	8,860	24,493	25,811
Worcester County, MA	594,147	18,838	31,284	159,573	104,541	53,800	133,744	92,367
Providence County, RI	451,912	29,533	32,988	138,042	78,703	34,438	83,859	54,349
Zone of Interest	2,325,204	99,297	140,290	647,129	402,358	203,034	479,959	353,137

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates (2021 Estimate)

Employment by sector is presented in Figure 2.11 and Table 2.16. Figure 2.11 shows that the largest percentage of the zone of interest is employed in the educational services, health care and social assistance sector at 14.2%. 5.74% of the population works in professional, scientific, and management, and administrative and waste management services, 5.39% work in retail trade, 5.13% work in manufacturing, 4.01%

work in finance and insurance, and real estate and rental and leasing, and 3.93% work in arts, entertainment, and recreation, and accommodation and food services. The remainder of the employment sectors each comprise less than 3% of the zone of interest's labor force.

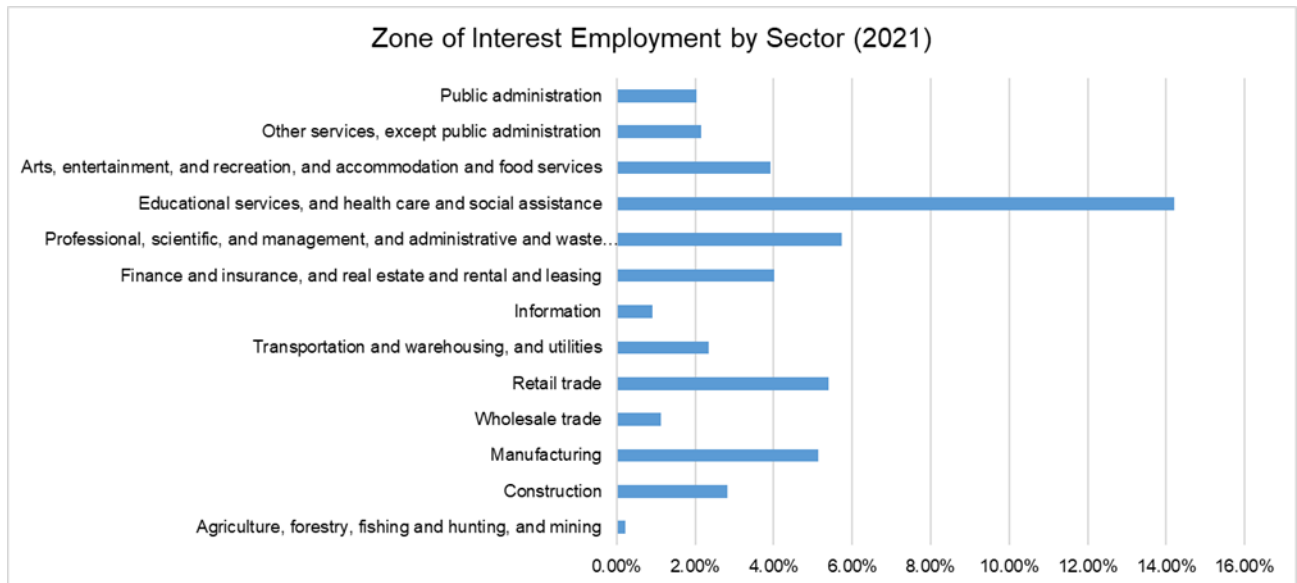


Figure 2.11 Zone of Interest Employment by Sector (2021)

Source: U.S. Census Bureau, 2021 American Community Survey 5-year Estimates (2017-2021)

Table 2.16 Annual Average Employment by Sector (2021)

Employment Sector	Connecticut	Massachusetts	Rhode Island	Hartford County, CT	Tolland County, CT	Windham County, CT	Franklin County, MA	Hampden County, MA	Hampshire County, MA	Norfolk County, MA	Worcester County, MA	Providence County, RI	Zone of Interest
Civilian employed population 16 years and over	1,822,995	3,667,019	552,707	453,935	77,173	57,987	36,176	212,917	83,274	386,932	437,940	327,335	2,073,669
Agriculture, forestry, fishing and hunting, and mining	7,314	15,477	2,456	1,291	516	1,082	852	1,202	623	1,052	1,831	835	9284
Construction	113,665	215,903	34,191	23,323	5,025	3,770	2,589	9,655	3,889	21,204	27,780	19,988	117,223
Manufacturing	192,688	327,152	58,412	49,850	8,684	8,209	4,119	23,963	6,135	24,621	51,232	35,806	212,619
Wholesale trade	41,165	75,996	12,517	10,267	1,652	1,199	610	5,976	1,333	8,090	9,795	7,972	46,894
Retail trade	194,081	367,234	63,561	48,153	7,566	7,720	3,924	22,861	8,352	34,767	49,787	40,353	223,483
Transportation and warehousing, and utilities	80,481	150,820	25,610	23,508	3,246	3,311	1,326	13,436	2,735	13,275	20,208	16,526	97,571
Information	36,259	79,530	8,383	8,738	1,230	766	831	2,539	1,371	9,421	7,736	4,768	37,400
Finance and insurance, and real estate and rental and leasing	164,657	268,309	37,725	48,071	6,990	2,807	1,327	14,963	3,881	39,710	27,512	20,970	166,231
Professional, scientific, and management, and administrative and waste management services	212,866	544,131	60,497	50,462	7,155	3,920	2,907	16,651	7,511	62,978	51,791	34,659	238,034
Educational services, and health care and social assistance	482,274	1,031,113	148,764	116,677	23,312	15,619	12,087	65,130	33,175	111,354	124,164	87,315	588,833

Employment Sector	Connecticut	Massachusetts	Rhode Island	Hartford County, CT	Tolland County, CT	Windham County, CT	Franklin County, MA	Hampden County, MA	Hampshire County, MA	Norfolk County, MA	Worcester County, MA	Providence County, RI	Zone of Interest
Arts, entertainment, and recreation, and accommodation and food services	148,835	289,688	53,323	34,392	5,870	5,113	2,641	16,343	7,677	29,276	31,271	30,308	162,891
Other services, except public administration	82,217	158,526	24,236	19,988	2,896	2,268	1,524	8,911	3,568	16,347	18,577	15,104	89,183
Public administration	66,493	143,140	23,032	19,215	3,031	2,203	1,439	11,287	3,024	14,837	16,256	12,731	84,023

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates (2021 Estimate)

A summary of the civilian labor force in the zone of interest is displayed in Table 2.17. In 2021, the zone of interest had an unemployment rate of 5.94%, lower than the unemployment rates of Connecticut (6.06%) and Rhode Island (6.02%) and higher than the unemployment rate of Massachusetts (5.42%).

Table 2.17 Labor Force, Employment and Unemployment Rates, 2021 Annual Averages

Geographic Area	Civilian Labor Force	Number Employed	Number Unemployed	Unemployment Rate
Connecticut	1,940,626	1,822,995	117,631	6.06%
Massachusetts	3,876,978	3,667,019	209,959	5.42%
Rhode Island	588,135	552,707	35,428	6.02%
Hartford County, CT	481,939	453,935	28,004	5.81%
Tolland County, CT	80,946	77,173	3,773	4.66%
Windham County, CT	62,261	57,987	4,274	6.86%
Franklin County, MA	38,298	36,176	2,122	5.54%
Hampden County, MA	227,941	212,917	15,024	6.59%
Hampshire County, MA	88,119	83,274	4,845	5.50%
Worcester County, MA	463,375	437,940	25,435	5.49%
Providence County, RI	350,440	327,335	23,105	6.59%
Zone of Interest	1,793,319	1,686,737	106,582	5.94%

Source: U.S. Census Bureau, 2021 American Community Survey 5-Year (2017-2021) (2021 Averages)

2.12.4 Households, Income, and Poverty

Table 2.18 displays the number of households and average household sizes in the state and zone of interest. There were approximately 1,310,110 households in the zone of interest with an average household size of 2.57.

Table 2.18 Number of Households and Average Household Size (2021)

Geographic Area	Total Households	Average Household Size
Connecticut	1,397,324	2.63
Massachusetts	2,714,448	2.66
Rhode Island	426,769	2.61
Hartford County, CT	356,529	2.59
Tolland County, CT	56,989	2.56
Windham County, CT	45,425	2.54
Franklin County, MA	30,792	2.4
Hampden County, MA	183,309	2.58
Hampshire County, MA	60,903	2.44
Worcester County, MA	326,571	2.71
Providence County, RI	249,592	2.71
Zone of Interest	1,310,110	2.57

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates (2021 Estimate)

The median household income in the zone of interest ranged from \$61,310 in Hampden County, MA to \$88,525 in Tolland County, CT in 2021, as displayed in Table 2.19. Per capita income in the zone of interest was \$38,480 in 2021, lower than the per capita income of Rhode Island (\$39,603), Connecticut (\$47,869), and Massachusetts (\$48,617).

Table 2.19 Median and Per Capita Income (2021)

Geographic Area	Median Household Income (All)	Per Capita Income
Connecticut	\$83,572	\$47,869
Massachusetts	\$89,026	\$48,617
Rhode Island	\$74,489	\$39,603
Hartford County, CT	\$80,320	\$43,642
Tolland County, CT	\$88,525	\$42,942
Windham County, CT	\$71,418	\$35,032
Franklin County, MA	\$64,949	\$37,740
Hampden County, MA	\$61,310	\$33,375
Hampshire County, MA	\$76,959	\$38,695
Worcester County, MA	\$81,660	\$41,528
Providence County, RI	\$65,797	\$34,889
Zone of Interest	\$73,867	\$38,480

Source: U.S. Census Bureau, 2017-2021 American Community Survey 5-Year Estimates (2021 Estimate)

Table 2.20 displays the percentage of persons and families whose incomes fell below the poverty level in the past twelve months as of 2021. Within the zone of

interest, Hampden County, MA had the greatest share of people with incomes below the poverty level at 15.9%, followed by Providence County, RI at 13.6%. Tolland County, CT had the lowest percentage of people with incomes below the poverty level at 9.7%. In terms of families below the poverty level, Hampshire County, MA has the lowest percentage with 4.9% and Hampden County, MA has the highest with 11.3%. In Comparison, the state of Massachusetts has the lowest families below the poverty line with 6.6%, while Rhode Island has the highest with 7.4%.

Table 2.20 Percent of Families and People Whose Income in the Past 12 Months is Below the Poverty Level (2021)

Geographic Area	All Families	All People
Connecticut	6.80%	10.00%
Massachusetts	6.60%	9.90%
Rhode Island	7.40%	11.30%
Hartford County, CT	7.50%	10.90%
Tolland County, CT	5.00%	9.70%
Windham County, CT	7.40%	11.30%
Franklin County, MA	6.30%	10.60%
Hampden County, MA	11.30%	15.90%
Hampshire County, MA	4.90%	10.50%
Worcester County, MA	6.50%	9.80%
Providence County, RI	9.60%	13.60%
Zone of Interest	7.31%	11.54%

Source: U.S. Census Bureau, 2021 American Community Survey 5-Year Estimates (2017-2021)

2.13 RECREATION FACILITIES, ACTIVITIES, AND NEEDS

2.13.1 Visitation Profile

East Brimfield visitors are a diverse group that includes residents of the immediate area, hunters, fishermen, trail users, and day users who picnic, swim, boat, observe wildlife, and sightsee. The peak visitation months are May through September, with July typically being the highest visitation month. At East Brimfield Lake, USACE maintains traffic counters at locations where the majority of visitation occurs. These locations generally include developed park areas and minor access points.

Table 2.21 provides 5 years of annual visitation by activity for FY2019-2023. Table 2.22 provides total visitation by year for FY2019-2023. Visitation numbers are impacted by several factors including counting methodology, flooding, drought, COVID-19, and other environmental factors. The top 3 activities per year are highlighted in blue, in the 5 years reported by visitation are divided between boating, fishing, water contact activities, and sightseeing. Other popular activities include picnicking and walking, hiking, and jogging. Overall visitation is trending up over the last 5 years with 2023 reporting over 106,642 visitors.

Table 2.21 East Brimfield Lake Visitation by Activity FY2019-2023

	2019	2020	2021	2022	2023
Boating*	34,799	41,615	53,657	58,043	58,623
Fishing**	18,867	21,732	27,275	28,200	27,770
Water Contact Activities	22,234	20,153	28,763	29,007	29,823
Walking, Hiking, Jogging	7,318	7,505	9,393	8,985	8,594
Picnicking	13,715	12,979	17,579	17,303	17,306
Bicycling and Skateboarding	778	971	1,125	1,128	1,058
Field Sports	1,883	1,750	2,217	1,994	1,874
Special Event	2,416	2,215	2,803	2,489	2,324
Other	3,609	4,125	5,196	5,367	5,291
Sightseeing	58,880	60,058	78,100	77,821	77,159

Source: USACE VERS (Visitation Estimation & Reporting System, 2019-2023)

Top three activities per year highlighted in blue

*Sum of boating, power boating, and nonpowered boating

** Sum of fishing, boat fishing, and shore fishing

Table 2.22 East Brimfield Lake Total Visitation FY2019-2023

	2019	2020	2021	2022	2023
TOTAL VISITATION	99,445	70,481	89,864	94,583	106,642

Source: USACE VERS (Visitation Estimation & Reporting System, 2019-2023)

Zone of Interest

The visitation market area, or zone of interest, is the area from which the majority of visitors to the lake originate. The study team determined the majority of visitors travel from a 50-mile radius based on visitation records for East Brimfield Lake.

2.13.2 Recreation Areas and Facilities

Recreation at East Brimfield Lake is managed by the USACE. The natural resources and recreation facilities of the project can be enjoyed year-round. In the summer, visitors can enjoy the swimming beach, boating, fishing, picnicking, hiking, and canoeing. In the winter months ice fishing is especially popular at Lake Siog (Holland Pond) (USACE 2022).

Of great importance to the lake's zone of interest are the existing and future recreational opportunities. Table 2.23 lists the various recreational facilities at East

Brimfield Lake. These areas do not include camping, lodging, showers, marinas, or playgrounds. Each recreation area is more specifically described in Chapter 5.

Table 2.23 Recreation Facilities at East Brimfield Lake

Recreation Area	Managed	Boat Ramps	Fishing Facilities	Picnic Areas	Swimming Area	Trails
Champeaux Rd Fishing Area	U		P			H
East Brimfield Lake	U	X				HIWM
Lake Siog Boat Ramp (Holland Pond Boat Ramp)	U	X	P			WM
Lake Siog (Holland Pond) Recreation Area)	U	X	P	AG	X	HWM
Long Pond Boat Launch Area	U	X				W
East Brimfield Lake Boat Launch Area (Reservoir Boat Ramp)	U	X				H

Source: USACE Corps Lakes website

U	USACE Managed	<u>Fishing</u>		<u>Trails</u>	
X	Exists at Lake	P	Fishing Pier	H	Hiking Trails
		<u>Picnic</u>		I	Hiking Trails- Interpretive
		A	Picnic Area	W	Water Trails
		G	Group Picnic	M	Multipurpose Trails

Fishing and Hunting

East Brimfield Lake offers the public numerous hunting and fishing opportunities. In the spring and fall, trout are stocked by the Massachusetts Division of Fisheries and Wildlife. In the winter, ice fishing for pickerel and bass are popular. Hunting for deer, turkey, and other small game is allowed in the forested wetland and upland areas of the project. Hunting and fishing are permitted in accordance with federal, state, and local laws. Licenses are required and available online at the Massachusetts Division of Fisheries and Wildlife webpage.



Photo 2.1 Fishing at East Brimfield Reservoir

(Source: USACE)

Day Use and Picnicking

Opportunities for outdoor family fun and recreation at the park areas surrounding East Brimfield Lake include swimming, boating, water skiing, picnicking, and sightseeing. East Brimfield Lake does not offer any camping. There is no fee to use the recreation areas.

Boating

Boaters will find boat ramps located at the Reservoir Boat Ramp on the south side of East Brimfield Lake, the Long Pond Boat Ramp on the north side of East Brimfield Lake, Holland Pond (Lake Siog) Boat Ramp, and a car top canoe launch at the Quinebaug River Water Trail access on Pond Bridge Road. Boating on East Brimfield Lake is in accordance with Massachusetts boating laws and USACE regulations.

Trails

East Brimfield Lake provides visitors the opportunity to access multiuse trails at several locations at the project. Motorized vehicles are not allowed on any trails at East Brimfield Lake.

Quinebaug River Canoe Trail

The Quinebaug River Canoe Trail is a five-mile-long flatwater canoe route from Holland Pond to East Brimfield Reservoir. It is a designated Watchable Wildlife area and was the first water trail to be designated as part of the National Water Trail System by the National Park Service.

The time to paddle the entire trail is approximately 2 hours and is slightly more if paddling upstream. There are 4 rest stops along the river with benches where paddlers can stop, rest, and enjoy the scenery. Wildlife frequently seen along the trail include great blue herons, beavers, turtles, hawks, and red wing black birds. In recent years, bald eagles have been seen along the river as well.

The trail is open year-round with the best flows for paddling in spring and early summer. This trail is the first section of the larger Quinebaug River water trail, a series of designated paddling sections of the Quinebaug and French Rivers along their routes in Massachusetts and Connecticut.



Photo 2.2 Quinebaug River Canoe Trail
(Source: USACE)

East Brimfield Lake Nature Trail

The East Brimfield Lake Nature Trail wanders through five acres of open fields and pine-hardwood forest within the boundaries of the East Brimfield Lake project. This section of trail starts and ends at the dam site on Riverview Avenue. Visitors can walk the three-quarter mile trail which has several marked points of interest in order to enhance the understanding and enjoyment of the woodlands and open fields typical of a New England landscape. The main trail will take approximately forty to fifty minutes with the “shortcut” reducing the time to twenty to thirty minutes.

Grand Trunk Trail

The Grand Trunk Trail is a 2-mile-long multi-use trail along the former trolley line. It is part of a larger Titanic Rail Trail, which spans 66 miles from Franklin, Massachusetts to Palmer, Massachusetts with a portion dipping into Connecticut. The Sturbridge Trails Committee, a volunteer town board, supports the trail through a formal Challenge Partnership Agreement. USACE also partners with local organizations such as the Friends of Titanic Rail Trail and Friends of Sturbridge Trails to aid in trail maintenance.

This section of trail is popular with hikers, dog walkers, and sightseers, as well as snowshoeing and cross-country skiing in the winter. Trailhead parking lots are found on Five Bridge Road, Route 20, and East Brimfield Holland Road. Trail expansion is currently under consideration. If expanded, the trail will cross flowage easement and connect several town open spaces as well as two USACE recreation areas.



Photo 2.3 Grand Trunk Trail

Source: USACE

2.13.3 Recreation Analysis

The 2023 Massachusetts Statewide Comprehensive Outdoor Recreation Plan (SCORP) was prepared by the Executive Office of Energy and Environmental Affairs' (EEA) Division of Conservation Services (DCS). The SCORP serves to address emerging issues in Massachusetts outdoor recreation and set priority areas to serve as the foundation for action over the next five years. According to the 2023 Massachusetts SCORP, the following goals were identified:

1. Improve access to beaches and other water-based recreation facilities
2. Support trail projects
3. Create and renovate neighborhood parks, especially to benefit the underserved
4. Create opportunities, especially for the underserved, to enjoy protected natural areas

To implement these priorities, the SCORP identified 3 detailed objectives, for a total of 12 objectives, for each goal.

In order to gain an understanding of statewide participation trends, several surveys were conducted to support the development of the SCORP. Some highlights of the participation trends include:

- 44% of respondents indicated that outdoor recreation is “extremely important” and 37% indicated it is “somewhat important.”
- Walking was identified as the most popular activity with 9.6% of respondents and reported as most frequently with 68% of respondents who walked more than once a week. The following most popular activities included visiting the beach (6.1%), hiking (5.7%), visiting farmers markets

(4.7%), visiting outdoor historic sites or museums (3.9%), swimming in outdoor pools (3.6%), swimming in natural water bodies, (3.6%), camping (3.3%), bird watching or wildlife viewing (3.2%) and running or jogging (3.0%) and basketball (3.0%).

- 46% of respondents live within 5 miles of an outdoor recreation area or facility they use most often with another 35% of respondents living between 5 and 10 miles away. Racial-ethnic disparities showed that Black or African American and Hispanic or Latino respondents were more likely to live 5 to 10 miles away from the outdoor recreation area of facility they use more often.
- Beaches were at the top of the list of outdoor recreational areas that respondents would like to see more in Massachusetts with 10.6% of respondents. Picnic facilities were at the top of the list for Asian/ Pacific Islander respondents.
- Factors that most limited the use of outdoor recreational areas and facilities is lack of time (15%), lack of restrooms/ locker rooms (12.3%), and lack of parking (11.1%).

Table 2.24 depicts the activities that outdoor recreation enthusiasts in Massachusetts were most interested in participating in and results are presented with different activities identified by race. Walking consistently ranked on the top of the list for all races, with running or jogging and hiking being other activities that are popular among a diversity of respondents in Massachusetts. East Brimfield Lake provides opportunities for the public to participate in their favorite activities by making use of the numerous hiking trails, access to fishing along the shoreline or by boat, and a swimming beach.

Table 2.24 Top Five Activities by Race

White	Black/African American	Hispanic/Latino	Asian/Pacific Islander
Walking	Walking	Walking	Walking
Running or jogging	Running or jogging	Hiking	Visiting the beach
Hiking	Basketball	Basketball	Hiking
Visiting the beach	Dance	Visiting the beach	Visiting the farmers markets
Dance	Visiting the beach	Visiting the farmers markets	Swimming in natural water bodies

Source: 2023 Massachusetts Outdoor Recreation Plan

The USACE recognizes the importance of recreation to the local community and the State of Massachusetts, and the importance that USACE managed land can play in providing access. Information from the SCORP including the survey results and the statewide goals and objectives were considered when developing the goals and

objectives for this Master Plan. See Chapter 3 for the resource goals and objectives developed for the East Brimfield Lake Master Plan.

2.13.4 Recreation Carrying Capacity

No recreation carrying capacity studies have been conducted at East Brimfield Lake. Presently, the USACE manages recreation areas using historic visitation data combined with best professional judgment to address recreation areas, including the water surface, considered to be overcrowded, overused, underused, or well balanced. Compared to other USACE Projects of similar size, East Brimfield Lake experiences low visitation. This trend is expected to continue based on regional population projections. The USACE will apply appropriate best management practices including site management, regulating visitor behavior, and modifying visitor behavior as needed to adapt to changes in usage.

2.14 REAL ESTATE

A total of 2,070 acres of fee simple land and 647 acres of easements were acquired for the East Brimfield Lake project. Easement acres reflect all easements on the project and not solely flowage easements. These are the official acres and may differ from those in other parts of this plan, which are for planning purposes only, due to improved measurement technology, erosion, and sedimentation.

2.14.1 Outgrants

The term “outgrant” is a broad term used by the USACE to describe a variety of real estate instruments wherein an interest in real property has been conveyed by the USACE to another party. Outgrants at East Brimfield Lake include leases, licenses, easements, consents, permits, and others which include the following:

- 11 Easements
- 6 Licenses
- 0 Leases
- 0 Permits

The demand for real estate outgrants at East Brimfield Lake ranks fairly low among all USACE lake projects in terms of the total number and complexity of real estate outgrants. Management actions related to outgrants include routine inspections to ensure compliance with the terms of the outgrant, public safety requirements, and environmental compliance such as proper solid waste disposal and storage of pesticides. Additional actions include review of maintenance and construction proposals made by grantees. Easements, licenses, and leases are generally inspected annually for overall compliance. The management of outgrants is a major responsibility shared by the Operations and Real Estate Divisions of the New England District.

2.14.2 Guidelines for Property Adjacent to Public Land

It is the policy of the USACE to manage the natural, cultural, and developed resources of East Brimfield Lake to provide the public with safe and healthful

recreational opportunities, while protecting and enhancing those resources. While private exclusive use of public land is not permitted, property owners adjacent to public lands do have all the same rights and privileges as any other citizen on their own property. Therefore, the information contained in these guidelines is designed to acquaint the adjoining landowner and other interested persons with the types of property involved in the management of government land at East Brimfield Lake.

2.14.3 Trespass and Encroachment

Government property is monitored by USACE personnel to identify and correct instances of unauthorized use, including trespasses and encroachments. The term “trespass” includes unauthorized transient use and occupancy, such as mowing, tree cutting and removal, livestock grazing, cultivation and harvesting crops, and any other alteration to Government property done without the USACE approval. Unauthorized trespasses may result in a Title 36 citation requiring violators to appear in Federal Magistrate Court, which could subject the violator to fines or imprisonment (See 36 C.F.R. Part 327 Rules and Regulations Governing Public Use of Water Resources Development Projects Administered by the Chief of Engineers). More serious trespasses will be referred to the USACE Office of Counsel for enforcement under state and federal law, which may require restoration of the premises and collection of monetary damages.

The term “encroachment” pertains to an unauthorized structure or improvement on Government property. When encroachments are discovered, project personnel will attempt to resolve the issue at the project level. Where no resolution is reached, or where the encroachment is a permanent structure, the method of resolution will be determined by the USACE Real Estate Division, with recommendations from Operations Division and Office of Counsel. The USACE’s general policy is to require removal of encroachments, restoration of the premises, and collection of appropriate administrative costs and fair market value for the term of the unauthorized use.

The most common trespass are unauthorized mowing and paths, unauthorized structures such as fences and temporary structures, grazing, storage of personal property on USACE lands, and tree and vegetation removal. Trash dumping is an especially difficult and expensive problem at many USACE lakes. Encroachments can be prevented. Identifying the USACE fee boundary line and flowage easement designation are critical elements for the public who are planning for any type of activity near a USACE fee boundary.

CHAPTER 3 – RESOURCE GOALS AND OBJECTIVES

3.1 INTRODUCTION

The terms “goal” and “objective” are often defined as synonymous, but in the context of this Master Plan goals express the overall desired end state of the Master Plan whereas resource objectives are specific task-oriented actions necessary to achieve the overall Master Plan goals.

3.2 RESOURCE GOALS

The following statements, taken from EP 1130-2-550, Chapter 3, express the goals for the East Brimfield Lake Master Plan:

GOAL A. Provide the best management practices to respond to regional needs, resource capabilities and suitability, and expressed public interests consistent with authorized project purposes.

GOAL B. Protect and manage the project’s natural and cultural resources through sustainable environmental stewardship programs.

GOAL C. Provide public outdoor recreation opportunities that support project purposes and public demands created by the project itself while sustaining the project’s natural resources.

GOAL D. Recognize the particular qualities, characteristics, and potentials of the project.

GOAL E. Provide consistency and compatibility with national objectives and other State and regional goals and programs.

In addition to the above goals, USACE management activities are guided by USACE-wide Environmental Operating Principles (EOPs) as follows:

- Foster sustainability as a way of life throughout the organization.
- Proactively consider environmental consequences of all USACE activities and act accordingly.
- Create mutually supporting economic and environmentally sustainable solutions.
- Continue to meet our corporate responsibility and accountability under the law for activities undertaken by USACE, which may impact human and natural environments.
- Consider the environment in employing a risk management and systems approach throughout the life cycles of projects and programs.
- Leverage scientific, economic and social knowledge to understand the environmental context and effects of USACE actions in a collaborative manner.
- Employ an open, transparent process that respects views of individuals and groups interested in USACE activities.

3.3 RESOURCE OBJECTIVES

Resource objectives are defined as clearly written statements that respond to identified issues and that specify measurable and attainable activities for resource development and/or management of the lands and waters under the jurisdiction of the New England District, East Brimfield Lake Project Office. The objectives stated in this Master Plan support the goals of the Master Plan, the USACE EOPs, and applicable national performance measures. They are consistent with authorized project purposes, federal laws and directives, regional needs, resource capabilities, and they take public input into consideration. Recreational and natural resources carrying capacities are also accounted for during development of the objectives found in this Master Plan, as well as regional and state planning documents including:

- Massachusetts Wildlife Action Plan
- Massachusetts Statewide Comprehensive Outdoor Recreation Plan

The objectives in this Master Plan are intended to provide project benefits, meet public needs, and foster environmental sustainability for East Brimfield Lake to the greatest extent possible. Tables 3.1 through 3.4 list the objectives for East Brimfield Lake.

Table 3.1 Recreational Objectives

Recreational Objectives	Goals				
	A	B	C	D	E
Consider existing and future potential recreational opportunities for multiple user groups while ensuring visitor safety.	*		*	*	*
Identify potential locations for future LDR or Future or Inactive Recreation (FOIR) areas to accommodate visitation growth on USACE fee property. Provide opportunities for day use activities.	*		*		
Evaluate boating trends and traffic at ramps and on lake to determine whether the need for a boating capacity study is warranted. Study, if warranted, would focus on boater safety traffic on waterway.	*		*		
Monitor water quality and respond by opening/closing swimming area for water safety.	*		*		*
Support and provide technical guidance to potential lease partners on the management of recreation facilities in accordance with public demand. Examples include universally accessible fishing docks and playground equipment in day use.	*		*		
Work with partners to manage, maintain, and improve the project trails, including the Grand Trunk Trail.	*		*		*
Consider flood/conservation pool to address potential impact to recreational facilities (i.e. boat ramps, courtesy docks, etc.).	*	*	*	*	
Ensure consistency with USACE Natural Resource Management (NRM) Strategic Plan.					*

Recreational Objectives	Goals				
Monitor the Massachusetts SCORP to ensure that USACE is responsive to outdoor recreation trends, public needs and resource protection within a regional framework. All plans by others will be evaluated considering USACE policy and operational aspects of East Brimfield Lake.			*		*

*Denotes that the objective helps to meet the specified goal.

Table 3.2 Natural Resource Management Objectives

Natural Resource Management Objectives	Goals				
	A	B	C	D	E
Give priority to the preservation and improvement of open space in public use planning, design, development, and management activities.	*	*		*	*
Work with Tribal Nations to provide access to any culturally significant natural resources.		*		*	*
Consider flood/conservation pool levels to ensure that natural resources are managed in ways that are compatible with project purposes.	*	*		*	
Actively manage and conserve fish and wildlife resources, especially threatened and endangered species and Species of Greatest Conservation Need, by implementing ecosystem management principles.	*	*		*	*
Manage high density and low-density recreation lands in ways that balance visitor use with benefits to wildlife.			*		*
Optimize resources, labor, funds, and partnerships for protection and restoration of fish and wildlife habitats.		*			*
Minimize activities which disturb the scenic beauty and aesthetics of the lake.	*	*	*	*	
Work with partners to identify the needs for timber harvests, and removal of targeted species as a management tool to promote the vigor and health of forests, woodlands, and prairies.	*	*			*
Deter unauthorized use and damage of public lands through utilization of Title 36 CFR authorities, as well as state and local rules and regulation related to the protection of natural resources.	*	*	*	*	*
Manage lands and waters to reduce the spread of invasive, non-native, and aggressively spreading native species. As funding permits, complete an inventory and management plan for invasive species on project lands.	*	*		*	*
As funding permits, complete an inventory of timber resources and prepare a Forest Management Plan.	*	*		*	
Protect and restore important native habitats such as previous or abandoned farmlands, bottomland hardwoods, riparian zones, and wetlands where they occur or historically occurred on project lands. Special emphasis should be placed on protection and/or	*	*		*	*

Natural Resource Management Objectives	Goals				
restoration of special or rare plant species. Emphasize promotion of pollinator habitat, migratory bird habitat, and habitat for birds listed by USFWS as Birds of Conservation Concern.					

*Denotes that the objective helps to meet the specified goal.

Table 3.3 Visitor Information, Education, and Outreach Objectives

Visitor Information, Education, and Outreach Objectives	Goals				
	A	B	C	D	E
Create opportunities for communication with partner agencies, special interest groups, and the general public. Utilize social media as a platform to share information with visitors and stakeholders.	*			*	*
Provide educational, interpretive, and outreach programs at the lake office and around the lake. Topics to include history, project purposes of flood risk management and other key USACE missions including natural resource management, recreation, water quality, water safety, cultural resources, and ecology.	*	*	*	*	*
Promote USACE Water Safety message.	*		*	*	*
Educate adjacent landowners on policies and permit processes in order to reduce encroachment actions.	*	*	*	*	*
Work with local communities to engage the public and provide educational and informational opportunities.	*	*	*	*	*

*Denotes that the objective helps to meet the specified goal.

Table 3.4 Cultural Resources Management Objectives

Cultural Resources Management Objectives	Goals				
	A	B	C	D	E
Maintain the Cultural Resources Management Plan to manage cultural resources at East Brimfield Lake. As funding permits, consider an update of the Cultural Resources Management Plan (1998) which provides an inventory in accordance with Section 110 NHPA.	*	*		*	*
Monitor and enforce Title 36 and ARPA to prevent unauthorized excavation and removal of cultural resources.		*		*	*
Provide access by Tribal Nations to any cultural resources, sacred sites, or other Traditional Cultural Properties.	*	*			
Preserve and protect cultural resources sites in compliance with existing federal statutes and regulations.	*	*	*	*	*

*Denotes that the objective helps to meet the specified goal.

CHAPTER 4 – LAND ALLOCATION, LAND CLASSIFICATION, WATER SURFACE, AND PROJECT EASEMENT LANDS

4.1 LAND ALLOCATION

All lands at USACE water resource development projects are allocated by USACE into one of four categories in accordance with the congressionally authorized purpose for which the project lands were acquired: Operations, Recreation, Fish and Wildlife, and Mitigation. At East Brimfield Lake, the land allocation category that applies is Operations. Operations is defined as those lands that are required to operate the project for the primary authorized purposes of flood risk management, water supply, recreation, water quality, and fish and wildlife. The remaining allocations of Recreation, Fish and Wildlife, and Mitigation would apply only if lands had been acquired specifically for these purposes.

4.2 LAND CLASSIFICATION

4.2.1 General

The objective of classifying project lands is to identify how a given parcel of land shall be used now and in the foreseeable future. Land classification is a central component of this plan, and once a particular classification is established any significant change to that classification would require a formal process including public review and comment.

4.2.2 Prior Land Classifications

The previous version of the East Brimfield Lake Master Plan included land classification criteria that were similar, but not identical to the current criteria. In the years since the previous Master Plan was published, wildlife habitat values, surrounding land use, and regional recreation trends have changed giving rise to the need for revised classifications. Table 4.1 identifies land and water surface classification changes from the 1998 Master Plan to the 2025 Master Plan Revision.

The previous land-use categories identified in the 1998 Master Plan were as follows:

- **Project Operations:** Project Operations acres are those where USACE-operated facilities are located, including the dam and outlet works, operations buildings, and spillway as well as any maintenance and laydown areas. Incidental recreation often occurs within these Operation Areas but are ancillary to the primary purpose of project operations for flood risk management. The 1998 Master Plan described a picnic area and scenic outlook within the Operations Area.
- **Recreation Lands:** Land developed for intensive recreational activities by the visiting public.
- **Multiple Resources Management (MRM):** Lands managed for one or more of, but not limited to, the following activities:

- Recreation – Low Density
- Wildlife Management General
- Vegetative Management
- Inactive and/or Future Recreation Areas
- **Environmentally Sensitive Area (ESA):** Areas where scientific, ecological, cultural or aesthetic features have been identified.

Table 4.1 Change from 1998 Land and Water Surface Classifications to 2025 Proposed Land and Water Surface Classification

Prior Land Classifications (1998)	Acres	Proposed Land Classifications (2025)	Acres	Net Difference
Project Operations	55	Project Operations (PO)	37	(18)
Recreation Lands	73	High Density Recreation (HDR)	70	(3)
Multiple Resources Management (MRM)	1,543	Multiple Resource Management Lands (MRML)	0	(1,543)
–	–	Low Density Recreation (MRML-LDR)	148	148
–	–	Wildlife Management (MRML-WM)	1,241	1,241
Environmentally Sensitive Area (ESA)	71	Environmentally Sensitive Area (ESA)	251	180
LAND TOTAL	1,742	LAND TOTAL	1,747	5
Prior Water Surface Classifications (1998)	Acres	Proposed Water Surface Classifications (2025)	Acres	Net Difference
Open Recreation	385	Open Recreation	370	(15)
–	–	Restricted	3	3
WATER TOTAL	385	WATER TOTAL	373	(12)
TOTAL FEE	2,127	TOTAL FEE	2,120	(7)

*1998 acres are approximate based on digitizing the 1998 land and water classification map. Total fee acreage differences from the 1998 totals to the 2025 totals are due to improvements in measurement technology, deposition/siltation, and erosion. Totals also differ due to rounding while adding parcels. REMIS reports total fee of 2,070.

4.2.3 Land Classifications

USACE regulations require project lands and waters to be classified in accordance with the primary use for which project lands are managed. There are six categories of classification identified in USACE regulations, including:

- Project Operations
- High Density Recreation
- Mitigation
- Environmentally Sensitive Areas
- Multiple Resource Management Lands
- Water Surface

The land and water surface classifications for East Brimfield Lake were established after considering public comments and input from key stakeholders, including elected officials, and city and county governments. Additionally, information from the 2024 Massachusetts SCORP, including public comments, wildlife habitat values, and the trends analysis were used in decision making. Maps showing the various land classifications can be found in Appendix A. The following paragraphs provide acreages and descriptions of allowable uses for each of the land classifications.

Project Operations (PO)

The PO classification includes the lands managed for operation of the dam, project office, spillway, dikes, and maintenance yards, all of which must be maintained to carry out the authorized purpose of flood risk management. In addition to the operational activities taking place on these lands, limited recreational use may be allowed for activities such as public access to the shoreline for fishing. Regardless of any limited recreation use allowed on these lands, the primary classification of Project Operations will take precedent over other uses. There are 37 acres of Project Operations land specifically managed for this purpose.

High Density Recreation (HDR)

HDR lands are developed for intensive recreational activities for the visiting public, including day use areas, campgrounds, marinas, and related concession areas. Recreational areas operated by lessees on USACE lands must follow policy guidance contained in USACE regulations at ER 1130-2-550, Chapter 16. That policy includes the following statement:

“The primary rationale for any future recreation development must be dependent on the project’s natural or other resources. This dependency is typically reflected in facilities that accommodate or support water-based activities, overnight use, and day use such as marinas, campgrounds, picnic areas, trails, swimming beaches, boat launching ramps, and comprehensive resort facilities. Examples that do not rely on the project’s natural or other resources include theme parks or ride-type attractions, sports or concert stadiums, and standalone facilities such as restaurants, bars, motels, hotels,

non-transient trailers, and golf courses. Normally, the recreation facilities that are dependent on the project's natural or other resources, and accommodate or support water-based activities, overnight use, and day use, are approved first as primary facilities followed by those facilities that support them. Any support facilities (e.g., playgrounds, multipurpose sports fields, overnight facilities, restaurants, camp stores, bait shops, comfort stations, and boat repair facilities) must also enhance the recreation experience, be dependent on the resource-based facilities, [and] be secondary to the original intent of the recreation development..."

Lands classified for HDR are suitable for the development of comprehensive resorts. The regulation cited above defines Comprehensive Resort as follows:

"Typically, multi-faceted developments with facilities such as marinas, lodging, conference centers, golf courses, tennis courts, restaurants, and other similar facilities."

At East Brimfield Lake, prior land classifications did not include high density recreation. There are 70 acres at East Brimfield Lake classified as HDR. The brief description and resource management plan for each HDR area is described briefly in Chapter 5 and mapped in Appendix A.

Mitigation (MG)

The MG classification is used only for lands allocated by Congress for mitigation for the purpose of offsetting losses associated with the development of the project. There are no lands at East Brimfield Lake with this classification.

Environmentally Sensitive Areas (ESA)

ESAs include scientific, ecological, cultural, and aesthetic features identified and in need of preservation. At East Brimfield Lake, there 251 acres with this classification.

Multiple Resource Management Lands (MRML)

This land classification is divided into four sub-classifications: Low Density Recreation, Wildlife Management, Vegetative Management, and Future/Inactive Recreation Areas. A given tract of MRML land is classified using one of these sub-classifications, with the primary sub-classification reflective of the dominant use of the land. Typically, MRMLs support only passive, non-intrusive uses with very limited facilities or infrastructure. Where needed, some areas may require basic facilities that include, but are not limited to, minimal parking spaces, a small boat launch, and/or primitive sanitary facilities. There are 1,389 acres of MRML lands at East Brimfield Lake. The following sections describes each sub-classification, the number of acres, and primary uses for each designation.

Low Density Recreation (LDR)

LDR lands support passive public recreational use (e.g., fishing, hunting, wildlife viewing, natural surface trails, hiking, etc.). There are 148 acres under this land classification at East Brimfield Lake.

Wildlife Management (WM)

The WM land classification applies to lands managed primarily for the conservation of fish and wildlife habitat. These lands generally include comparatively large contiguous parcels of land for passive recreation uses such as natural surface trails, fishing, hunting, and wildlife observation, unless restrictions are necessary to protect sensitive species or to promote public safety. There are 1,241 acres of land included in this classification at East Brimfield Lake.

Vegetative Management (VM)

VM lands are designated for stewardship of forest, grassland and other native vegetative cover. Passive recreation activities previously described may be allowed in these areas. There are no acres of land included in this classification at East Brimfield Lake.

Future or Inactive Recreation (FOIR)

FOIR lands have site characteristics compatible with HDR development. These are areas where HDR development was anticipated in prior land classifications, but the development either never took place or was minimal. These areas are typically closed to vehicular traffic and are managed as MRML until development takes place. There are no acres of land included in this classification at East Brimfield Lake.

4.2.4 Water Surface Classifications

The water surface at East Brimfield is managed through the East Brimfield Lake Water Safety Management Plan established and updated by project staff. USACE regulations specify the possible classifications for the water surface, which are intended to promote public safety, protect resources, or protect project operational features such as the dam and spillway. These areas are typically marked by USACE or with navigational or informational buoys, signs, or denotations on public maps and brochures. In general, the management of the water surface includes the maintenance of warning, information, and regulatory buoys as well as routine water safety patrols during peak use periods. Maintenance of buoys is the responsibility of USACE. There are 373 acres of water surface at the conservation pool of 632 feet NGVD29 at East Brimfield Lake.

Open Recreation

Open Recreation includes all water surface areas available for year-round or seasonal water-based recreational use. This classification encompasses the majority of the lake water surface and is open to general recreational boating. Boaters are advised through maps and brochures, or signs at boat ramps that navigational hazards may be present at any time and at any location. Operation of a boat in these areas is at the owner's risk, as specific navigational hazards may or may not be marked with a buoy. There are 370 acres of open recreation water surface at East Brimfield Lake.

Restricted

Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. The areas include the water surface immediately surrounding the outlet structure and downstream below the dam in the area immediately surrounding the flood control gates. There are 3 acres of Restricted water surface at East Brimfield Lake.

Designated No-Wake

Designated No-Wake areas are intended to protect sensitive shorelines and improve boating safety near key recreational water access areas such as boat ramps. No-wake restrictions are managed through the project buoy plan in place for reasons of public safety and protection of property due to changes in water level and safety needs. There are no acres of designated no-wake water surface at East Brimfield Lake, and those areas managed under the buoy plan are designated as Open Recreation.

Fish and Wildlife Sanctuary

This water surface classification applies to areas with annual or seasonal restrictions to protect fish and wildlife species during periods of migration, resting, feeding, nesting, and/or spawning. East Brimfield Lake has no water surface areas designated as a Fish and Wildlife Sanctuary.

4.2.5 Project Easement Lands

Project Easement Lands are primarily lands on which easement interests were acquired. Fee title was not acquired on these lands, but the easement interests convey to the Federal government certain rights to use and/or restrict the use of the land for specific purposes. Easement lands are typically classified as Operations Easement, Flowage Easement, and/or Conservation Easement. At East Brimfield Lake, Flowage Easement lands are the only type of easements present. A flowage easement, in general, grants to the government the perpetual right to occasionally flood/inundate land during flood risk management operations and to prohibit activities on the flowage easement that would interfere with flood risk management operations such as placement of fill material, construction of habitable structures, or placement of other structures without prior written approval of the government. Reservoir lands have been purchased in fee by the Government to elevation 644.0, which is 9.0 feet below spillway crest. USACE owns 2,070 acres of land in fee for the project and holds flowage easements on 646 acres at East Brimfield Lake according to the 2001 USACE Water Control Manual for Thames River Basin under the East Brimfield Lake.

CHAPTER 5 – RESOURCE PLAN

5.1 MANAGEMENT BY CLASSIFICATION

This chapter describes the management plans for each land use classification within the Master Plan. The classifications that exist at East Brimfield Lake are Project Operations, High Density Recreation, Environmentally Sensitive Areas (ESA) and Multiple Resource Management Lands, which consist of Low Density Recreation and Wildlife Management. The management plans describe how these project lands and water surface will be managed in broad terms. A more descriptive plan for managing these lands can be found in the East Brimfield Lake Operational Management Plan (OMP).

5.2 PROJECT OPERATIONS

Project Operations is land associated with the dam, spillway, dikes, project office, maintenance facilities, and other areas solely for the operation of the project. There are 37 acres of lands under this classification, all of which are managed by the USACE. The management plan for the Project Operations area is to continue providing physical security necessary to ensure sustained operations of the dam and related facilities, including restricting public access in hazardous locations near the dam and spillway. Limited and passive recreation use such as bank fishing and hiking is currently allowed within some areas classified as Project Operations, but USACE considers this use to be incidental and may prohibit such use without notice for project operational or security needs. The Administration Area Overlook Parking Area and East Brimfield Lake Nature Trail are within the PO area at East Brimfield Lake. Public vehicular traffic is currently not allowed on the road traversing the crest of the dam. USACE maintains the road across the dam structure.

Recommended future actions for these areas include facility upgrades to meet USACE sustainability objectives as funding and personnel allow. Implementing low impact design into future building, parking and site developments will continue to be emphasized. Opportunities to incorporate environmental stewardship objectives for land management.

5.3 HIGH DENSITY RECREATION

East Brimfield Lake has 70 acres developed for intensive recreational activities for the visiting public, including day use areas, boat launches, and access points, which is all managed by the USACE. National USACE policy set forth in ER 1130-2-550, Chapter 16, adopted March 30, 2009, limits new recreation development within outgranted (leased) areas on USACE lands to those activities that are dependent on a project's natural resources and typically include water-based activities, overnight use, and day use (such as campgrounds, picnic areas, and boat launching ramps). Examples of activities that are not dependent on a lake's natural resources include stand-alone theme parks, sport or concert stadiums, restaurants, and hotels. Stand-alone golf courses are considered an example of these activities that cannot be developed following adoption of Chapter 16 of ER 1130-2-550.

Based upon outdoor recreation trends documented in the 2024 Massachusetts SCORP and previous visitation data, activities such as hiking, walking/running, wildlife watching/bird watching, and fishing remain the most favorite and are common activities that can be undertaken at East Brimfield Lake (see Section 2.13.3). Seeking opportunities to improve facilities and provide access to outdoor recreation activities in response to public demand are important to the USACE recreation goals of East Brimfield Lake. The future management of HDR areas includes continuing to maintain and improve existing facilities through partnerships and other funding options.

The HDR areas at East Brimfield Lake include 6 main recreation areas. All of these are currently managed by the USACE. There are currently no areas leased or outgranted to other entities. The USACE will continue to review requests and ensure compliance with applicable laws and regulations for proposed activities in all USACE-operated HDR areas. USACE will also continue to ensure that recreation areas are managed and operated in accordance with the objectives prescribed in Chapter 3.

The following is a description of the main recreation areas at East Brimfield Lake, some of which are highly developed, while others have only basic facilities and limited development. Maps showing existing parks and facilities can be found in Appendix A.

5.3.1 High Density Recreation Areas

Lake Siog (Holland Pond) Recreation Area

Lake Siog (Holland Pond) is a 65-acre natural water body located within the reservoir area approximately 4.5 road miles from the dam. The swimming beach is open seasonally from Memorial Day through Labor Day. There are restrooms, picnic sites, and a maintained sand beach for visitor to enjoy. The northern shoreline along Pond Bridge Road is easily accessible to shore fishermen and is extensively used.



Photo 5.1 Lake Siog (Holland Pond)

Long Pond Boat Launch

This boat launch is one of two USACE maintained boat launches that provides access to the conservation pool. This boat launch is located on the north side of Route 20 and is used to access the northern portion of the lake, also referred to as Long Pond. A 35-foot wide by 70-foot long concrete box culvert under Route 20 connects the northern and southern portions of the conservation pool. At the conservation (normal) pool elevation of 632 feet MSL, there is 8 feet of clearance through the culvert. There is one launching lane, 20-feet-wide and 25-feet-long to the water's edge. There is ample parking for 23 vehicles with trailers. This site provides informational kiosks, a life jacket loaner station, and a portable toilet. The access road and parking area at the Long Pond Boat Launch Area are plowed in the winter by USACE personnel for ice fishermen.



Photo 5.1 Long Pond Launch Area

East Brimfield Lake Boat Launch (Reservoir Boat Ramp)

This boat launch is the second of two USACE maintained boat launch areas that provides access to the conservation pool. The East Brimfield Lake Boat Launch Area, located south of Route 20, is used mostly by those wishing to boat and fish in the southern portion of the lake.

The boat launch area is accessed through property owned by the Commonwealth of Massachusetts. The access road is part of the former Route 20 which was relocated when the dam was constructed. The area consists of one launching lane, 12-feet wide and 80-feet long to the water's edge, and a paved parking lot for 14 vehicles and 15 trailer parking spaces. Access to this area from Route 20 is difficult for cars with trailers, and the steepness and length of the boat ramps minimize their use. An informational kiosk with a brochure box as well as a life jacket loaner station is located adjacent to the ramp. No other services or facilities are provided at the site.



Photo 5.2 East Brimfield Reservoir Ramp

East Brimfield Lake Vista

A scenic vista near the entrance to the boat launch area provides a view of the permanent pool and dam. Parking for 8 vehicles is available near the site. Views from this site have been impacted by tree growth, and the area is currently used primarily by shoreline fishermen.



Photo 5.3 East Brimfield Lake Ramp (South of Rt. 20)

Champeaux Road Fishing Area

This fishing area is located adjacent to Champeaux Road on a peninsula at the northern end of Long Pond. Champeaux Road Fishing Area is situated about two miles north of the dam off Route 148. The area consists of a 75-foot long gravel entrance road and a gravel parking area with space for approximately 15 vehicles. Two paved barrier free fishing platforms, constructed in 1996, can accommodate up to five wheelchairs at

a time. An informational kiosk with a brochure box is on site. The access road and parking area are plowed in the winter to provide access for ice fishermen.



Photo 5.5 Champeaux Fishing Platform

Streeter Beach Recreational Area

This area was previously leased to and operated by the Commonwealth of Massachusetts, Department of Environmental Management. The lease expired on April 30, 2012 and was not renewed per the request of the Massachusetts Department of Conservation and Recreation. The area remains closed since the conclusion of the lease. USACE welcomes the opportunity to partner with organizations to manage the area. Swimming and picnicking were the primary activities at this site. The USACE developed this area as part of the public use development plan in 1965, and a water-borne comfort station with flush toilets was constructed by the USACE in 1970.

A paved parking area with 80 parking spaces and two spaces designated for accessible parking are available. During high use periods, overflow parking was provided along the access road which is part of the former Streeter Road. Facilities at this location include a water-borne restroom, drinking fountains, and a paved walkway that meanders through the picnic area.



Photo 5.4 Streeter Beach Restroom

5.4 MITIGATION

This classification is used for lands that were acquired specifically for the purpose of offsetting losses associated with development of the project. There are no acres at East Brimfield Lake under this classification.

5.5 ENVIRONMENTALLY SENSITIVE AREAS

Four (4) distinct areas totaling 251 acres are designated as Environmentally Sensitive Areas (ESA). These are areas where scientific, ecological, cultural, or aesthetic features have been identified. Designation of these lands is not limited to just lands that are otherwise protected by laws such as the Endangered Species Act, the NHPA, or applicable state statutes. The primary management objective for ESAs is to allow existing uses to continue but to protect sensitive resources from intensive development, use, or disturbance beyond that which currently exists. In general, these areas must be managed to ensure that they are not adversely impacted. With the exception of natural surface pedestrian trails and minimal visitor parking areas, limited or no development of public use facilities is allowed on these lands and no real estate outgrants for easements should be granted unless disturbance can be confined to the boundaries of existing easements. No agricultural or grazing uses are permitted on these lands unless necessary for a specific resource management benefit, such as habitat restoration and management. An ESA classification provides the highest level of ecological protection among the various land use classifications.

The ESAs listed and described in Table 5.1 provide the number of acres for each ESA and a brief description of the ESA. See Appendix A for the map that identifies the ESAs around the lake.

Table 5.1 ESA Listing

ESA#	Acres	Location
ESA 1	165	ESA 1 is located south of Rt. 20 and north of Five Bridge Road
ESA 2	30	ESA 2 is located east of Lake Sioq (Holland Pond)

ESA#	Acres	Location
ESA 3	5	ESA 3 is a small area located northeast of Pork Barrel Pond near East Brimfield Holland Road
ESA 4	49	ESA 4 is located north of Long Pond between I90 and Brookfield Road

5.6 MULTIPLE RESOURCE MANAGEMENT LANDS

Multiple Resource Management Lands are organized into four sub-classifications. These sub-classifications are Low Density Recreation, Wildlife Management, Vegetative Management, and Future/Inactive Recreation Areas. The following is a description of each sub-classification's resource objectives, acreages, and description of use.

5.6.1 Low Density Recreation

At East Brimfield Lake, LDR lands are generally associated with primitive access points including trails and non-powered boating access points. Development is generally limited to unpaved parking, natural surface boat launches, and trails. Future management of these lands calls for minimal development to maintain a healthy, ecologically adapted vegetative cover to reduce erosion and improve aesthetics. The general public may use these lands for bank fishing, hiking, and for access to the shoreline. Future uses may include additional designated multipurpose, natural surface trails. There are 148 acres classified as Low Density Recreation.

Low Density Recreation Areas

Lake Siog Boat Ramp (Holland Pond Boat Ramp)

The Lake Siog Boat Ramp (Holland Pond Boat Ramp) is a natural boat ramp which existed when the reservoir area was acquired. A 15-feet wide by 50-feet long trap rock - surfaced launching lane is provided. The low gradient of the ramp allows for the launching of boats under 16-feet long only. An area of original, deteriorated paved roadway is used for parking and has no delineation for vehicle spaces. An informational kiosk with a brochure box is located at this area.

Quinebaug River Canoe Trail Launch Area (Canoe Launch on Lake Siog)

The Quinebaug River Canoe Trail Launch Area on Lake Siog is located near the north end of Lake Siog. This area has a canoe launch and parking area which provides an opportunity to launch canoes on the Quinebaug River Trail. The parking area existed at the time of acquisition by the USACE. Approximately 16 vehicle spaces are available, none of which are delineated by markings. A single accessible parking space is located within the parking area. An interpretive map of the river trail and a brochure box for

canoe trail brochures is located near the parking area. There are no facilities or services at this location and trash is carry-in/carry-out.

Grand Trunk Trailhead (Five Bridge Road)

The Grand Trunk Trailhead (Five Bridges Road) is located southwest of East Brimfield Lake along Five Bridges Road. This location includes a gravel parking area with no marked parking delineations. There are no facilities at this location.

Rt. 20 Grand Trunk Trail Parking Lot

This parking area serves as another access point to the Grand Trunk Trail at the western end of the East Brimfield Lake project boundary. This location includes a gravel parking lot with approximately 20 parking spaces with no delineated markings. There are no facilities at this location.

5.6.2 Wildlife Management (WM)

These are lands designated for the stewardship of fish and wildlife resources and are managed by USACE and Massachusetts Department of Fish and Game (DFG). There are currently 1,241 acres of land under this classification at East Brimfield Lake. Management efforts focus on producing native wildlife food and habitat.

The broad objective of fish and wildlife management is to conserve, maintain and improve the fish and wildlife habitat to produce the greatest dividend for the benefit of the general public. Implementation of a fish and wildlife management plan is the first step toward achieving the goals of the Fish and Wildlife Coordination Act (Public Law 85-624). DFG manages the Commonwealth of Massachusetts' game lands and wildlife primarily through enforcement of laws and regulations and establishing seasons and bag limits for game species. Future management plans for wildlife areas include continued cooperation with partners and managing and improving wildlife management areas under this land classification.

There are 3 known federally listed species, along with 5 federally listed migratory birds, and 29 known state-listed species that could utilize habitat within the East Brimfield Lake. Therefore, any work conducted on this project will be in accordance with the Endangered Species Act and will be appropriately coordinated with the USFWS and state resource agencies. These species (Table 2.8 and 2.9) will continue to receive attention to ensure they are managed in accordance with their habitat needs.

Non-game wildlife is also managed. The following list of non-game programs is being or will be pursued as funds become available.

- Early detection and prevention of introduction and spread of aquatic invasive species
- Invasive plant species management

- Native vegetation restoration where needed using native species
- Fish spawning and habitat structures
- Food/habitat plots for various native wildlife
- Pollinator plots
- Wildlife friendly fencing

5.6.3 Vegetative Management

These are lands that have vegetative types considered to be sensitive and needing special classification to ensure success. There are no acres currently identified at East Brimfield Lake for vegetative management purposes.

5.6.4 Future/Inactive Recreation Areas

These are areas with site characteristics compatible with potential future recreational development or recreation that are closed. Until there is an opportunity to develop or reopen these areas, they will be managed for multiple resources. There are no acres classified under this sub-classification at East Brimfield Lake.

5.7 WATER SURFACE

There are 373 acres of water surface at the conservation pool of 632 feet NGVD29 at East Brimfield Lake. Holland Pond and Long Pond are designated as great ponds by the Commonwealth of Massachusetts under Chapter 91, The Massachusetts Public Waterfront Act. Although still referred to as Long Pond, the original Long Pond was incorporated into East Brimfield Reservoir when USACE East Brimfield Dam was built. Buoys are managed by USACE and help mark the designated swimming area, hazards, and restricted areas.

5.8 SUSTAINABILITY

Sustainability is a multi-pronged aspect of responsible stewardship of USACE lands. The outcome of sustainability initiatives is to have a program that is able to adapt to fiscal challenges, safeguards the environment, and continues to provide high quality recreational opportunities for the public. As the nation's largest provider of outdoor recreation, managing 12 million acres of lands and waters across the country, USACE is committed to implementing initiatives that link people to water.

The recreational mission of USACE is to manage and conserve natural resources, while providing quality public outdoor recreation opportunities to serve the needs of the present and future generations. This is in line, and indeed the underpinning, of all the goals and objectives for East Brimfield Lake resources and management. The national USACE 2021 Natural Resources Management Strategic Plan identifies several goals and related objectives designed to build a more robust environmental and recreational program on USACE managed lands. The four primary goals are Workforce Development; Improved Communication; Resourcing; and Program Delivery. Under the umbrella goal of Program Delivery, several objectives center specifically on promoting environmental sustainability in all aspects of natural

resources management. This includes integrating environmental operating principles and other environmental regulations and initiatives into day-to-day decision making and long-range planning. Other objectives include using Leadership in Energy and Environmental Design (LEED) certified personnel and projects in facility design and maintenance on land-based recreation areas, and updating project Master Plans to include environmental sustainability elements.

Meeting the public's needs and continuing to provide a full range of outdoor recreation opportunities will require collaboration. In support of that, USACE will maintain and enhance existing rappsports while seeking new and innovative types of relationships with federal, state, and local agencies, volunteers, non-government organizations, cooperators, and others to provide certain recreation services and opportunities to the public. Besides pursuing and maintaining partnerships, it is important to continue to identify, analyze, and evaluate authorities and policies such as fee collection and retention, and increased partnership capabilities. Areas identified for changes to meet the goals and objectives of this strategy include authorities for fee collection and retention without budgetary offset, and policies that pertain to funding schedules for partnership projects.

Through creativity, innovation, strong partnerships, and environmentally sustainable stewardship, quality recreational opportunities will continue to be available to the public. This will be done while simultaneously protecting the water, environment, and cultural resources for current and future generations.

CHAPTER 6 – SPECIAL TOPICS/ISSUES/CONSIDERATIONS

6.1 COMPETING INTERESTS OF NATURAL RESOURCES

East Brimfield Lake is a multi-purpose project with numerous authorized purposes. The authorized purposes accommodate the needs of federal, state, and municipal users which have developed over time and have contractual rights that must be honored. The benefits provided by virtue of authorized purposes are critical to the local and regional economies and are of great interest to the public. Aside from operating the reservoir to meet the needs of those entities with contractual rights, there are many competing interests for the utilization of federal lands including recreational users, adjacent landowners, those who own mineral rights, utility providers, and all entities that provide and maintain public roads. A growing population and increasing urbanization places additional stress on these competing interests through increased demand for water resources and recreation spaces as well as diminishing quality and space for natural habitat and open spaces. Balancing the interests of each of these groups to ensure that valid needs are met while at the same time protecting natural and cultural resources is a challenge. The purpose of this Plan is to guide management into the foreseeable future to ensure responsible stewardship and sustainability of the project's resources for the benefit of present and future generations.

6.2 UTILITY CORRIDORS

USACE policy allows for the establishment of designated corridors on project lands, where feasible, to serve as the preferred location for future outgrants such as easements for roads or utility lines. After obtaining public input and examining the location of existing roads and utility lines on project lands, and due to the relatively low demand for easements at East Brimfield Lake, the USACE decided that the creation of utility corridors would not be necessary. The Tennessee Gas Pipeline Company, L.L.C. has a Real Estate easement with USACE for a natural gas pipeline right of way across the southern end of East Brimfield Lake property for the purpose of transporting gas over, across, in, and upon land of USACE. Any entity seeking a utility easement to cross USACE property must research alternate routes around USACE property and demonstrate that a feasible alternative does not exist. Additionally, an evaluation under NEPA would be required.

6.3 CULTURAL RESOURCES AND CONSULTATION WITH TRIBAL NATIONS

It is required for federal agencies to consult with affiliated Federally Recognized Tribes on various activities that take place on federal land under federal guidance including but not limited to Sections 106 and 110 of the National Historic Preservation Act (NHPA) of 1966 (as amended); Archaeological Resources Protection Act (ARPA) of 1979; Native American Graves Protection and Repatriation Act (NAGPRA); and 36 CFR Part 79, Curation of Federally-Owned and Administered Archeological Collections. Implementing regulations for Section 106 of the NHPA and NAGPRA are 36 CFR Part 800 and 43 CFR Part 10, respectively. All cultural resources laws and regulations should be addressed under the requirements of NEPA as amended. USACE summarizes the guidance provided in these laws in ER and EP 1130-2-540.

Additionally, Executive Order 13007 states that each federal agency with responsibility for the management of federal lands shall accommodate access to and ceremonial use of Native American sacred sites by religious practitioners and avoid adversely affecting the physical integrity of such sacred sites.

The New England District takes its responsibilities for consultation on a government-to-government basis very seriously and consulted extensively with federally recognized tribes on the East Brimfield Lake Master Plan. The Tribes the USACE consults with are the Narragansett Tribe, Stockbridge-Munsee Community, Wampanoag Tribe of Gay Head (Aquinnah), Mashpee Wampanoag Tribe, and the Delaware Tribe.

The New England District consulted with Tribes primarily on developing best practices and ensuring areas of Tribal concern were addressed. This process has allowed Tribes to become more familiar with USACE property at East Brimfield Lake, and has increased USACE staff awareness of Tribal histories, sites, and concerns in the area. This exchange of knowledge from developing the Master Plan will allow USACE staff to better engage with Tribes on future projects at East Brimfield Lake and will likely lead to more efficient reviews and better outcomes meeting objectives for both parties. More information about the consultation can be found in Section 7.4.

6.4 PRIVATE ACTIVITIES AND SHORELINE MANAGEMENT

It is the policy of the USACE to protect and manage shorelines of all civil works water resource development projects to promote the safe and healthful use of these shorelines by the public while maintaining environmental safeguards to ensure a quality resource for use by the public. The objectives of all management actions will be to achieve a balance between permitted private uses and resource protection for general public use. Public pedestrian access to and exit from these shorelines shall be preserved. The New England District generally does not permit private exclusive uses by adjacent landowners. Private exclusive use (often called private shoreline use) is defined in ER 1130-2-406 as “Any action, within the context of this rule Title [36 CFR 327.30], which gives a special privilege to an individual or group of individuals on land or water at a Corps project, that precludes use of those lands or waters by the general public, is considered to be private shoreline use.” The Master Plan does not concern private use of federal property; instead private use is managed per guidance in ER 1130-2-406 at the discretion of the New England District and project manager. See Section 2.14 for more information about Real Estate including outgrants, trespass, and encroachment.

CHAPTER 7 – PUBLIC AND AGENCY COORDINATION

7.1 PUBLIC, AGENCY, AND TRIBAL COORDINATION OVERVIEW

The USACE is dedicated to serving the public interests in support of the overall development of land uses related to land management of cultural, natural, and recreational resources of East Brimfield Lake. An integral part of this effort is gathering public comment and engaging stakeholders in the process of planning. USACE policy guidance in ER and EP 1130-2-550 requires thorough public involvement and agency coordination throughout the Master Plan revision process including any associated NEPA process. Public involvement is especially important at East Brimfield Lake to ensure that future management actions are environmentally sustainable and responsive to public outdoor recreation needs. The following milestones provide a brief look at the overall process of revising the East Brimfield Lake Master Plan.

The USACE began planning to revise the East Brimfield Lake Master Plan in the spring of 2024. The objectives for the Master Plan revision are to (1) revise land classifications to reflect changes in USACE land management policies since the 1998 Master Plan, (2) prepare new resource goals and objectives, and (3) revise the Master Plan to reflect new agency requirements for Master Plan documents in accordance with ER 1130-2-550, Change 7, January 30, 2013 and EP 1130-2-550, Change 5, January 30, 2013.

7.2 INITIAL STAKEHOLDER AND PUBLIC MEETINGS

On April 30, 2024, a public open house was held at the Sturbridge Town Hall (Veterans Memorial Hall) at 308 Main St., Sturbridge, Massachusetts to inform the public of the intent to revise the Master Plan. The public input period remained open for 30 days from April 30, 2024 to May 30, 2024. At the public information meeting a presentation was given that included the following topics:

- What is a Master Plan?
- What a Master Plan is Not
- Why Revise a Master Plan?
- Overview of the National Environmental Policy Act (NEPA) process
- Master Planning Process
- Instructions for submitting comments

The USACE received 8 comments for the East Brimfield Lake Master Plan revision. These comments and the USACE response can be found in Appendix E.

7.3 PUBLIC AND AGENCY REVIEW OF DRAFT MP, EA, AND FONSI

This section will be completed after the public comment period for the Draft MP, EA, and FONSI.

7.4 TRIBAL CONSULTATION

In 2024, the USACE consulted with the appropriate Tribal Nations on the notice of availability for the scoping effort for this Master Plan and Environmental Assessment seeking their comments and confirmation of interest. A sample letter is included in Appendix B.

The following recognized Tribal Nations were consulted in 2024 prior to the initial Open House:

- Narragansett Tribe
- Stockbridge-Munsee Community
- Wampanoag Tribe of Gay Head (Aquinnah)
- Mashpee Wampanoag Tribe
- Delaware Tribe

For the Draft Master Plan and Environmental Assessment, the same group of recognized Tribal Nations were consulted to notify of the Open House the availability of the draft documents.

CHAPTER 8 – SUMMARY OF RECOMMENDATIONS

8.1 SUMMARY OVERVIEW

The preparation of this Master Plan for East Brimfield Lake followed the USACE master planning guidance in ER 1130-2-550 and EP 1130-2-550, both dated 30 January 2013. Three major requirements set forth in the guidance include the preparation of contemporary resource objectives, classification of project lands using the approved classification standards, and the preparation of a resource plan describing in broad terms how the land in each of the land classifications will be managed into the foreseeable future. Additional important requirements include rigorous public involvement throughout the process, consideration of regional recreation and natural resource management priorities identified by other federal, state, and municipal authorities, and consultation with local Tribal Nations.

The study team endeavored to follow this guidance to prepare a Master Plan that will provide for enhanced recreational opportunities for the public, improve environmental quality, and foster a management philosophy conducive to existing and projected USACE staffing levels at East Brimfield Lake as also reflected in ER 1130-2-540 Change 2 dated July 2005. Factors considered in the Plan development were identified through public involvement and review of regional and statewide planning documents including the current Massachusetts SCORP prepared by the Executive Office of Energy and Environmental Affairs' (EEA) Division of Conservation Services (DCS) for 2024-2028, EPA Ecoregion Handbook and descriptions, the USFWS ICAP website and the 2018 Town of Sturbridge Open Space and Recreation Plan. This Master Plan will guide the long-term sustainability of the outdoor recreation program and natural resources associated with East Brimfield Lake.

8.2 LAND CLASSIFICATION

A key component in preparing this Master Plan was examining prior land classifications and addressing the needed transition to the updated land classification standards that reflect how lands are being managed now and will be managed in the foreseeable future. The updated land classification standards will also comply with current USACE standards. Public comment was solicited to assist in making these land reclassification decisions. Consultation was also conducted with Tribal Nations to provide input on cultural and natural resources to help inform the land classification decisions. Chapter 7 of this Plan describes the public involvement process and Appendix E provides a summary of public comments received. After analyzing public comment, examining recreational trends, and taking into account regional natural resource management priorities, USACE team members reclassified the federal lands and waters associated with East Brimfield Lake as described in Table 8.1 and explained in Table 8.2. A map is included in Appendix A to define the areas where proposed changes in land classification were implemented.

Table 8.1 Change from 1998 Land and Water Surface Classification to 2025 Proposed Land and Water Surface Classification

Prior Land Classifications (1998)	Acres	Proposed Land Classifications (2025)	Acres	Net Difference
Project Operations	55	Project Operations (PO)	37	(18)
Recreation Lands	73	High Density Recreation (HDR)	70	(3)
Multiple Resources Management (MRM)	1,543	Multiple Resource Management Lands (MRML)	0	(1,543)
—	—	Low Density Recreation (MRML-LDR)	148	148
—	—	Wildlife Management (MRML-WM)	1,241	1,241
Environmentally Sensitive Area (ESA)	71	Environmentally Sensitive Area (ESA)	251	180
LAND TOTAL	1,742	LAND TOTAL	1,747	5
Prior Water Surface Classifications (1998)	Acres	Proposed Water Surface Classifications (2025)	Acres	Net Difference
Open Recreation	385	Open Recreation	370	(15)
—	—	Restricted	3	3
WATER TOTAL	385	WATER TOTAL	373	(12)
TOTAL FEE	2,127	TOTAL FEE	2,120	(7)

*1998 acres are approximate based on digitizing the 1998 land and water classification map. Total fee acreage differences from the 1998 totals to the 2025 totals are due to improvements in measurement technology, deposition/siltation, and erosion. Totals also differ due to rounding while adding parcels. REMIS reports total fee of 2,070.

Table 8.2 Changes and Justifications for Proposed Land Classifications ⁽¹⁾

Land Classification	Description of Changes ⁽²⁾	Justification
Project Operations (PO)	Net decrease in Project Operations lands from 55 to 37 acres.	All lands classified as PO are managed and used primarily in support of critical operational requirements related to the primary mission of flood risk management. The decrease in PO acres is largely due to acres on both the north and south bank of the spillway channel which were previously classified as PO. Approximately 18 acres have been reclassified as LDR.
High Density Recreation (HDR)	Net decrease in HDR from 73 acres to 70 acres.	A vast majority of this change is by name only. The 1998 Master Plan classified these acres as Recreation Lands. The Champeaux Road Fishing Area, Long Pond Boat Launch Area, East Brimfield Lake Boat Launch Area, and Lake Siog (Holland Pond) Recreation Area are all included in HDR as these park areas are developed for intensive recreational activities. Streeter Beach Recreational Area is also included within HDR.
MRML – Low Density Recreation (LDR)	Net increase in LDR from 0 acres to 148 acres.	The 1998 Master Plan classified 1,543 acres as MRM. A total 148 acres under this previous classification were reclassified as MRML-LDR. The majority of these acres are on the southern portion of East Brimfield Reservoir and along the west and east shorelines of Long Pond, north of Rt. 20. A small number of acres previously classified as PO were reclassified as MRML-LDR near the project office.
MRML – Wildlife Management (WM)	Net increase of 1,241.	Approximately 1,219 acres previously classified as MRM were reclassified as MRML-WM. The remainder of the acres within MRML-WM were previously classified as water surface. More precise mapping of the shoreline using available LiDAR data also added approximately 22 acres to WM.

Land Classification	Description of Changes ⁽²⁾	Justification
Environmentally Sensitive (ESA)	Net increase in ESA acres from 71 to 251 acres.	The ESA near Five Bridge Road identified in the 1998 Master Plan was expanded to include the sensitive habitat in the area. These additional acres total approximately 177 acres. More precise mapping of the shoreline using available LiDAR data also added approximately 3 acres to ESA.
Water Surface	Net increase in Water Surface from 385 acres to 373 acres.	The change in water surface acres is due to more precise mapping of the shoreline using available LiDAR data.

(1) The land classification changes described in this table are the result of changes to individual parcels of land ranging from a few acres to several hundred acres. New acreages were measured using more accurate GIS technology, thus total changes will not equal individual changes. The acreage numbers provided are approximate.

(2) Acreages are based on GIS measurements and may vary from net difference detailed in Table 8.1.

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APPENDIX A – LAND CLASSIFICATION, MANAGING AGENCIES, AND RECREATION MAPS

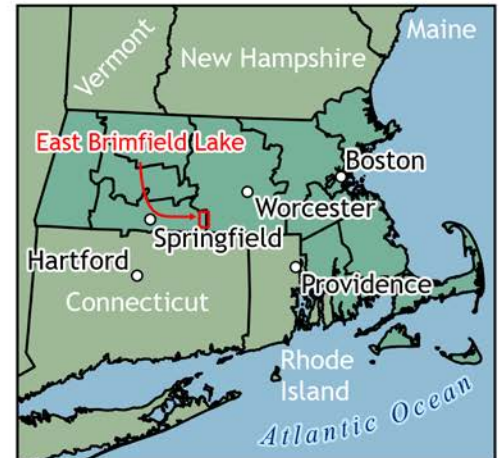
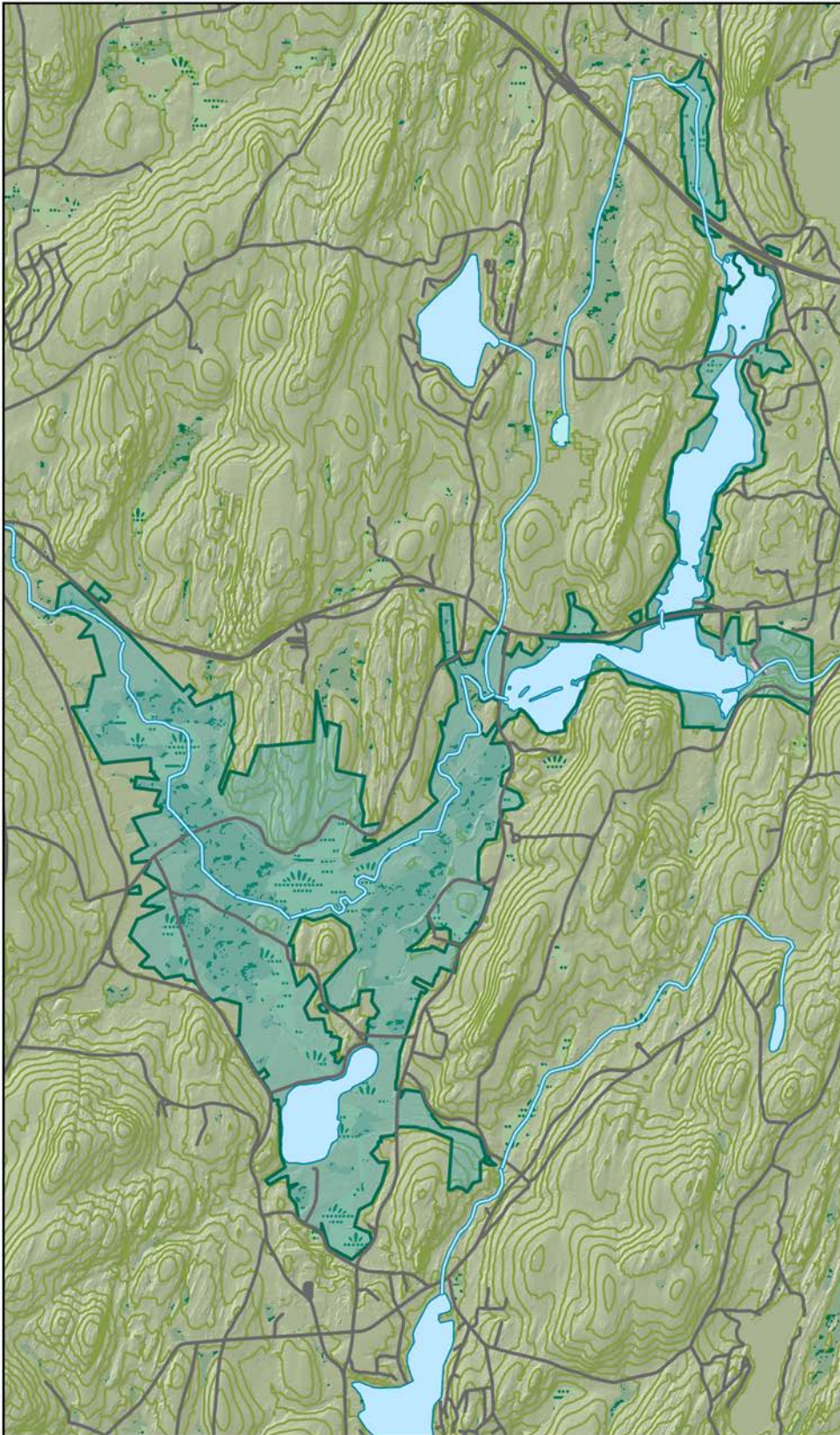


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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION

SHEET INDEX (0.1)



Sheet Index

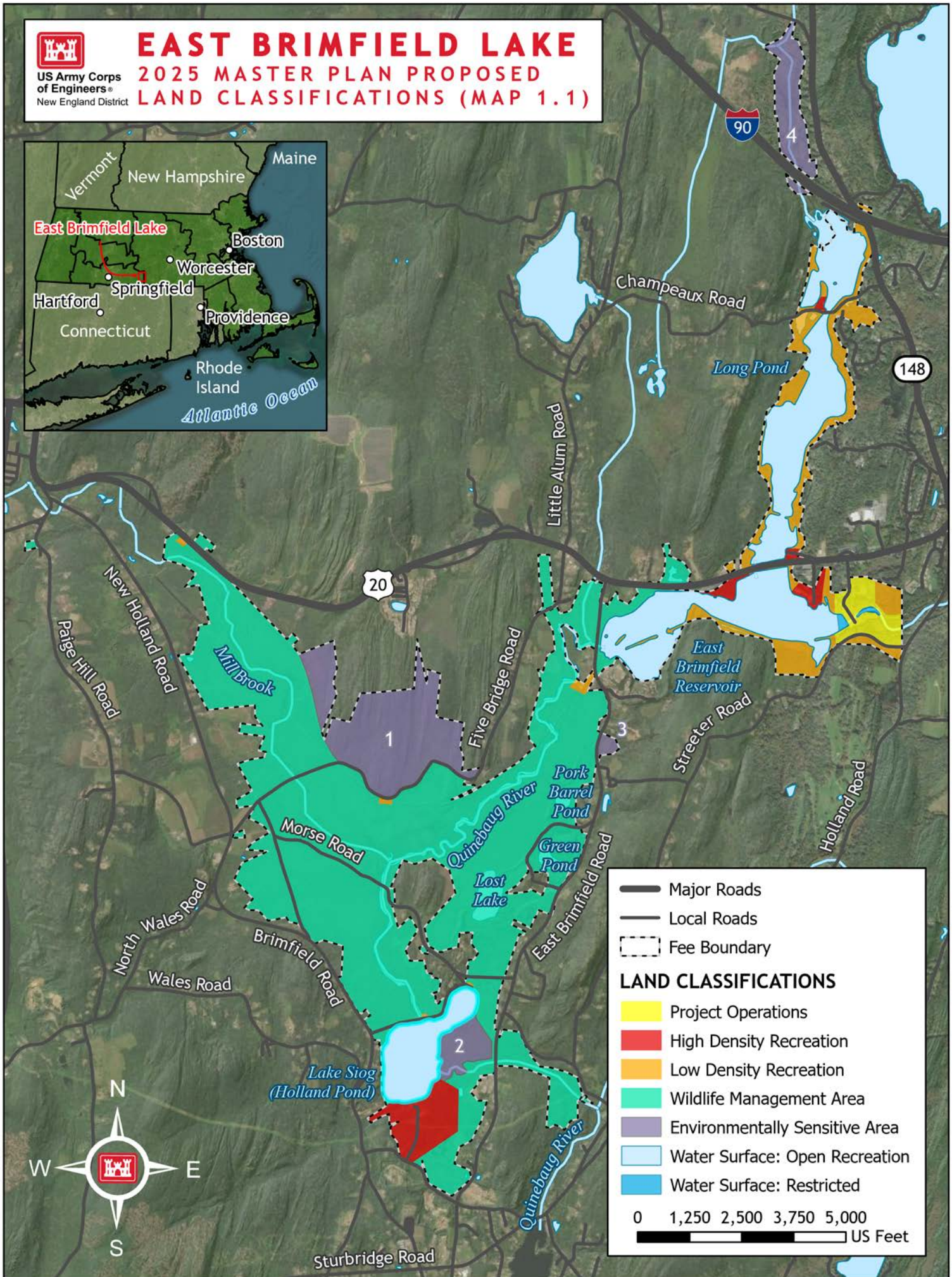
- 0.1 Sheet Index
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- 2.1 Land Classification Changes from 1976 Master Plan
- 3.1 Land Classification - Index Overview
- 3.2 - 3.7 Land Classification - Indices 1 - 6
- 3.8 - 3.13 Land Classification Changes - Indices 1-6
- 4.1 Recreation Areas - Overview
- 4.2 - 4.4 Recreation Areas - Area 1-3
- 5.1 Tennessee Gas Pipeline



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New England District

EAST BRIMFIELD LAKE

2025 MASTER PLAN PROPOSED LAND CLASSIFICATIONS (MAP 1.1)

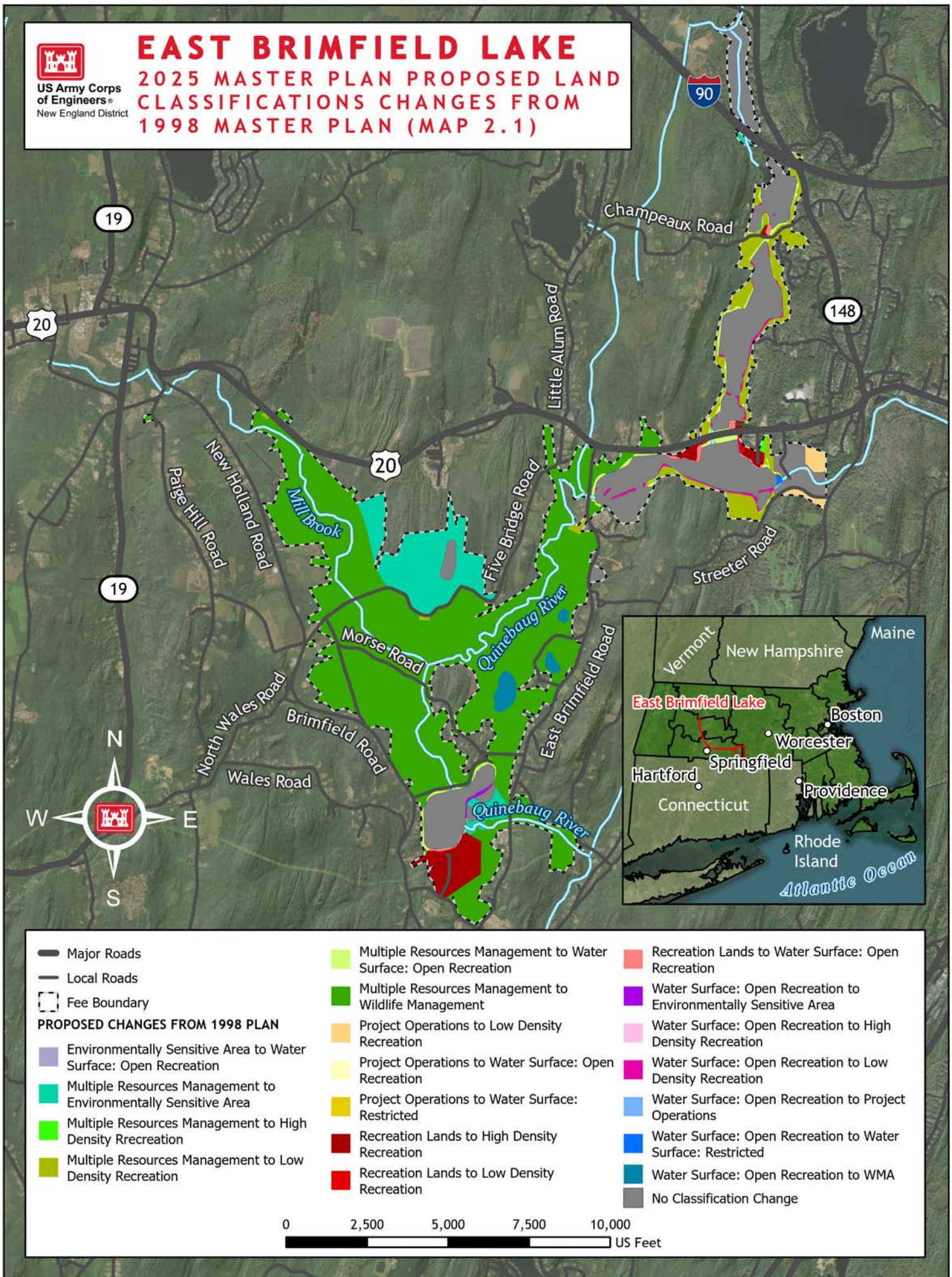




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EAST BRIMFIELD LAKE

2025 MASTER PLAN PROPOSED LAND CLASSIFICATIONS CHANGES FROM 1998 MASTER PLAN (MAP 2.1)





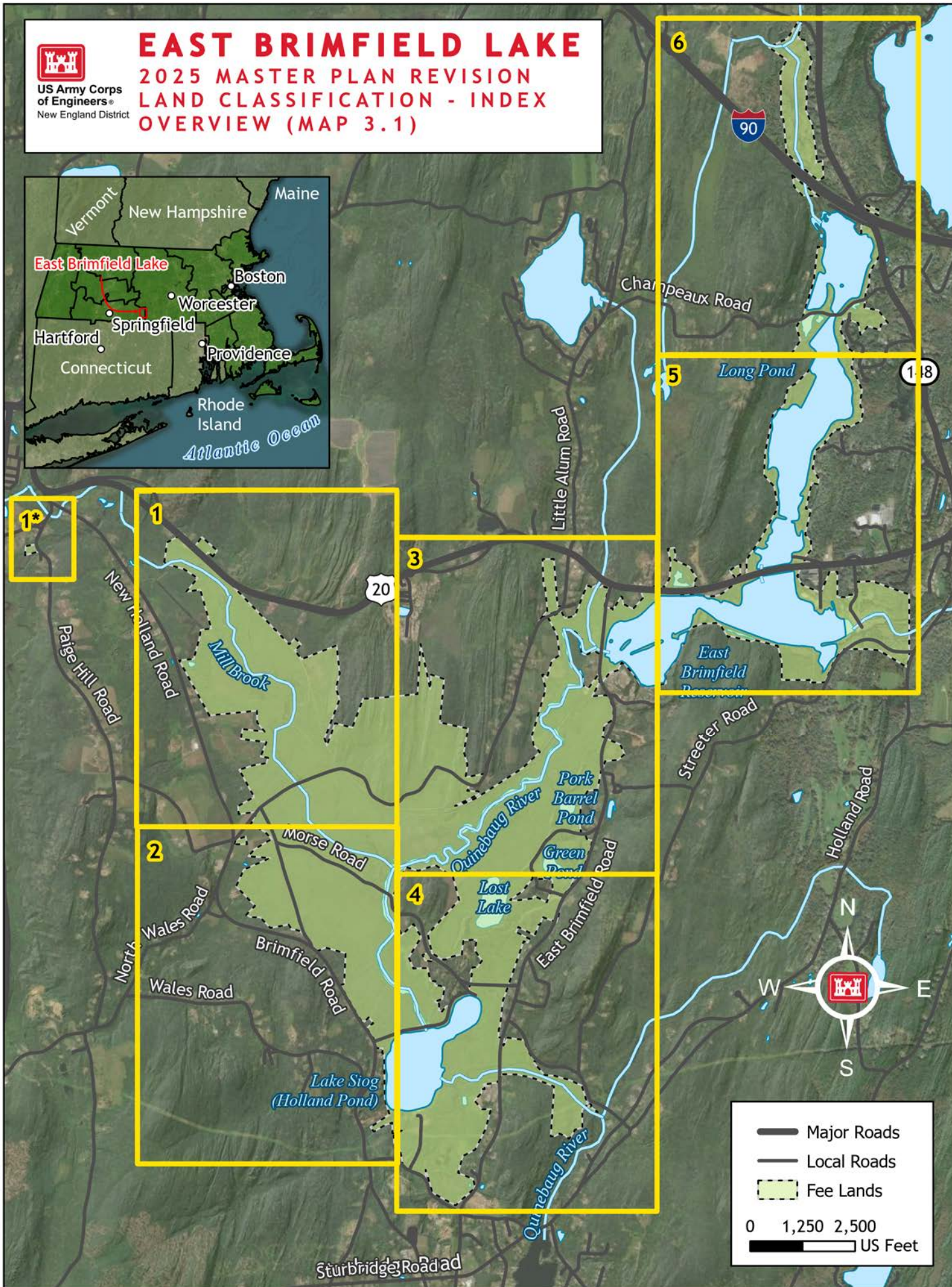
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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION

LAND CLASSIFICATION - INDEX

OVERVIEW (MAP 3.1)

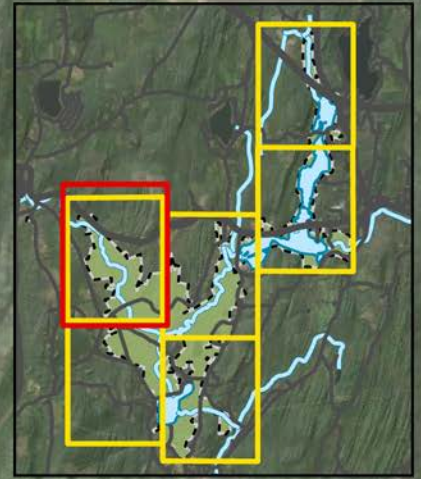




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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION LAND CLASSIFICATION - INDEX 1 (MAP 3.2)



1* (0.6 Miles)

1* (0.6 Miles West)



20

New Holland Road

Mill Brook

1

Five Bridge Road

- Major Roads
- Local Roads
- Fee Boundary

LAND CLASSIFICATIONS

- Low Density Recreation
- Wildlife Management Area
- Environmentally Sensitive Area

0 500 1,000 1,500
US Feet

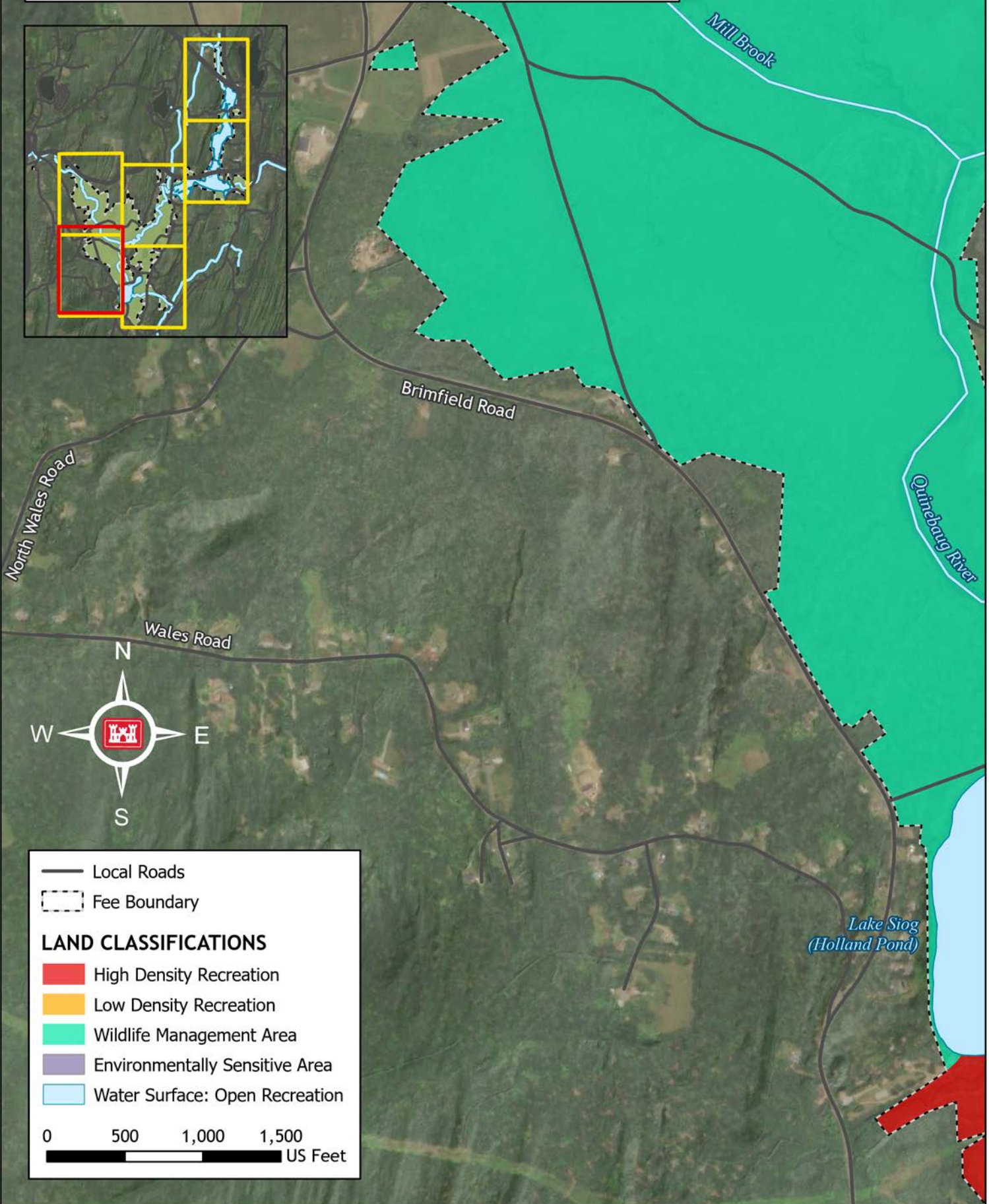
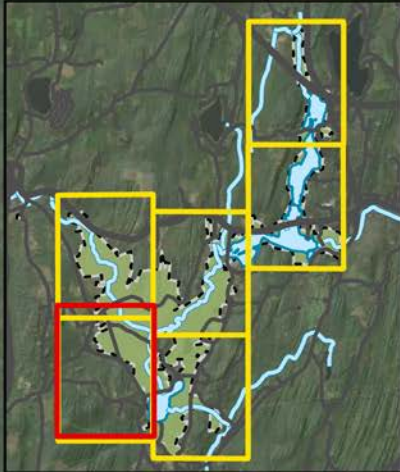


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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION LAND
CLASSIFICATION - INDEX 2 (MAP 3.3)

1



- Local Roads
- - - Fee Boundary

LAND CLASSIFICATIONS

- High Density Recreation
- Low Density Recreation
- Wildlife Management Area
- Environmentally Sensitive Area
- Water Surface: Open Recreation

0 500 1,000 1,500
US Feet



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EAST BRIMFIELD LAKE

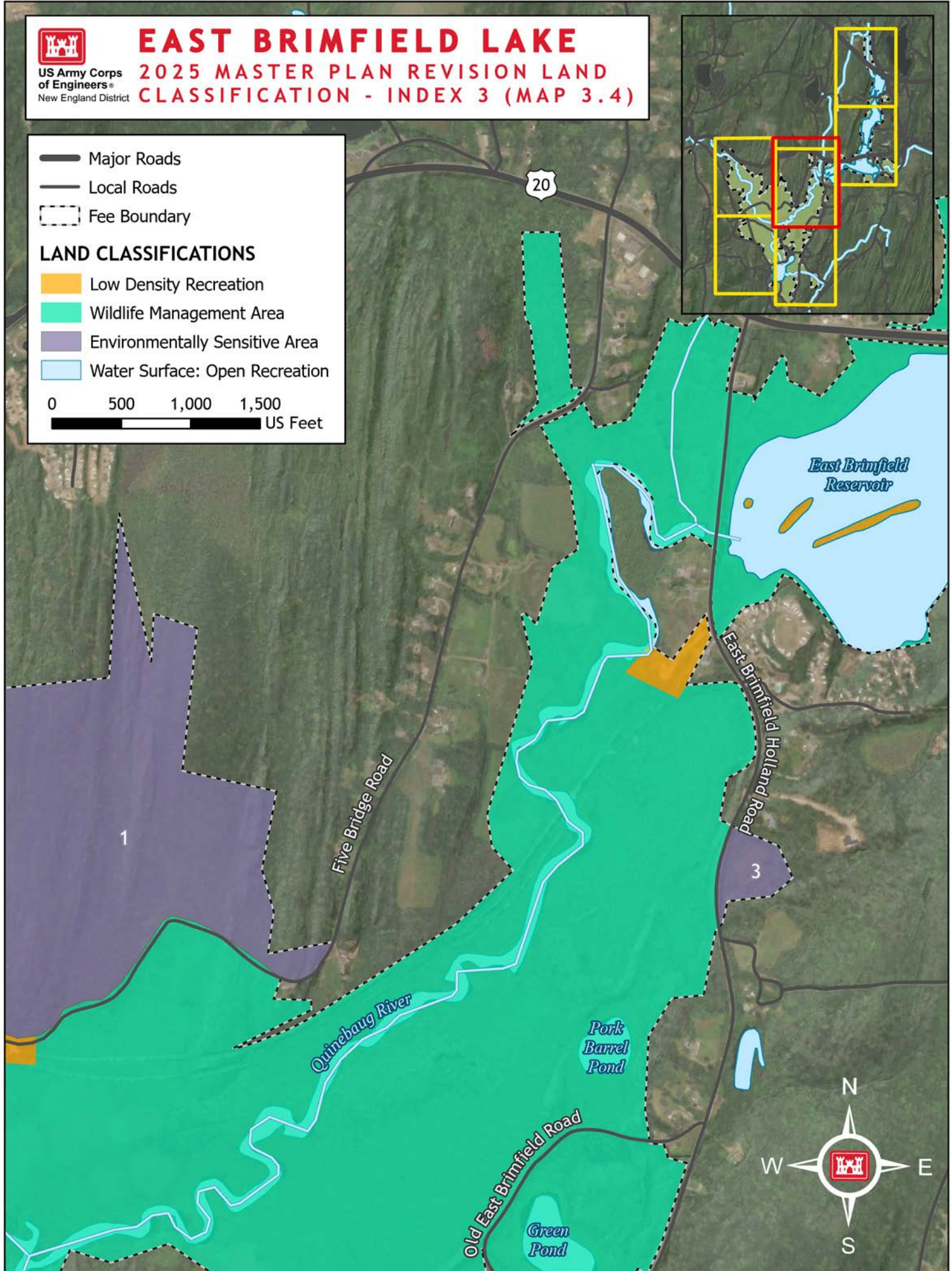
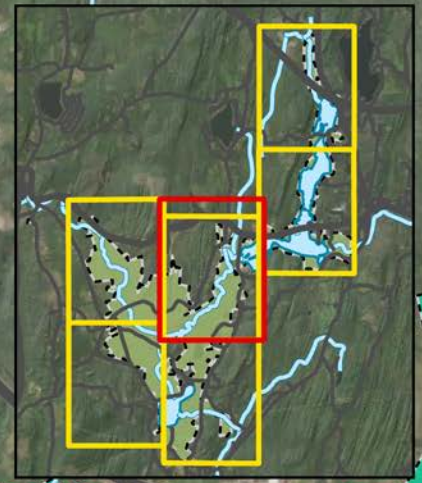
2025 MASTER PLAN REVISION LAND
CLASSIFICATION - INDEX 3 (MAP 3.4)

- Major Roads
- Local Roads
- Fee Boundary

LAND CLASSIFICATIONS

- Low Density Recreation
- Wildlife Management Area
- Environmentally Sensitive Area
- Water Surface: Open Recreation

0 500 1,000 1,500
US Feet

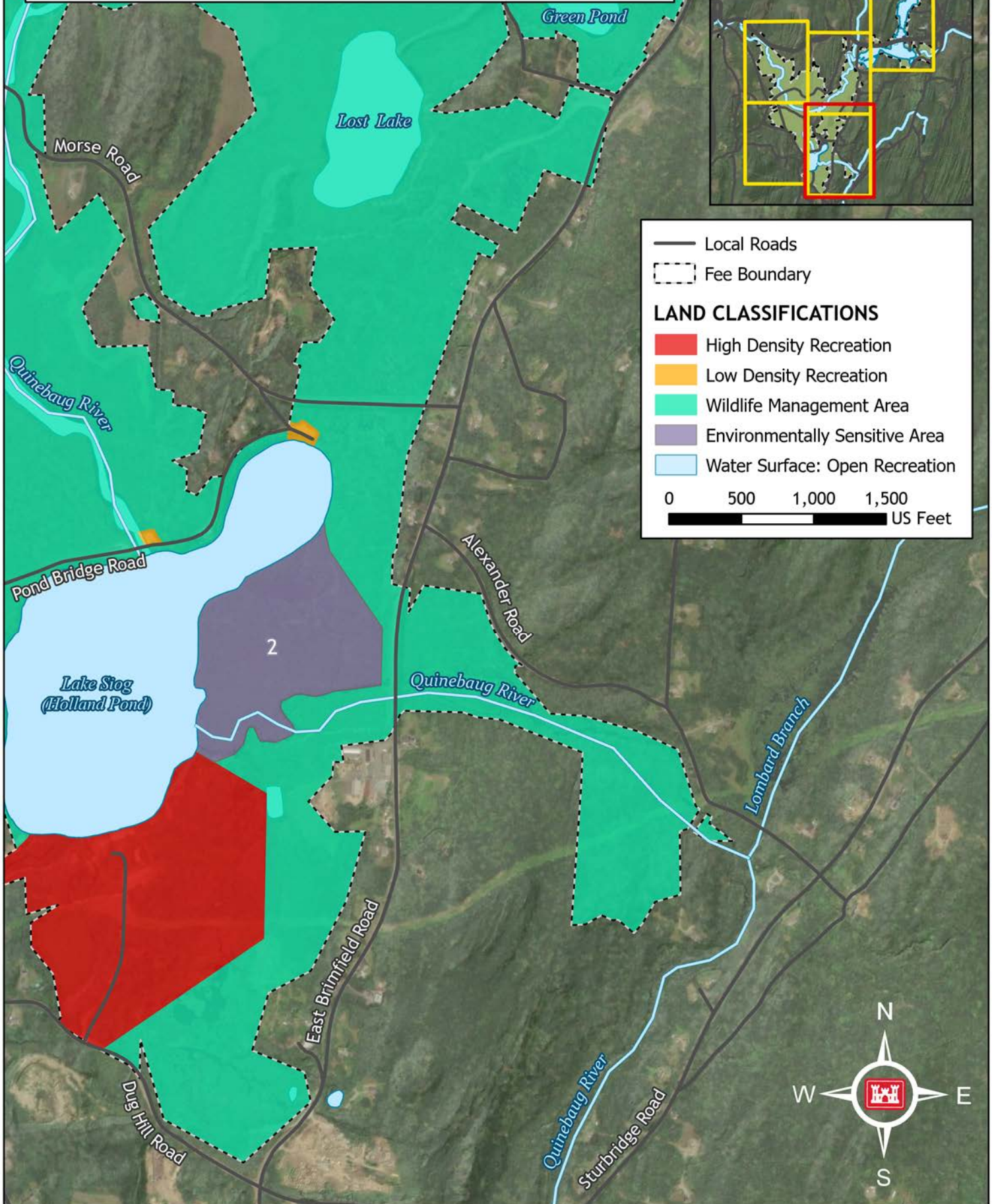
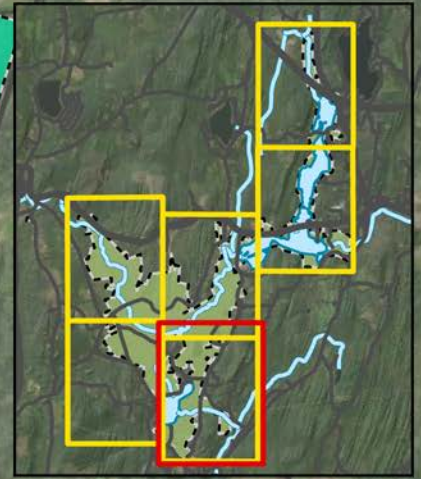




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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION LAND
CLASSIFICATION - INDEX 4 (MAP 3.5)

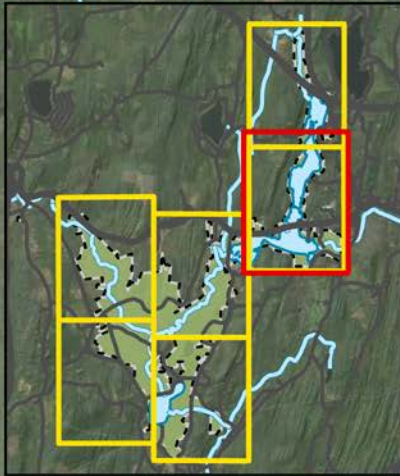




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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION LAND
CLASSIFICATION - INDEX 5 (MAP 3.6)



148

Long Pond

- Major Roads
- Local Roads
- Fee Boundary

LAND CLASSIFICATIONS

- Project Operations
- High Density Recreation
- Low Density Recreation
- Wildlife Management Area
- Water Surface: Open Recreation
- Water Surface: Restricted

0 500 1,000 1,500
US Feet

20

East Brimfield Reservoir

Quinebaug River

Streeter Road

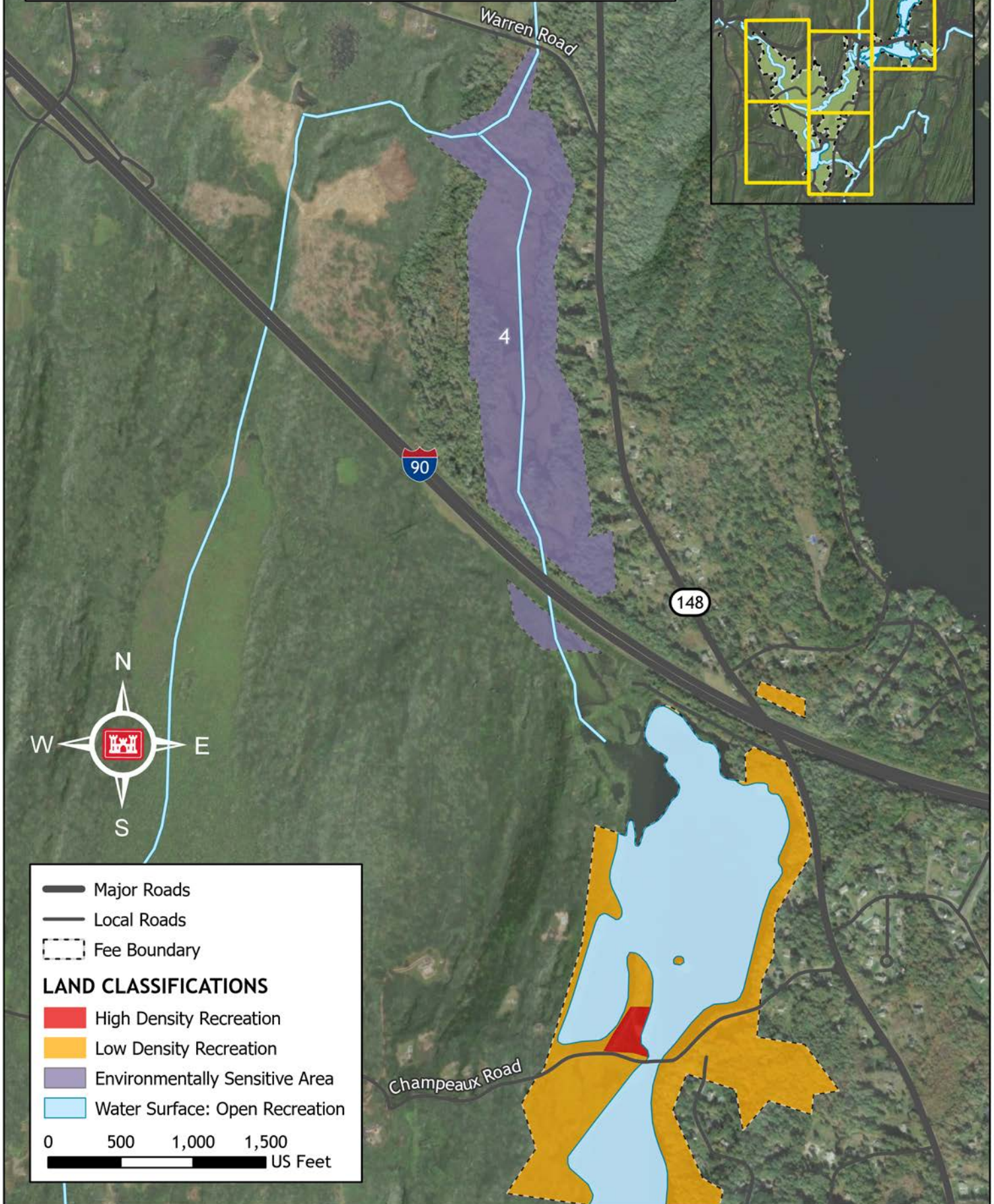
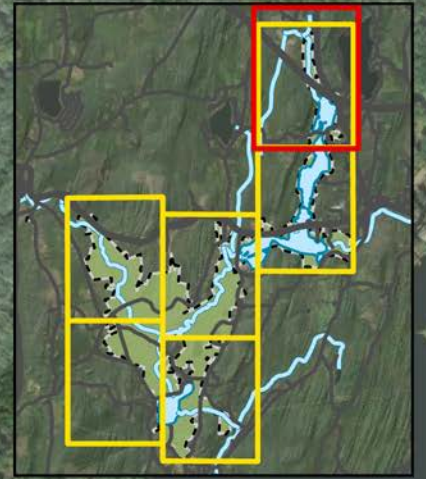
Holland Road



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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION LAND
CLASSIFICATION - INDEX 6 (MAP 3.7)

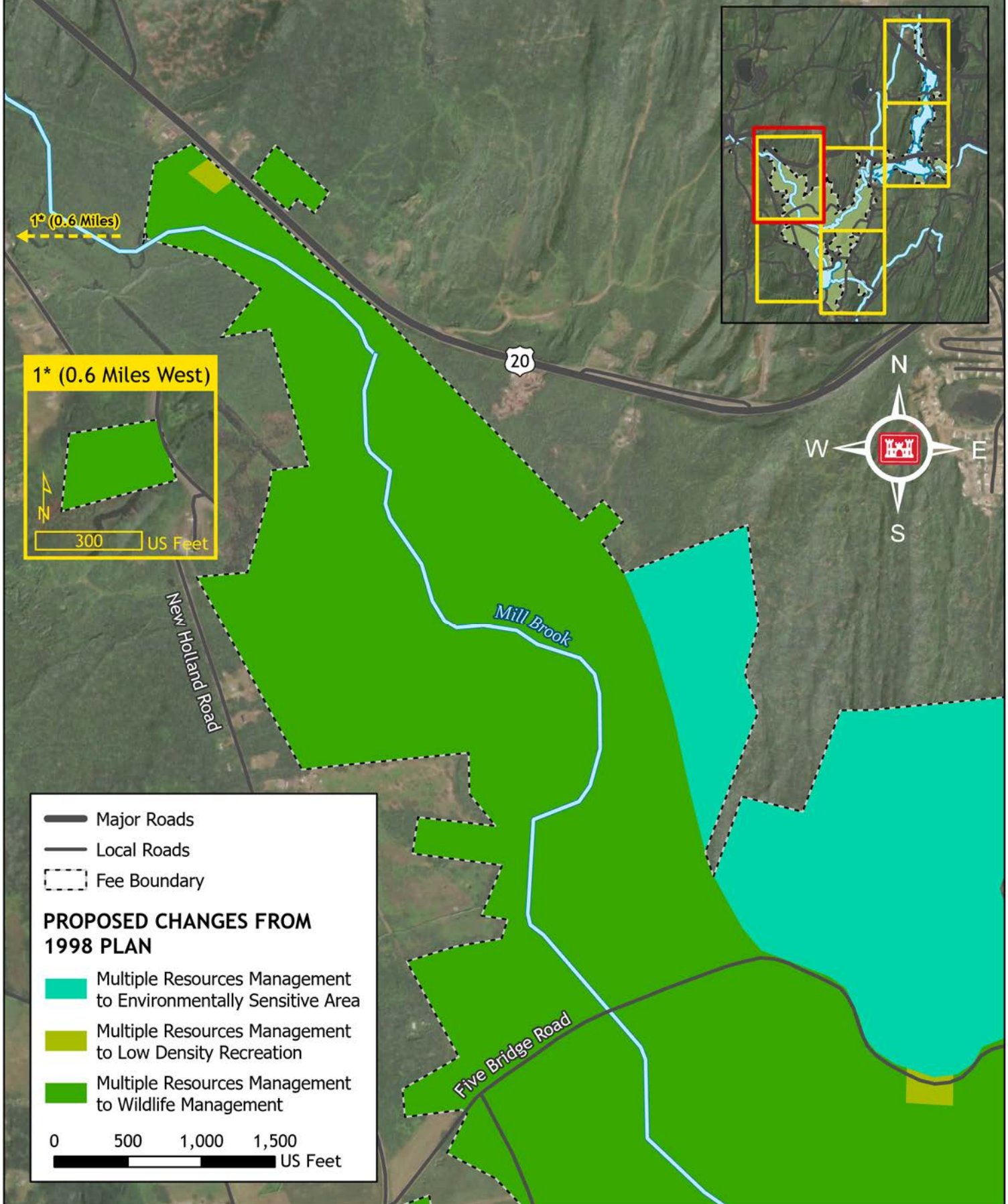




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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION LAND CLASSIFICATION
CHANGE - INDEX 1 (MAP 3.8)

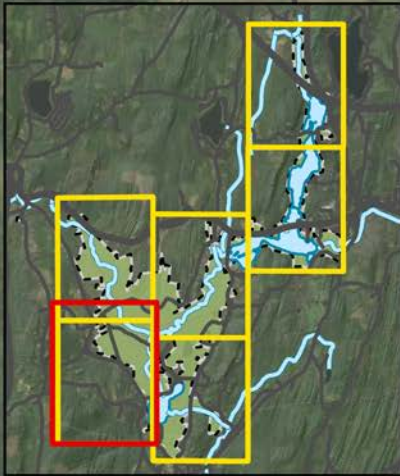




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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION LAND CLASSIFICATION
CHANGE - INDEX 2 (MAP 3.9)



North Wales Road

Brimfield Road

Mill Brook

Quinebaug River

Wales Road

- Major Roads
- Local Roads
- Fee Boundary

PROPOSED CHANGES FROM 1998 PLAN

- Multiple Resources Management to Environmentally Sensitive Area
- Multiple Resources Management to Low Density Recreation
- Multiple Resources Management to Water Surface: Open Recreation
- Multiple Resources Management to Wildlife Management
- Recreation Lands to High Density Recreation
- Recreation Lands to Water Surface: Open Recreation
- Water Surface: Open Recreation to WMA
- No Classification Change

0 500 1,000 1,500
US Feet





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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION LAND CLASSIFICATION
CHANGE - INDEX 3 (MAP 3.10)

— Major Roads — Local Roads - - - Fee Boundary

PROPOSED CHANGES FROM 1998 PLAN

Multiple Resources Management to Environmentally Sensitive Area	Multiple Resources Management to Wildlife Management
Multiple Resources Management to Low Density Recreation	Water Surface: Open Recreation to Low Density Recreation
Multiple Resources Management to Water Surface: Open Recreation	Water Surface: Open Recreation to WMA
	No Classification Change

0 500 1,000 1,500 2,000 2,500
US Feet

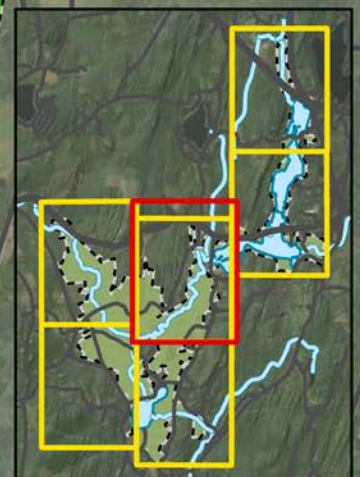


20

Five Bridge Road

Quinebaug River

Old East Brimfield Road

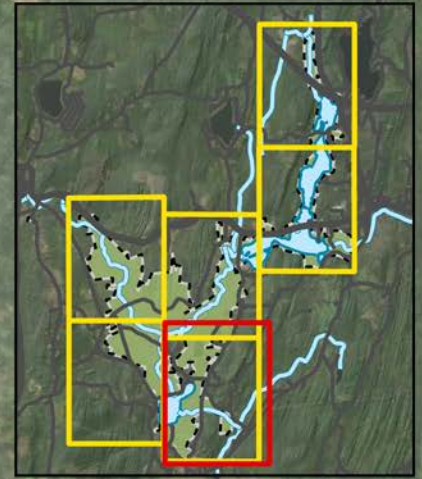




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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION
LAND CLASSIFICATION CHANGE
- INDEX 4 (MAP 3.11)



Morse Road

Quinebaug River

Pond Bridge Road

Alexander Road

Quinebaug River

East Brimfield Road

Dug Hill Road

Quinebaug River

Sturbridge Road

— Local Roads

- - - Fee Boundary

PROPOSED CHANGES FROM 1998 PLAN

- Environmentally Sensitive Area to Water Surface: Open Recreation
- Multiple Resources Management to Environmentally Sensitive Area
- Multiple Resources Management to Low Density Recreation
- Multiple Resources Management to Water Surface: Open Recreation
- Multiple Resources Management to Wildlife Management
- Recreation Lands to High Density Recreation
- Recreation Lands to Water Surface: Open Recreation
- Water Surface: Open Recreation to Environmentally Sensitive Area
- Water Surface: Open Recreation to High Density Recreation
- Water Surface: Open Recreation to WMA
- No Classification Change

0 500 1,000 1,500
US Feet



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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION LAND CLASSIFICATION CHANGE - INDEX 5 (MAP 3.12)

148

Major Roads Local Roads Fee Boundary

PROPOSED CHANGES FROM 1998 PLAN

- | | |
|---|---|
| Multiple Resources Management to High Density Recreation | Recreation Lands to Low Density Recreation |
| Multiple Resources Management to Low Density Recreation | Recreation Lands to Water Surface: Open Recreation |
| Multiple Resources Management to Water Surface: Open Recreation | Water Surface: Open Recreation to High Density Recreation |
| Multiple Resources Management to Wildlife Management | Water Surface: Open Recreation to Low Density Recreation |
| Project Operations to Low Density Recreation | Water Surface: Open Recreation to Project Operations |
| Project Operations to Water Surface: Open Recreation | Water Surface: Open Recreation to Water Surface: Restricted |
| Project Operations to Water Surface: Restricted | Water Surface: Open Recreation to WMA |
| Recreation Lands to High Density Recreation | No Classification Change |

0 500 1,000 1,500 2,000 2,500
US Feet

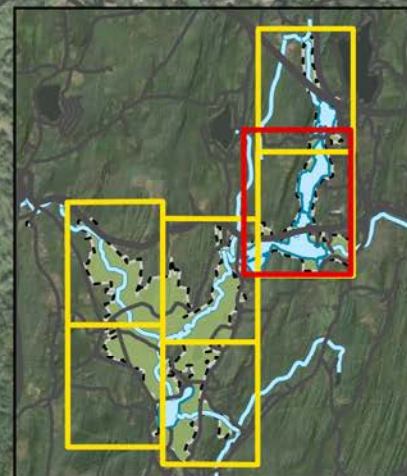


20

Quinebaug River

Streeter Road

Holland Road

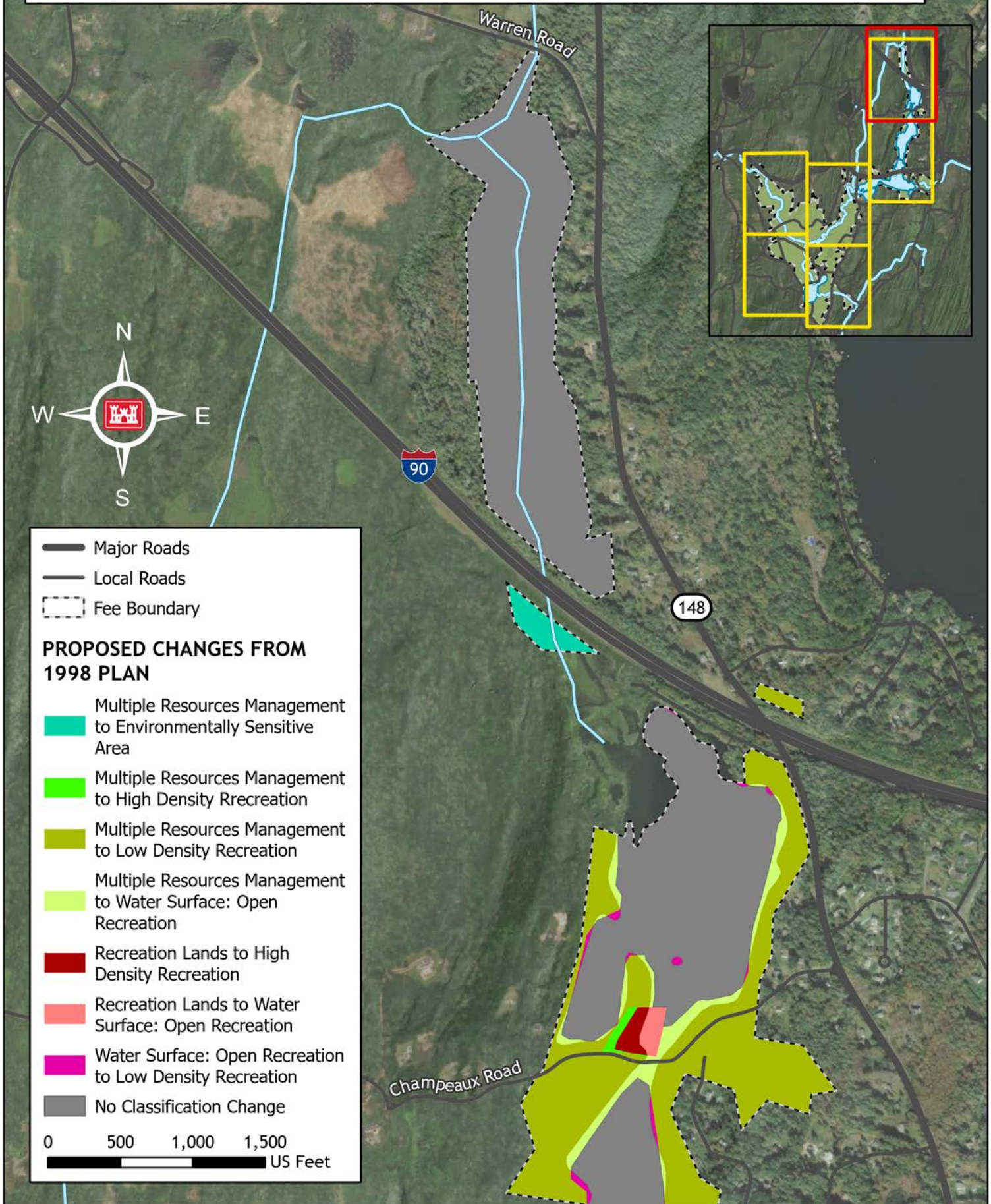




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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION LAND CLASSIFICATION
CHANGE - INDEX 6 (MAP 3.13)



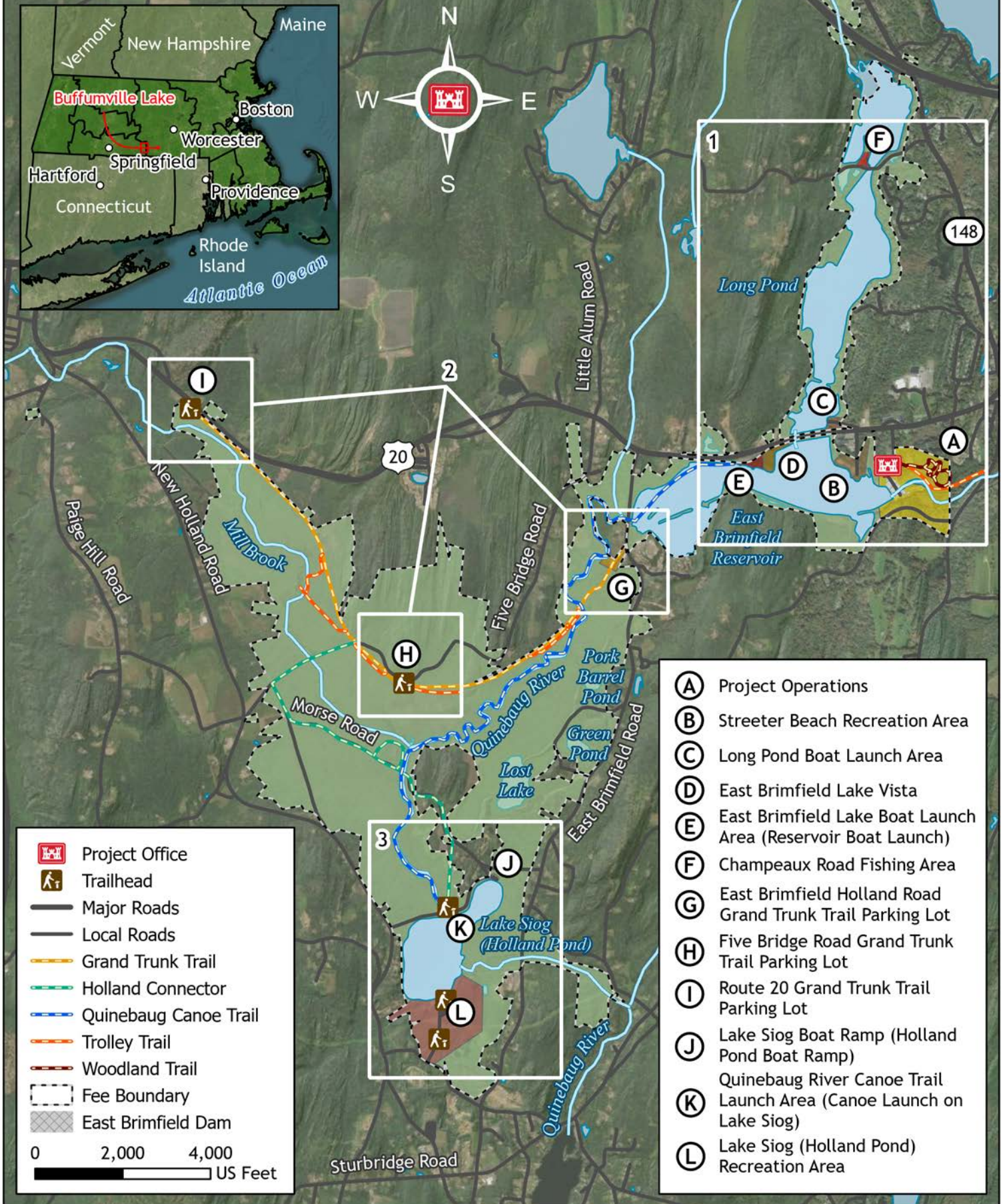


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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION

RECREATION AREAS - OVERVIEW (4.1)





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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION

RECREATION AREAS - AREA 1 (4.2)



- (A) Project Office
- (B) Streeter Beach Recreation Area
- (C) Long Pond Boat Launch Area
- (D) East Brimfield Lake Vista
- (E) East Brimfield Lake Boat Launch Area (Reservoir Boat Launch)
- (F) Champeaux Road Fishing Area

Boat Ramp

Fishing Area

Park Host

Project Office

Restroom (Closed)

Trailhead

Major Roads

Local Roads

Quinebaug Canoe Trail

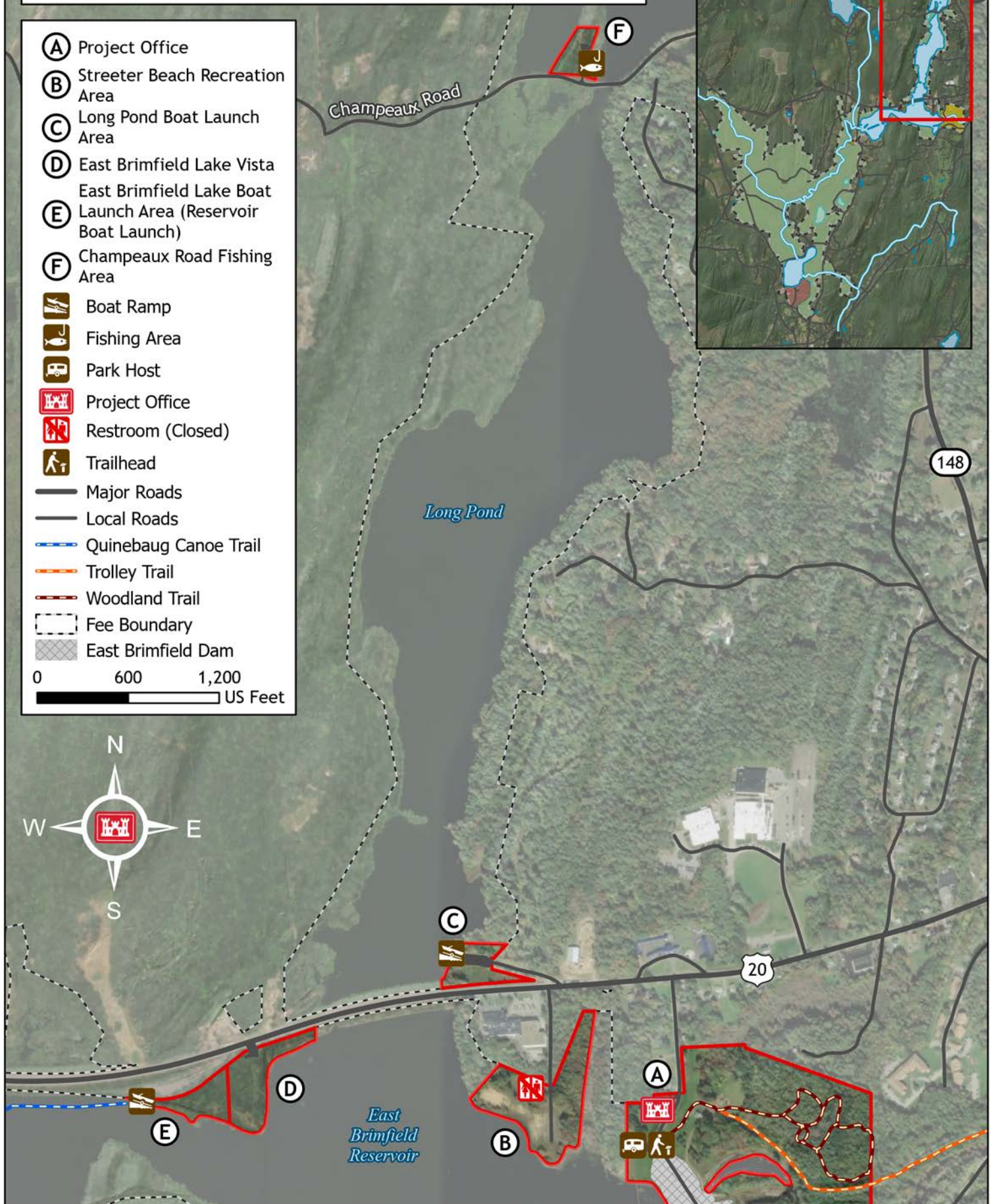
Trolley Trail

Woodland Trail

Fee Boundary

East Brimfield Dam

0 600 1,200
US Feet



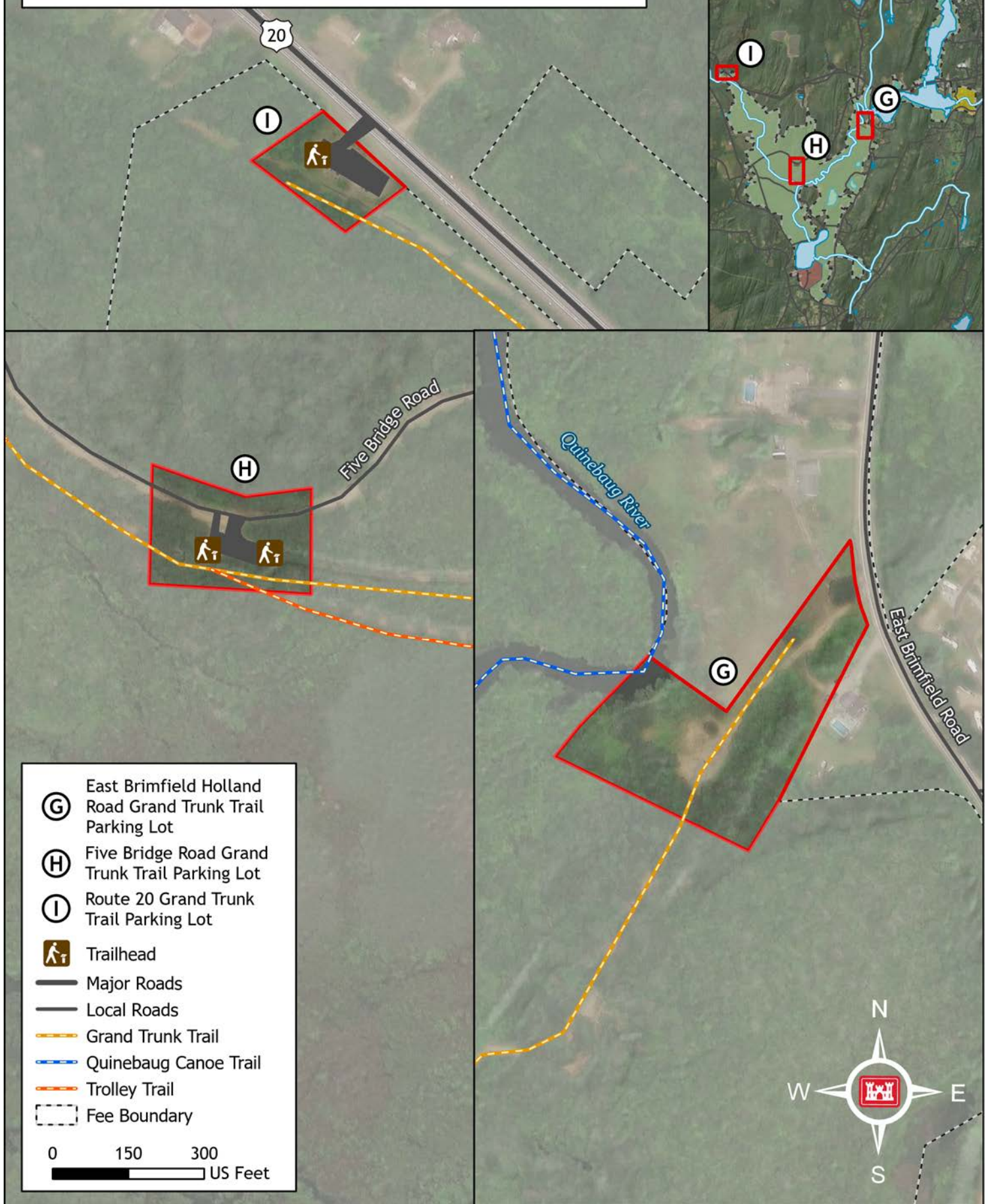


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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION

RECREATION AREAS - AREA 2 (4.3)



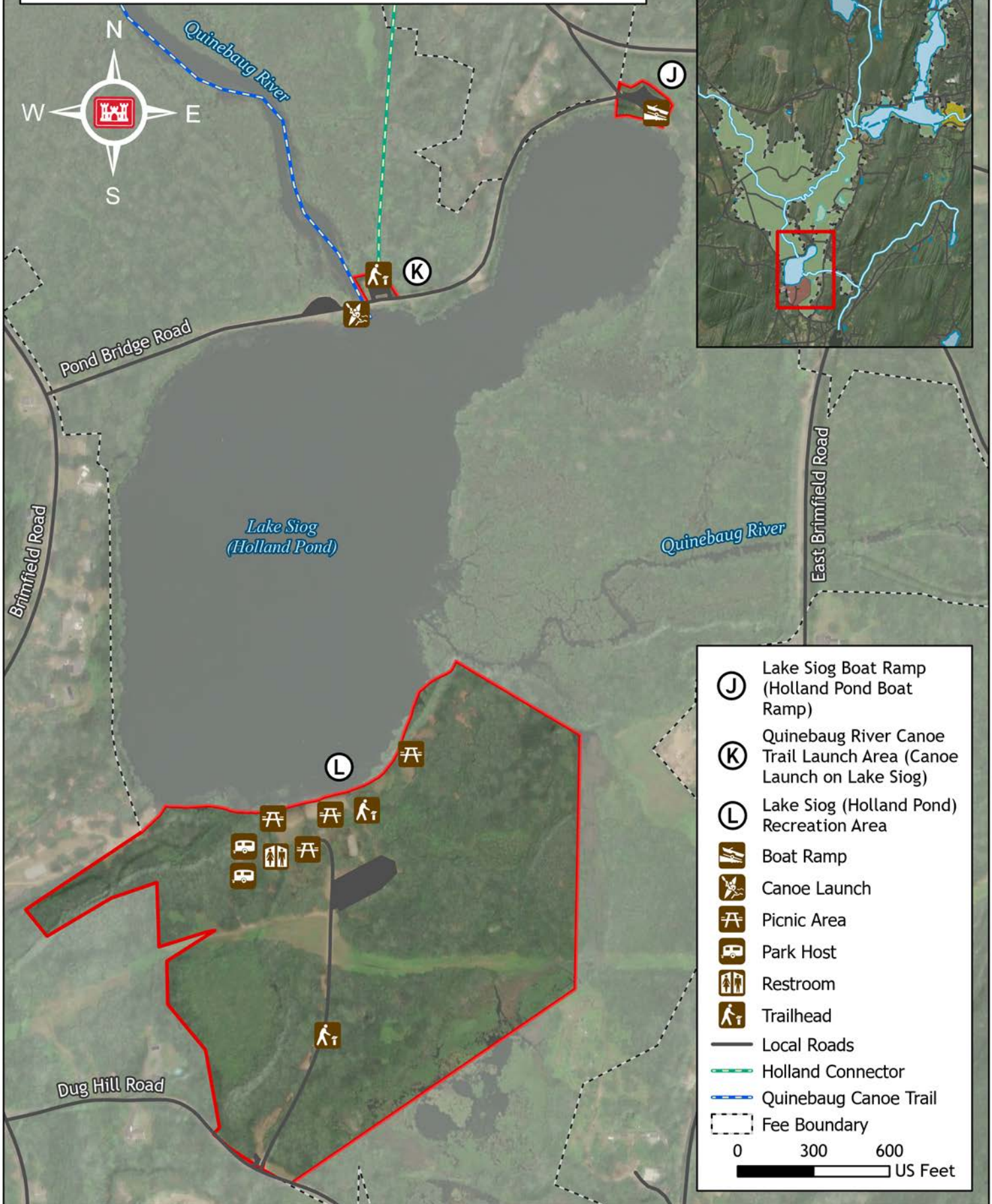
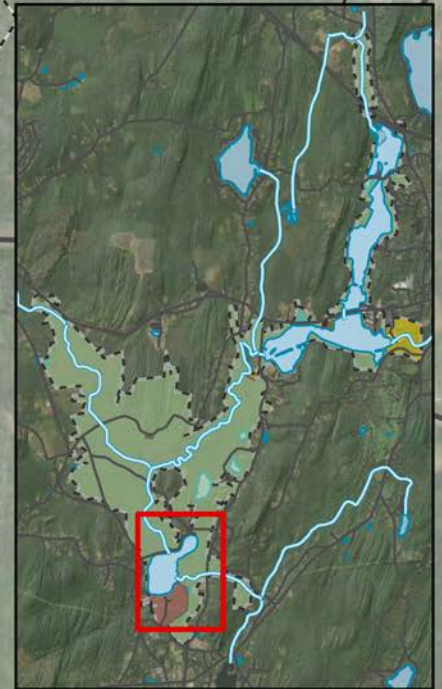
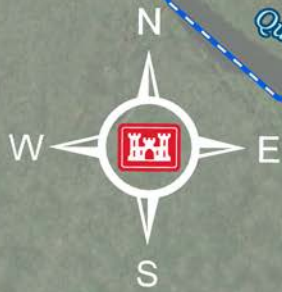


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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION

RECREATION AREAS - AREA 3 (4.4)



- (J)** Lake Siog Boat Ramp (Holland Pond Boat Ramp)
 - (K)** Quinebaug River Canoe Trail Launch Area (Canoe Launch on Lake Siog)
 - (L)** Lake Siog (Holland Pond) Recreation Area
 - Boat Ramp
 - Canoe Launch
 - Picnic Area
 - Park Host
 - Restroom
 - Trailhead
 - Local Roads
 - Holland Connector
 - Quinebaug Canoe Trail
 - Fee Boundary
- 0 300 600
US Feet



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EAST BRIMFIELD LAKE

2025 MASTER PLAN REVISION
TENNESSEE GAS PIPELINE (MAP 5.1)

A

Lake Siog
(Holland Pond)

Quinebaug River

East Brimfield Road

90

Champeaux Road

148

Long Pond

East
Brimfield
Reservoir

20

Mill Brook

New Holland Road
Raige Hill Road

Streeter Road

Holland Road

N

W

E

S

Pork
Barrel
Pond

Green
Pond

Lost
Lake

Morse Road

North Wales Road

Wales Road

Brimfield Road

East Brimfield Road

Lake Siog
(Holland Pond)

Sturbridge Road

--- Tennessee Gas Pipeline

— Major Roads

— Local Roads

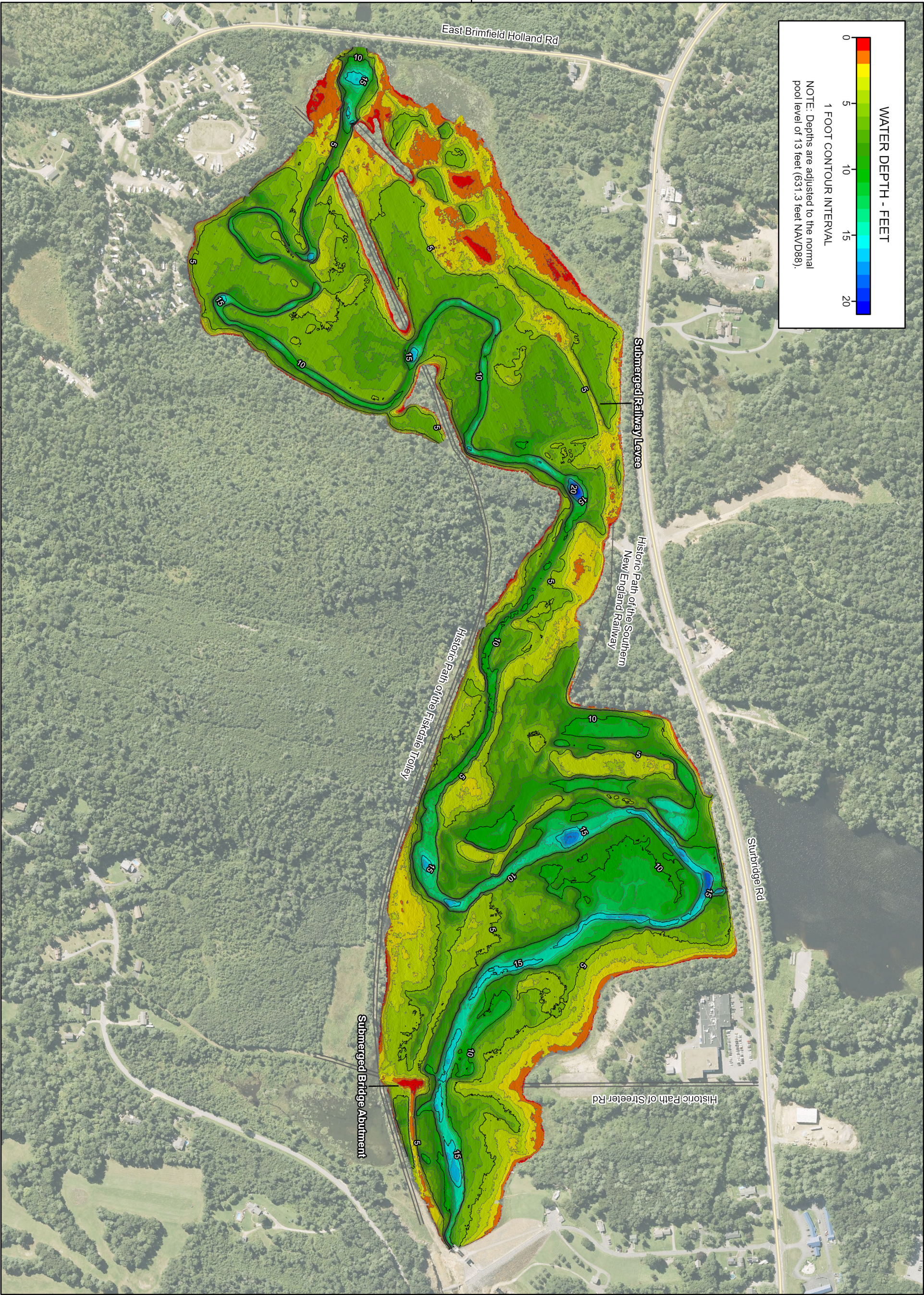
--- Fee Lands

0 1,200 2,400 3,600

US Feet



42°6'30"N



72°8'30"W

72°8'0"W

42°6'30"N



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New England District

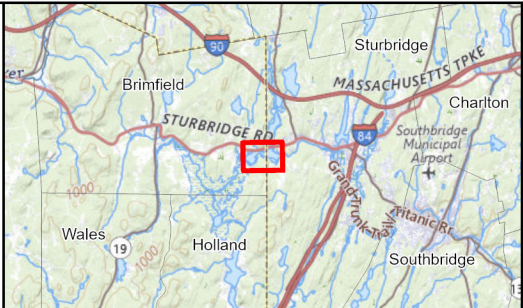


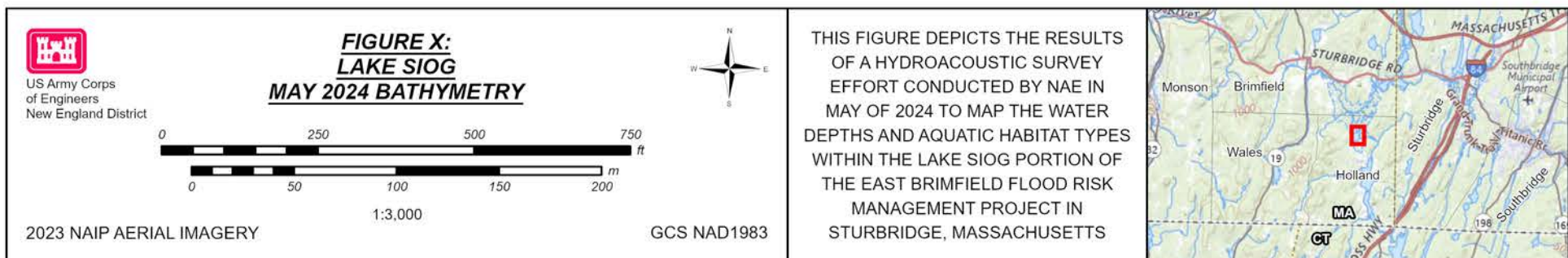
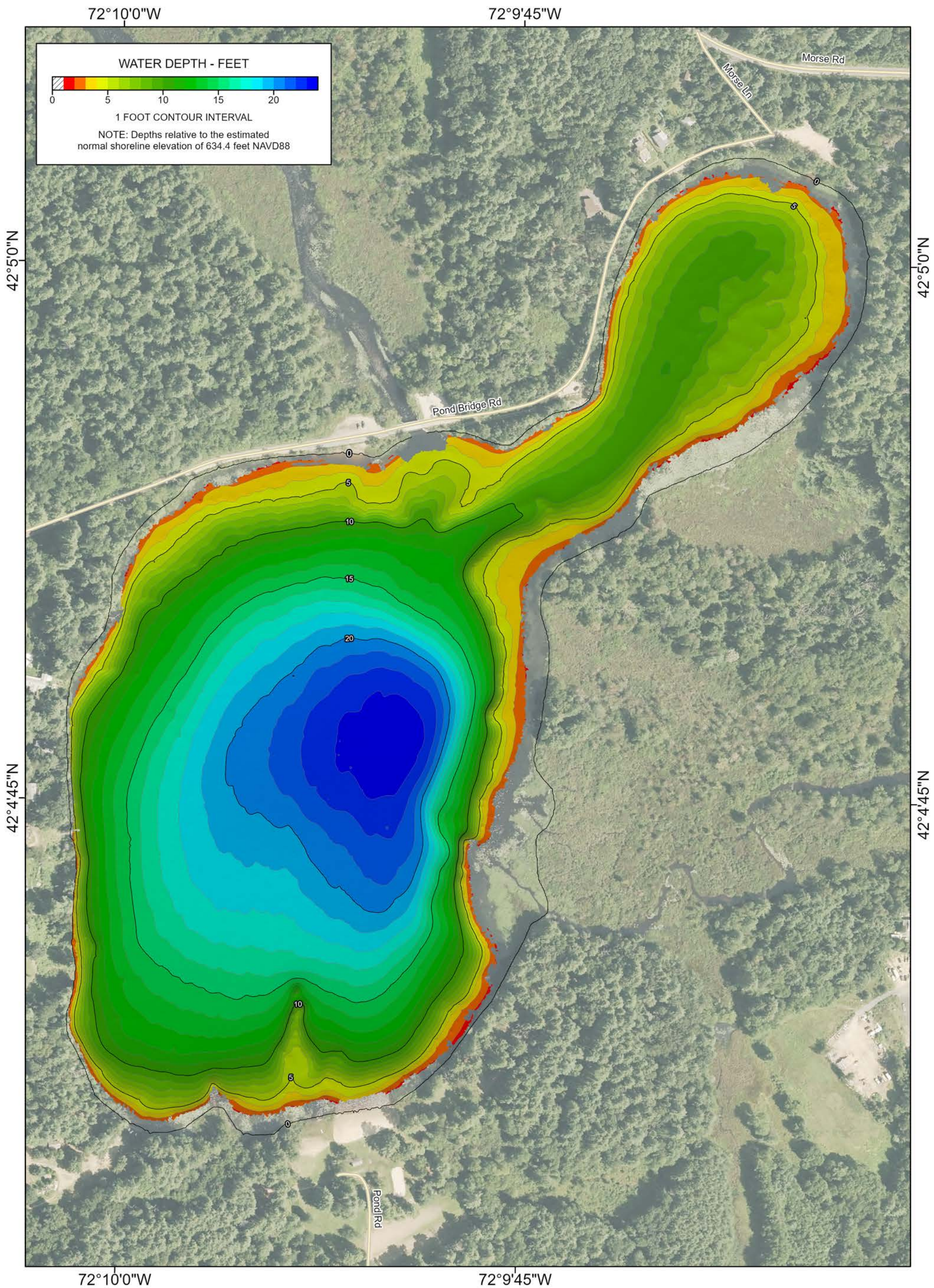
2023 NAIP AERIAL IMAGERY

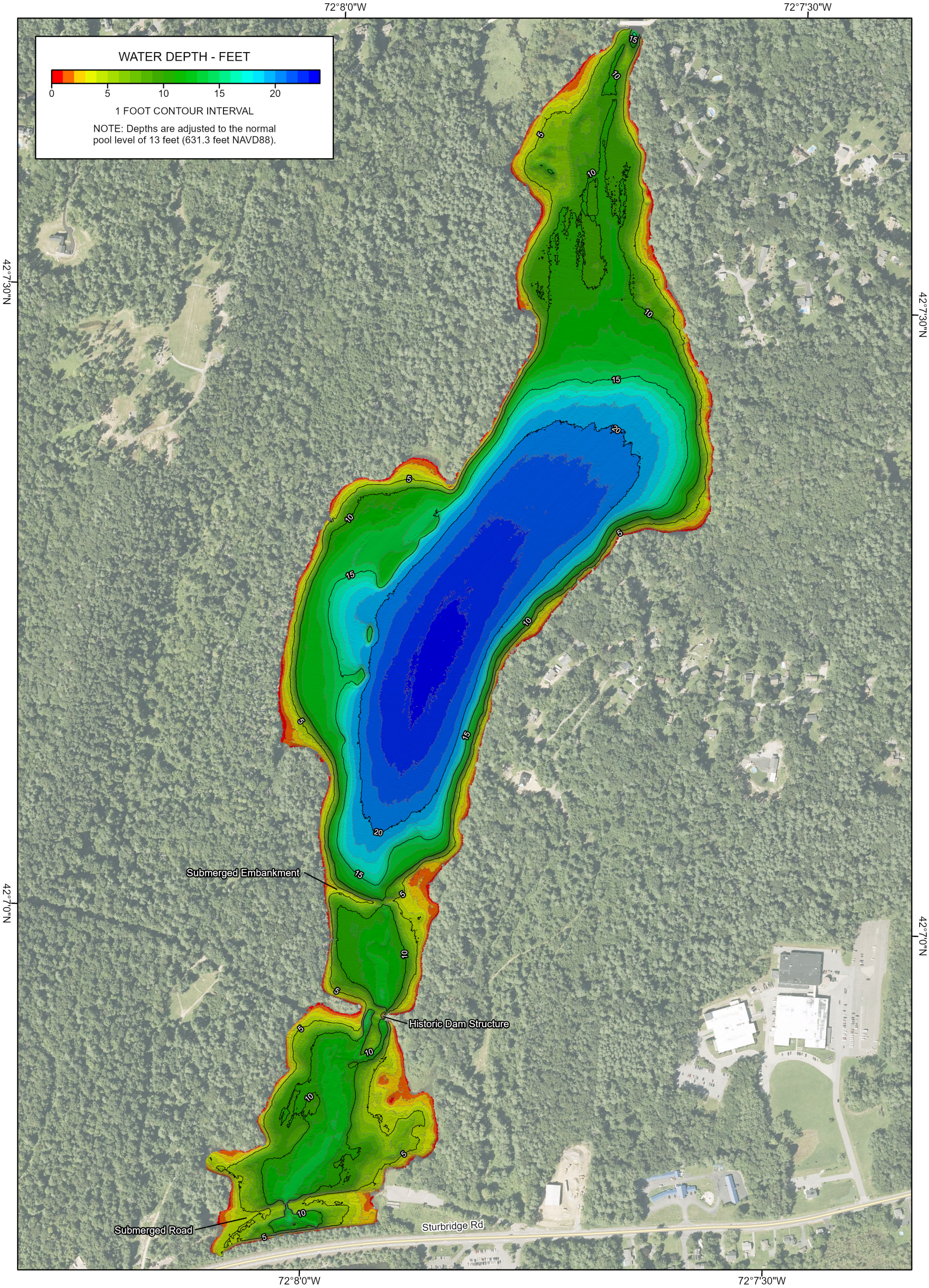
GCS NAD1983

FIGURE X:
EAST BRIMFIELD LAKE
APRIL 2024 BATHYMETRY

THIS FIGURE DEPICTS THE RESULTS
OF A HYDROACOUSTIC SURVEY
EFFORT CONDUCTED BY NAE IN
APRIL OF 2024 TO MAP THE WATER
DEPTHS AND AQUATIC HABITAT TYPES
WITHIN THE EAST BRIMFIELD LAKE
FLOOD RISK MANAGEMENT PROJECT
IN STURBRIDGE, MASSACHUSETTS

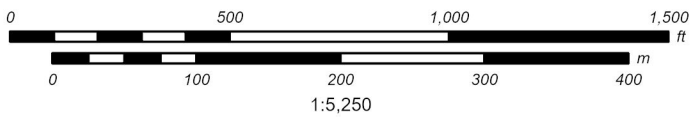






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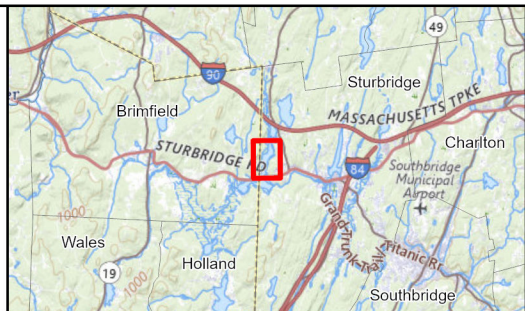
FIGURE X:
LONG POND
APRIL 2024 BATHYMETRY



GCS NAD1983

2023 NAIP AERIAL IMAGERY

THIS FIGURE DEPICTS THE RESULTS OF A HYDROACOUSTIC SURVEY EFFORT CONDUCTED BY NAE IN APRIL OF 2024 TO MAP THE WATER DEPTHS AND AQUATIC HABITAT TYPES WITHIN THE LONG POND PORTION OF THE EAST BRIMFIELD FLOOD RISK MANAGEMENT PROJECT IN STURBRIDGE, MASSACHUSETTS



APPENDIX B – NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DOCUMENTATION

**DRAFT Environmental Assessment &
Finding of No Significant Impact (FONSI)**

**East Brimfield Lake and Dam
Master Plan Revision**

**Brimfield, Holland, and Sturbridge,
Massachusetts**



**U.S. ARMY CORPS OF ENGINEERS
New England District**

June 2025

DRAFT

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DRAFT FINDING OF NO SIGNIFICANT IMPACT	v
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LIST OF ACRONYMS

BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
EA	Environmental Assessment
EO	Executive Order
EP	Engineer Pamphlet
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
ER	Engineer Regulation
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection and Policy Act

GHG	Greenhouse Gas
HDR	High Density Recreation
HTRW	Hazardous, Toxic, Radioactive Wastes
IPaC	Information for Planning and Consultation (USFWS)
LDR	Low Density Recreation
MESA	Massachusetts Endangered Species Act
MBTA	Migratory Bird Treaty Act
MP	Master Plan
MRML	Multiple Resource Managed Lands
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
NHESP	National Heritage and Endangered Species Program
PO	Project Operations
RPEC	Regional Planning and Environmental Center
SGCN	Species of Greatest Conservation Need
SHPO	State Historic Preservation Office
SGCN	Species of Greatest Conservation Need
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WM	Wildlife Management

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DRAFT FINDING OF NO SIGNIFICANT IMPACT

Environmental Assessment for the 2025 East Brimfield Lake and Dam Master Plan Revision

East Brimfield Lake and Dam Brimfield, Holland, and Sturbridge, Massachusetts

The U.S. Army Corps of Engineers (USACE), New England District, and the Regional Planning and Environmental Center (RPEC), propose to revise, adopt, and implement the East Brimfield Lake Master Plan, as required by Engineering Regulation 1130-2-550 and Engineering Pamphlet 1130-2-550.

The East Brimfield Lake Master Plan is a strategic land use management document that guides the efficient, cost-effective, comprehensive management, development, and use of current ecological, socio-demographic, and outdoor recreation trends that are affecting East Brimfield Lake, as well as those anticipated to occur within the planning period of 2025 to 2050.

USACE has completed an Environmental Assessment (EA) for this action in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended. USACE is fully revising the 1998 Master Plan to reflect current ecological, socio-demographic, and outdoor recreation trends that are impacting the lake, as well as those anticipated to occur within the next 25 years.

The revised 2025 Master Plan includes updated land classifications, resource goals and objectives. The land classifications include decreases in Project Operations and High-Density Recreation and increases in Low Density Recreation, Wildlife Management, and Environmentally Sensitive Areas.

I find that based on the evaluation of environmental effects discussed in the EA, this action is not a major federal action significantly affecting the quality of the environment. The EA includes an evaluation of the affected environment and the geographical context and intensity of the direct, indirect, and cumulative long-term and short-term effects of the action. The effects of the proposed action relative to significance criteria are summarized below. None are implicated to warrant a finding of NEPA significance.

- i. The degree to which the action may adversely affect public health and safety.
The action is expected to have long-term beneficial effects on public health and safety.
- ii. The degree to which the action may adversely affect unique characteristics of the geographic area such as historic or cultural resources, parks, Tribal sacred sites,

prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. The action will have no adverse effects to unique characteristics of the geographic area such as Tribal sacred sites, prime farmlands, wild and scenic rivers, or ecologically critical areas. The action will have no adverse effects on historical and cultural resources.

- iii. Whether the action may violate relevant Federal, State, Tribal, or local laws or other requirements or be inconsistent with Federal, State, Tribal, or local policies designed for the protection of the environment. The action will not violate federal, state, tribal or local laws or policies for the protection of the environment.
- iv. The degree to which the potential effects on the human environment are highly uncertain. The action effects are not uncertain. USACE has revised numerous master plans.
- v. The degree to which the action may adversely affect resources listed or eligible for listing in the National Register of Historic Places. The action will have no adverse effects on historic properties eligible or listed on the NRHP.
- vi. The degree to which the action may adversely affect an endangered or threatened species or its habitat, including habitat that has been determined to be critical under the Endangered Species Act of 1973. The action will not likely adversely affect any federal or state threatened or endangered species or designated critical habitat for such species.
- viii. The degree to which the action may adversely affect rights of Tribal Nations that have been reserved through treaties, statutes, or Executive Orders. The action will not adversely affect rights of Tribal Nations that have been reserved through treaties, statutes, or Executive Orders.

Based on my review and evaluation of the environmental effects as presented in the EA, I have determined that revision, implementation, and adoption of the 2025 East Brimfield Lake Master Plan is not a major federal action significantly affecting the quality of the environment and is therefore exempt from requirements to prepare an Environmental Impact Statement.

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Date

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Justin R. Pabis, P.E.
Colonel, Corps of Engineers
District Engineer

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SECTION 1: INTRODUCTION

This Environmental Assessment (EA) has been prepared by the United States Army Corps of Engineers (USACE) to analyze the potential environmental effects associated with the adoption and implementation of the 2025 East Brimfield Lake and Dam (“East Brimfield Lake”) Master Plan (MP). This MP is a programmatic document that is subject to evaluation under the National Environmental Policy Act (NEPA) of 1969 and all appropriate federal and state environmental regulations, laws, and executive orders.

The 2025 MP is a strategic land use management plan that provides direction to preserve, conserve, restore, maintain, manage, and develop all natural, cultural, and recreational resources of a USACE water resource project, which includes all government-owned lands in and around a dam and reservoir. It is a vital tool for responsible stewardship and sustainability of the project’s natural, cultural, and recreational resources. Methods used to evaluate the environmental resources of the area include the characterization of biological resources, review of available information, and coordination with the appropriate environmental agencies and knowledgeable persons. All actions carried out by USACE, other agencies, and individuals granted leases to USACE lands must be consistent with the 2025 MP. Engineer Pamphlet (EP) 1130-2-550 requires a revision of an MP that no longer serves its intended purpose due to a combination of age and substantial changes to the project. Therefore, the revised MP is being adopted and implemented to provide effective guidance in USACE decision-making.

East Brimfield Lake is a multi-purpose project located in the towns of Brimfield, Holland, and Sturbridge, Massachusetts. It was authorized by Congress in 1941 for flood risk management within the Thames River Basin flood control system and the dam construction was completed in June 1960. The project area sits among the upper reaches of the Quinebaug River and contains 400 acres of water, including the East Brimfield Lake Reservoir, Holland Pond, Lake Siog, and several kettle ponds. It is currently managed by the New England District of USACE for flood control, wildlife habitat, forest production, watershed protection, and outdoor recreation. The East Brimfield Lake project area contains 2,120 acres of property, over 10 miles of multi-use trails, and a five-mile-long canoe trail. For more information on the East Brimfield Dam spillway, outlet, and drainage system, please refer to Chapter 1.5 of the 2025 MP. The existing land classifications from the 1998 East Brimfield Lake MP are presented alongside the proposed land classifications for the 2025 East Brimfield Lake MP in Table 1. Descriptions of each land classification are included at the beginning of Section 2 of this EA.

SECTION 2: PROPOSED ACTION AND ALTERNATIVES

During the alternative development process, the Project Delivery Team (PDT) utilized an iterative process to evaluate land classifications for each parcel of USACE land at East Brimfield Lake. This evaluation included consideration of the multiple

Congressionally authorized missions of the project, public and agency comments, USACE staff knowledge, and potential impacts to social, cultural, and environmental resources. USACE regulations specify five possible categories of land reclassification: Project Operations (PO), High Density Recreation (HDR), Mitigation, Environmentally Sensitive Areas (ESA), and Multiple Resource Managed Lands (MRML). MRML are divided into four subcategories: Low Density Recreation (LDR), Wildlife Management (WM), Vegetation Management (VM), and Inactive/Future Recreation (IFR) Areas.

Two alternatives, a No Action Alternative and a Proposed Action Alternative, were developed and evaluated. The Proposed Action Alternative is the culmination of the iterative evaluation process and best meets the purpose and need identified in Section 1 of this document and Chapter 1.4 of the 2025 MP revision. The No Action Alternative does not meet the purpose and need but serves as a benchmark of existing conditions against which federal actions can be evaluated.

The goals for the 2025 MP include the following:

GOAL A. Provide the best management practices to respond to regional needs, resource capabilities and suitability, and expressed public interests consistent with authorized project purposes.

GOAL B. Protect and manage the project's natural and cultural resources through sustainable environmental stewardship programs.

GOAL C. Provide public outdoor recreation opportunities that support project purposes and public demands created by the project itself while sustaining the project's natural resources.

GOAL D. Recognize the particular qualities, characteristics, and potentials of the project.

GOAL E. Provide consistency and compatibility with national objectives and other state and regional goals and programs.

In addition to the above goals, USACE management activities are guided by USACE-wide Environmental Operating Principles as follows (USACE n.d.):

- Foster sustainability as a way of life throughout the organization.
- Proactively consider environmental consequences of all USACE activities and act accordingly.
- Create mutually supporting economic and environmentally sustainable solutions.
- Continue to meet our corporate responsibility and accountability under the law for activities undertaken by USACE, which may impact human and natural environments.
- Consider the environment in employing a risk management and systems approach throughout the life cycles of projects and programs.

- Leverage scientific, economic and social knowledge to understand the environmental context and effects of USACE actions in a collaborative manner.
- Employ an open, transparent process that respects views of individuals and groups interested in USACE activities.

Specific resource objectives to accomplish these goals can be found in Chapter 3 of the 2025 MP. This EA will not address the flood risk management or water supply authorized purposes of East Brimfield Lake under either the No Action or Proposed Action alternatives. During the alternative development workshop, project lands were classified to identify how a given parcel of land shall be used now and in the foreseeable future. Table 1 catalogs each change proposed by the 2025 MP and the associated justification for that change.

Land classifications to be used are defined as follows:

- Project Operations (PO): Lands required for operation of the dam, spillway, dikes, offices, maintenance facilities, and other areas used for the operation of East Brimfield Lake and Dam. These lands allow for limited recreational use such as public access to the shoreline for fishing, but the primary classification of PO will take precedent over other uses.
- High Density Recreation (HDR): Lands developed for intensive recreational activities for the visiting public including day use areas and campgrounds. These areas could also be for commercial concessions and quasi-public development.
- Multiple Resource Managed Lands (MRML): Allows for the designation of a predominate use with the understanding that other compatible uses may also occur on these lands.
 - Low Density Recreation (LDR): Lands with minimal development or infrastructure that support passive recreational use (primitive camping, fishing, hunting, trails, wildlife viewing, etc.).
 - Wildlife Management (WM): Lands designated for stewardship of fish and wildlife habitat that permit passive recreation unless restrictions are necessary to protect sensitive species or promote public safety.
- Environmentally Sensitive Areas (ESA): Areas where scientific, ecological, cultural, or aesthetic features have been identified and are in need of preservation.
- Water Surface: Allows for surface water zones.
 - Open Recreation: Water areas available for year-round or seasonal water-based recreational use.

- Restricted: Water areas restricted for East Brimfield Lake operations, safety, and security.

Table 1. Changes and Justifications for Proposed Land Classifications ⁽¹⁾

Land Classification	Description of Changes ⁽²⁾	Justification
Project Operations (PO)	Net decrease in Project Operations lands from 55 to 37 acres.	All lands classified as PO are managed and used primarily in support of critical operational requirements related to the primary mission of flood risk management. The decrease in PO acres is largely due to acres on both the north and south bank of the spillway channel which were previously classified as PO. Approximately 18 acres have been reclassified as LDR.
High Density Recreation (HDR)	Net decrease in HDR from 73 acres to 70 acres.	A vast majority of this change is by name only. The 1998 Master Plan classified these acres as Recreation Lands. The Champeaux Road Fishing Area, Long Pond Boat Launch Area, East Brimfield Lake Boat Launch Area, and Lake Siog (Holland Pond) Recreation Area are all included in HDR as these park areas are developed for intensive recreational activities. Streeter Beach Recreational Area is also included within HDR.
MRML – Low Density Recreation (LDR)	Net increase in LDR from 0 acres to 148 acres.	The 1998 Master Plan classified 1,543 acres as MRM. A total 148 acres under this previous classification were reclassified as MRML-LDR. The majority of these acres are on the southern portion of East Brimfield Reservoir and along the west and east shorelines of Long Pond, north of Rt. 20. A small number of acres previously classified as PO were reclassified as MRML-LDR near the project office.
MRML – Wildlife Management (WM)	Net increase of 1,241.	Approximately 1,219 acres previously classified as MRM were reclassified as MRML-WM. The remainder of the acres within MRML-WM were previously

Land Classification	Description of Changes ⁽²⁾	Justification
		classified as water surface. More precise mapping of the shoreline using available LiDAR data also added approximately 22 acres to WM.
Environmentally Sensitive (ESA)	Net increase in ESA acres from 71 to 251 acres.	The ESA near Five Bridge Road identified in the 1998 Master Plan was expanded to include the sensitive habitat in the area. These additional acres total approximately 177 acres. More precise mapping of the shoreline using available LiDAR data also added approximately 3 acres to ESA.
Water Surface	Net increase in Water Surface from 385 acres to 373 acres.	The change in water surface acres is due to more precise mapping of the shoreline using available LiDAR data.

(1) The land classification changes described in this table are the result of changes to individual parcels of land ranging from a few acres to several hundred acres. New acreages were measured using more accurate GIS technology, thus total changes will not equal individual changes. The acreage numbers provided are approximate.

(2) Acreages are based on GIS measurements and may vary from net difference detailed in Table 1.

2.1 ALTERNATIVE 1: NO ACTION ALTERNATIVE

The No Action Alternative serves as a basis for comparison to the anticipated effects of the other action alternatives. Under the No Action Alternative, USACE would not adopt and implement the 2025 MP. Instead, USACE would continue to manage East Brimfield Lake's natural resources as set forth in the 1998 MP. The 1998 MP would continue to be the only source of comprehensive management guidelines and philosophy.

2.2 ALTERNATIVE 2: PROPOSED ACTION ALTERNATIVE

Under the Proposed Action, USACE will adopt and implement the 2025 MP, which guides and articulates USACE responsibilities pursuant to federal laws to preserve, conserve, restore, maintain, manage, and develop the land, water, and associated resources. The 2025 MP will provide an updated management plan sustaining the project's natural resources and providing recreational opportunities for the next 25 years through the planning horizon of 2050. The Proposed Action will meet regional goals associated with good stewardship of land, water, and recreational resources; address identified recreational trends; and allow for continued use and development of project lands without violating national policies or public laws. The 2025 MP will also reclassify all of East Brimfield Lake and Dam's land into management categories that will define uses of federal property that meet the definition of the assigned category and ensure

the protection of natural resources and environmental stewardship while allowing maximum public enjoyment of the lake's resources. Table 2 shows the prior land classifications from the 1998 MP, the proposed land classifications from the 2025 MP, and the net difference between the two.

Table 2. Change from 1998 Land and Water Surface Classifications to 2025 Proposed Land and Water Surface Classification

Prior Land Classifications (1998)	Acres	Proposed Land Classifications (2025)	Acres	Net Difference
Project Operations	55	Project Operations (PO)	37	(18)
Recreation Lands	73	High Density Recreation (HDR)	70	(3)
Multiple Resources Management (MRM)	1,543	Multiple Resource Management Lands (MRML)	0	(1,543)
—	—	Low Density Recreation (MRML-LDR)	148	148
—	—	Wildlife Management (MRML-WM)	1,241	1,241
Environmentally Sensitive Area (ESA)	71	Environmentally Sensitive Area (ESA)	251	180
LAND TOTAL	1,742	LAND TOTAL	1,747	5
Prior Water Surface Classifications (1998)	Acres	Proposed Water Surface Classifications (2025)	Acres	Net Difference
Open Recreation	385	Open Recreation	370	(15)
—	—	Restricted	3	3
WATER TOTAL	385	WATER TOTAL	373	(12)
TOTAL FEE	2,127	TOTAL FEE	2,120	(7)

*1998 acres are approximate based on digitizing the 1998 land and water classification map. Total fee acreage differences from the 1998 totals to the 2025 totals are due to improvements in measurement technology, deposition/siltation, and erosion. Totals also differ due to rounding while adding parcels. REMIS reports total fee of 2,070 acres.

SECTION 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes the natural, cultural, and social resources found within the East Brimfield Lake fee boundary and the environmental consequences associated with the No Action and Proposed Action Alternative. A description of the existing conditions

of resources can be found in Chapter 2 of the 2025 MP. Only those resources that have the potential to be affected by implementation of either alternative will be considered in this EA. Impacts described in this section are evaluated in terms of type (positive/beneficial or adverse), context (setting or location), intensity, and duration.

3.1 LAND USE

Please refer to Chapters 1.5 and 2.6 of the 2025 MP for existing land use information at the East Brimfield Lake project area.

3.1.1 Alternative 1: No Action Alternative

The No Action Alternative will result in moderate, adverse long-term impacts on land use. Under the No Action Alternative, the 2025 MP would not be implemented, and existing land use management would not reflect current and future needs. The operation and maintenance at East Brimfield Lake would continue to follow the 1998 MP. Land use management would not meet operational and recreational needs identified through scoping efforts. As a result, land use management would be inefficient due to conflicting guidance and management of USACE lands.

3.1.2 Alternative 2: Proposed Action

The Proposed Action will result in moderate, long-term beneficial impacts to land use. The 1998 MP classified the majority of East Brimfield land as MRML which allowed many uses but was primarily managed for low density recreation. The 2025 MP splits the MRML land into LDR, WM, and ESAs. Other land classifications are PO, HDR, and Water Surface areas. Management plans for the reclassification are in Chapter 5 of the 2025 MP. A description of the change in acres of land per classification can be found in Table 2. A justification of the land changes can be found in Table 1.

Project Operations (PO)

The proposed action will result in a net decrease of PO land, which must be maintained to carry out the authorized purpose of flood risk management. In addition to operation activities, limited recreational use may be allowed.

High Density Recreation (HDR)

The proposed action will result in a net decrease of HDR land. HDR land allows intensive recreation activities that are dependent on the project's natural or other resources as described in USACE regulations at ER 1130-2-550, Chapter 16. The future management of HDR areas include maintaining and improving existing facilities through partnerships and other funding options. The existing facilities include day use areas (picnic areas, campgrounds), boat launches, public use facilities, and access points.

Low Density Recreation (LDR)

The proposed action will result in a net increase of LDR land since this classification did not exist in the 1998 MP. LDR land allows passive public recreational use (e.g., fishing, hunting, wildlife viewing, natural surface trails, hiking). Development activities are related to unpaved parking, natural surface boat launches, and trails. Future uses may include additional designated natural surface hike/bike/equestrian trails. Future management should maintain ecological health, reduce erosion, and improve aesthetics with minimal development.

Wildlife Management (WM)

The proposed action will result in a net increase of WM land, since this classification did not exist in the 1998 MP. WM land allows passive recreation uses such as natural surface trails, fishing, hunting, and wildlife observation, unless restrictions are necessary to protect sensitive species or to promote public safety. Any work conducted on this project will be in accordance with the Endangered Species Act. Non-game wildlife is also managed, and the following non-game programs are or will be pursued: early detection and prevention of aquatic invasive species, invasive plant management, native vegetation restoration, fish spawning and habitat structures, food/habitat plots, pollinator gardens, wildlife-friendly fencing. Future management include managing and improving WM areas.

Environmentally Sensitive Area (ESA)

The proposed action will result in a net increase of ESAs. The land classification restricts activities not aligned with preservation. Management of ESAs allows existing uses to continue but protects sensitive resources from intensive development, use, or disturbance beyond that which currently exists. Except for natural surface pedestrian trails and minimal visitor parking areas, limited or no development of public use facilities is allowed. No agricultural uses are permitted unless necessary for a specific resource management benefit (e.g. prairie restoration, forage for wildlife).

Water Surface Areas

The proposed action results in a net decrease of Water Surface. The majority is classified as Open Recreation. Three acres are designated as restricted waters, prohibiting recreation.

3.2 TOPOGRAPHY, GEOLOGY, AND SOILS

Please refer to Chapter 2.6 of the 2025 MP for more information on existing conditions for topography, geology, and soils at East Brimfield Lake.

3.2.1 Alternative 1: No Action Alternative

Because the 1998 MP would not be revised, the No Action Alternative will have minor, long-term adverse impacts to topography, geology, or soils. The 1998 MP management of these resources would continue without benefiting from land reclassifications or updated management methods (i.e., increased habitat protection, reduced erosion, shoreline stabilization).

3.2.2 Alternative 2: Proposed Action

The Proposed Action takes into consideration the various topographical, geological, and soil aspects of East Brimfield Lake project lands. The reduction of HDR and PO land and increase of WM, LDR, and ESA lands will help to promote long-term preservation and stabilization of soils within USACE East Brimfield Lake project lands. Maintenance and development activities related to nature trails, hunting/fishing access, and basic facilities (minimal parking spaces; primitive sanitary facilities) may occur on WM and LDR lands and could result in some ground disturbing activities which would cause minor, short-term negative impacts to soils. However, these activities would support recreation or conservation goals at East Brimfield Lake. The proposed action will not impact the topography.

3.3 **WATER RESOURCES**

Please refer to Sections 2.1, 2.3, and 2.7.6 in the 2025 MP for more information on existing conditions for hydrology (including surface and ground water), water quality, and wetlands, respectively.

3.3.1 Alternative 1: No Action Alternative

Implementation of the No Action Alternative would not impact water resources since there would be no changes or additions to the existing 1998 MP that would affect these resources.

3.3.2 Alternative 2: Proposed Action

The 2025 MP would present minor, long-term beneficial impacts to water resources due to a reduction of open water recreation areas, a decrease in HDR lands, and an increase in WM lands and ESAs. The overall reduction in recreation areas would serve to reduce anthropogenic disturbance to habitat and vegetation across the project area, while the overall increase in WM lands and ESAs would help to conserve, protect, and manage habitat and vegetation that reduce erosion due to shoreline stabilization. Increased shoreline stabilization and decreased erosion may also improve water clarity and therefore quality.

3.4 CLIMATE AND GREENHOUSE GASES

For more information on existing conditions for Climate, please refer to Chapter 2.5 of the 2025 MP.

3.4.1 Alternative 1: No Action Alternative

The No Action Alternative will not result in any changes or impacts to climate or greenhouse gases at East Brimfield Lake. Continued management under the 1998 MP would have no impact on existing or future climate conditions.

3.4.2 Alternative 2: Proposed Action

The 2025 MP will have minor, long-term beneficial impacts to climate in the region. These benefits will come from the promotion of land management practices and design standards that promote sustainability.

3.5 AIR QUALITY

For more information on existing conditions for air quality at East Brimfield Lake and the surrounding area, please refer to Chapter 2.4 in the 2025 MP.

3.5.1 Alternative 1: No Action Alternative

The No Action Alternative will result in no changes to existing air quality at East Brimfield Lake. The 1998 MP would remain in compliance with the Clean Air Act as no project activities would result in the contribution of NAAQ criteria pollutants.

3.5.2 Alternative 2: Proposed Action

In 2023, both Worcester and Hampden counties were in attainment of all national pollutant standards. The Proposed Action will not result in any change to current and reasonably foreseeable air quality in the region and will not implement any activities that directly or indirectly produce NAAQ criteria pollutants. Therefore, implementation of the Proposed Action will remain compliant with the Clean Air Act and the State Implementation Plan and is not subject to a conformity determination. Minor development and improvement projects related to facilities, nature trails, access, and project operations are anticipated to have a negligible impact on emissions and air quality. Long-term, negligible air quality benefits may be realized as a result of the net increase in WM lands and ESAs and a net decrease in recreation lands. The added protection these reclassifications provide will benefit native vegetation communities that filter and sequester air pollutants.

3.6 NATURAL RESOURCES

For more information on the existing conditions for natural resources (including fish and wildlife resources and vegetation resources), please refer to Chapters 2.7.1, 2.7.2, 2.7.5, and 2.7.6 of the 2025 MP.

3.6.1 Alternative 1: No Action Alternative

The No Action Alternative will result in minor, adverse long-term impacts to natural resources. The 2025 MP would not be implemented, and land management would not be updated to reflect current natural resources management policies and needs at East Brimfield Lake.

3.6.2 Alternative 2: Proposed Action

The Proposed Action will result in moderate short and long-term beneficial impacts to natural resources. The Proposed Action would bring land management policies up to date with current needs and natural resource requirements at East Brimfield Lake project area. The implementation of the proposed land classifications will allow project lands to further support USACE and Massachusetts Division of Fisheries and Wildlife (MassWildlife) missions for wildlife and fishery conservation. The 2025 MP resource goals and objectives aim to further enhance, conserve, and protect natural resources at East Brimfield Lake, including Massachusetts Species of Greatest Conservation Need (SGCN) and federally listed species.

The reduction of HDR land and an increase in WM and ESAs will help protect and conserve natural resources from various types of adverse impacts (i.e., disturbance and habitat fragmentation). Future maintenance or minor development projects may include invasive plant species management, native vegetation restoration, and restoration of fish and wildlife habitats. These activities would provide moderate short and long-term benefits to natural resources.

3.7 THREATENED AND ENDANGERED SPECIES

The Endangered Species Act (16 U.S.C. 1531 et. seq.) defines an endangered species as one “in danger of extinction throughout all or a significant portion of its range” and a threatened species as one “likely to become endangered in the foreseeable future throughout all or a significant portion of its range.” Proposed species are those that have been proposed to be listed under Section 4 of the Endangered Species Act. Section 7 of the Endangered Species Act states that all federal departments and agencies shall ensure that any actions authorized, funded, or carried out by them do not jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of critical habitat.

Using the Information for Planning and Consultation tool (IPaC), an official species list was obtained on February 6, 2025, from the U.S. Fish and Wildlife Service (USFWS) New England Field Office. A copy of this list is available in Appendix C. The project area

was surveyed in 2008 and 2024 for state-listed species according to MassWildlife's Natural Heritage and Endangered Species Program (NHESP) database. Table 3 describes these state-listed species found during the surveys, along with federally listed threatened and endangered species, Birds of Conservation Concern (BCC) under the Migratory Bird Treaty Act (MBTA), and Bald and Golden Eagle Protection Act (BGEPA) species. No federally designated critical habitats for threatened and endangered species were identified in the project area.

Table 3. Surveyed State-Listed Species and Federally Listed Protected Species Potentially Occurring at East Brimfield Lake Project Area (USFWS 2024; Terry 2024; CME 2008)

Species	Federal Status	State Status
Northern long-eared bat (<i>Myotis septentrionalis</i>)	Endangered	-
Tricolored-bat (<i>Perimyotis subflavus</i>)	Proposed Endangered	-
Small whorled pogonia (<i>Isotria medeoloides</i>)	Threatened	-
Long-bracted tick-trefoil (<i>Desmodium cuspidatum</i>)	-	Threatened
Little brown bat (<i>Myotis lucifugus</i>)	-	Endangered
Marbled salamander (<i>Ambystoma opacum</i>)	-	Threatened
Least bittern (<i>Ixobrychus exilis</i>)	-	Endangered
Bald eagle (<i>Haliaeetus leucocephalus</i>)	BGEPA Protected	-
Blue-winged warbler (<i>Vermivora cyanoptera</i>)	BCC	-
Canada warbler (<i>Cardellina canadensis</i>)	BCC	-
Prairie warbler (<i>Setophaga discolor</i>)	BCC	-
Scarlet tanager (<i>Piranga olivacea</i>)	BCC	-
Black-billed cuckoo (<i>Coccyzus erythrophthalmus</i>)	BCC	-
Bobolink (<i>Dolichonyx oryzivorus</i>)	BCC	-

Chimney swift (<i>Chaetura pelagica</i>)	BCC	-
Rusty blackbird (<i>Euphagus carolinus</i>)	BCC	-
Wood thrush (<i>Hylocichla mustelina</i>)	BCC	-

3.7.1 Alternative 1: No Action Alternative

The No Action Alternative will have no effect on any threatened and endangered species that occur at East Brimfield Lake project area. Bird species protected under the MBTA and the BGEPA would not be adversely affected. Federal and state-listed threatened and endangered species, BCC, and bald and golden eagles would continue to be managed with existing USACE guidelines established under the 1998 MP, Section 7 of the Endangered Species Act, the MBTA, the BGEPA, and the Massachusetts Endangered Species Act (MESA).

3.7.2 Alternative 2: Proposed Action

The Proposed Action will result in minor, long-term beneficial impacts to federal and state-listed species. The implementation of the 2025 MP will allow for better cooperation with USFWS and MassWildlife that will help to preserve, enhance, and protect vegetation and wildlife habitat resources that are essential to various protected species that may be found within East Brimfield Lake project lands. The land reclassifications in the 2025 MP restructures the management, creating 1,241 acres strictly for WM that was otherwise largely reserved for low-density recreation. The land reclassifications also increase the ESAs by 180 acres.

The resource objectives of 2025 MP, outlined in Table 3.2, requires that protected species are managed by various ecosystem management principles. Any future activities that could potentially result in impacts to federally listed threatened, endangered, or BCC species will be coordinated with USFWS through Section 7 of the Endangered Species Act and any impacts to state-listed species will be coordinated with MassWildlife. Within the context of the Endangered Species Act, USACE has determined that the adoption and implementation of the Proposed Action will have No Effect on any federally listed species.

3.8 INVASIVE SPECIES

Please refer to Chapter 2.7.4 for information on the existing condition of invasive species at East Brimfield Lake in the 2025 MP.

3.8.1 Alternative 1: No Action Alternative

The No Action Alternative will have a long-term, minor, adverse effect on invasive

species management. The 1998 MP would not be updated and no changes to policies or guidelines at East Brimfield Lake concerning invasive species would occur.

3.8.2 Alternative 2: Proposed Action

The Proposed Action will result in minor, long-term beneficial impacts to invasive species management. The 2025 MP land reclassifications and improvement of resource management objectives will allow better management of invasive species in the East Brimfield Lake project area. The original 1,543 acres of “multiple resource managed” lands in the 1998 MP were further divided, with 1,241 acres reclassified specifically for WM. The new land classifications have resulted in a net decrease of HDR land and a net increase in ESAs, which will allow better protection of native species. These areas will also receive updated invasive species management efforts. The resource goals and objectives will require monitoring and reporting of invasive species, as well as actions to prevent and/or reduce the spread of these species.

3.9 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

The earliest evidence of anthropogenic occupation of East Brimfield Lake dates back to 3,000 BC, varying from indigenous populations to colonial Europeans and early Americans. Many artifacts have been found in the project area from both pre-contact and post-contact archaeological sites. Section 2.11 of the 2025 Master Plan provides prehistoric and historic background discussions for the East Brimfield Lake area as well as a summary regarding previous cultural resources investigations.

3.9.1 Alternative 1: No Action Alternative

The No Action Alternative will result in no impacts to existing cultural, historical, or archaeological resources. East Brimfield Lake would continue to be managed according to the 1998 Master Plan and Historic Properties Management Plan. No direct or indirect impacts on cultural, historical, or archaeological resources is anticipated as a result of implementing the No Action Alternative.

3.9.2 Alternative 2: Proposed Action

Impacts to historic properties were considered during the refinement processes of land reclassifications. However, due to the sensitive nature of historic properties, the locations of these resources were not included in the land reclassification. Since the MP is primarily administrative, it does not supersede cultural resources compliance under Sections 106 and 110 of the NHPA, NAGPRA, ARPA, or the 1997 Historic Properties Management Plan. Furthermore, due to the nature of the MP, there are no ground disturbing activities or other proposed project activities associated with the revision of the MP. No direct or indirect impacts are expected to occur to historic properties at Conant Brook Dam because of the Proposed Action. Therefore, the USACE has

determined that the Proposed Action has no potential to affect historic properties. Any future proposed activities that could potentially result in impacts will be coordinated with Massachusetts's State Historic Preservation Officer (SHPO) and reviewed under Section 106 of the NHPA. USACE invited the Narragansett Tribe, the Stockbridge-Munsee Community, the Mashpee Wampanoag Tribe, the Wampanoag Tribe of Gay Head (Aquinnah), the Delaware Tribe, and the Massachusetts State Historic Preservation Officer (SHPO) to participate in the scoping and review of this EA.

3.10 SOCIOECONOMIC AND DEMOGRAPHICS

For more information on the existing conditions of socioeconomics and demographics, please refer to Chapter 2.12 of the 2025 MP.

3.10.1 Alternative 1: No Action Alternative

The No Action Alternative will have no impacts on socioeconomics or demographics. The 2025 MP would not be implemented, and East Brimfield Lake would continue to be managed based on the 1998 MP and subsequent updates.

3.10.2 Alternative 2: Proposed Action

The Proposed Action will result in no impacts to existing socioeconomics or demographics since no construction or changes that could affect local socioeconomic/demographic factors would occur. No activities proposed in the 2025 MP would impact the changes the local economy or local populations in any perceivable way.

3.11 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

For information on the existing conditions of hazardous, toxic, and radioactive waste (HTRW) at East Brimfield Lake, please refer to Chapter 2.8 of the 2025 MP.

3.11.1 Alternative 1: No Action Alternative

There will be no impacts to HTRW resources as a result of the No Action Alternative, as there would be no changes to the existing 1998 MP, and no known HTRW resources or facilities in the immediate vicinity of East Brimfield Lake would be affected by not revising the 1998 MP.

3.11.2 Alternative 2: Proposed Action

The Proposed Action will result in no impacts to HTRW resources. Maintenance and minor development activities noted in the 2025 MP will not result in any releases of HTRW.

3.12 HEALTH AND SAFETY

For information on the existing conditions of health and safety at East Brimfield Lake, please refer to Chapter 2.9 of the 2025 MP.

3.12.1 Alternative 1: No Action Alternative

There will be no impacts to health and safety as a result of implementing the No Action Alternative, as there would be no changes made to the 1998 MP. Health and safety would continue to be managed and follow guidelines from the 1998 MP.

3.12.2 Alternative 2: Proposed Action

No impacts to health and safety are anticipated as a result of implementing the Proposed Action.

3.13 RECREATION

For information on the existing conditions of recreation and the zone of influence for East Brimfield Lake, please refer to Chapter 2.14 of the 2025 MP.

3.13.1 Alternative 1: No Action Alternative

The No Action Alternative would keep the 1998 MP in place, which would cause moderate, long-term adverse impacts to recreation. These impacts would result from lack of updates in land management as well as land classifications related to recreation that would not reflect current recreation needs at East Brimfield Lake project area.

3.13.2 Alternative 2: Proposed Action

The Proposed Action would result in moderate, long-term beneficial impacts to recreation. The Proposed Action would implement the 2025 MP, which provides updates to both recreation policies and goals, as well as large-scale changes to recreation land classifications. The 2025 MP would cause a decrease in HDR and LDR lands. Although there will be less recreation land, the long-term benefit to recreation results from updated and more effective management of recreation land and the inclusion of future maintenance activities. These future management activities may include maintenance or developments of nature trails, reopening of Streeter Beach, fishing and hunting access, and basic facilities (e.g. minimal parking spaces, a small boat launch, primitive sanitary facilities). These activities would accommodate visitors and the increasing recreation trends.

3.14 AESTHETICS RESOURCES

For information on the existing conditions of aesthetic resources at East Brimfield Lake, please refer to Chapter 2.10 of the 2025 MP.

3.14.1 Alternative 1: No Action Alternative

There will be no impacts on aesthetic resources as a result of the No Action Alternative, as there would be no changes to the existing 1998 MP.

3.14.2 Alternative 2: Proposed Action

The Proposed Action may have negligible, long-term, beneficial impacts to aesthetic resources due to an increase in ESAs and WM lands and a decrease in recreation lands. Benefits to aesthetic resources may occur due to less overall disturbance of aesthetic nature areas.

SECTION 4: COMPLIANCE WITH ENVIRONMENTAL FEDERAL STATUTES AND EXECUTIVE ORDERS

This EA has been prepared to satisfy the requirements of all applicable federal environmental laws, regulations, and executive orders. The adoption and implementation of the 2025 MP is consistent with USACE's Environmental Operating Principles. The following is a list of applicable environmental laws and regulations that were considered in the planning of this project and the status of compliance with each:

Federal Statutes

1. Archaeological Resources Protection Act of 1979, as amended, 16 U.S.C 470aa et seq.

Compliance: In compliance. Prior to any work being done as part of this action, the area will be surveyed for the presence of any archaeological resources.

2. Preservation of Historic and Archeological Data Act of 1974, as amended, 54 U.S.C. 312501-312508.

Compliance: The action was coordinated with the Narragansett Tribe, the Stockbridge-Munsee Community, the Mashpee Wampanoag Tribe, the Wampanoag Tribe of Gay Head (Aquinnah), the Delaware Tribe, and the SHPO by letter dated April 12th, 2024. No impacts to archaeological resources are anticipated.

3. American Indian Religious Freedom Act of 1978, 42 U.S.C. 1996.

Compliance: This action will not impede access by Native Americans to sacred sites,

possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.

4. Clean Air Act, as amended, 42 U.S.C. 7401 et seq.

Compliance: Existing operation and management of the reservoir is compliant with the Clean Air Act and will not change with the 2025 MP. A General Conformity Determination is not required since the emissions of either alternative are negligible and are otherwise de minimis.

5. Clean Water Act of 1977 (Federal Water Pollution Control Act Amendments of 1972) 33 U.S.C. 1251 et seq.

Compliance: The Proposed Action complies with the Clean Water Act regulations and requirements. There will be no change in the existing management of the reservoir that will impact water quality, and minor, long-term benefits to water quality are expected from the Proposed Action.

6. Endangered Species Act of 1973, as amended, 16 U.S.C. 1531 et seq.

Compliance: Current lists of threatened or endangered species were obtained through the USFWS Information for Planning and Consultation tool. USACE has determined that no federally listed species or critical habitat would be affected by the Proposed Action. Therefore, no consultation with USFWS is required. See Section 3.7 for additional information.

7. Fish and Wildlife Coordination Act, as amended, 16 U.S.C. 661 et seq.

Compliance: Coordination with the USFWS and MassWildlife signifies compliance with this Act.

8. National Historic Preservation Act of 1966, as amended, 54 U.S.C. 306108 et seq.

Compliance: As detailed in 3.9.2, USACE has determined that the Proposed Action is primarily administrative and does not have the potential to impact historic properties directly or indirectly at East Brimfield Lake. Pursuant to 36 CFR 800.3(a)(1), USACE has satisfied its responsibilities to consider the effects of the Proposed Action on historic properties and has no further obligations under Section 106 of the NHPA. The USACE remains in compliance with Section 106 of the NHPA.

9. Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S.C. 3001-3013, 18 U.S.C. 1170

Compliance: Regulations implementing NAGPRA will be followed if discovery of human remains and/or funerary items occur during implementation of this action.

10. National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4321 et seq.

Compliance: Preparation and issuance of this Environmental Assessment and Finding of No Significant Impact signifies compliance with NEPA.

11. National Invasive Species Act (NISA), as amended 15 U.S.C. 1271 et seq.

Compliance: Invasive species occur in the project area and are monitored and managed. The project will not promote or cause the introduction or spread of invasive species.

12. Bald and Golden Eagle Protection Act, 16 U.S.C. 669 et seq.

Compliance: The proposed action is not anticipated to affect bald or golden eagles.

Executive Orders

1. Executive Order 11988, Floodplain Management, 24 May 1977 amended by Executive Order 12148, 20 July 1979; subsequently amended by Executive Order 13690, January 30, 2015.

Compliance: This EO directs federal agencies to evaluate the potential impacts of proposed actions in floodplains. The Proposed Action complies with EO 11988 and will not impact to the existing floodplain at East Brimfield Lake.

2. Executive Order 11990, Protection of Wetlands, 24 May 1977.

Compliance: This EO requires federal agencies to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in executing federal projects. The Proposed Action complies with EO 11990.

3. Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. 21 April 1997; amended by EO 13296, 18 April 2003.

Compliance: Adoption and implementation of the 2025 MP will not create a disproportionate environmental health or safety risk for children.

4. EO 11593, Protection and Enhancement of the Cultural Environment, 13 May 1971.

Compliance: A copy of the draft EA will be released to the Massachusetts SHPO.

5. EO 13007, Indian Sacred Sites, 24 May 1996.

Compliance: Access to and ceremonial use of Indian sacred sites by Indian religious practitioners will be allowed and accommodated. No adverse effects to the physical integrity of such sacred sites will occur.

6. EO 13112, Invasive Species, 8 December 2016.

Compliance: The project will not promote or cause the introduction or spread of invasive species.

7. EO 13175, Consultation and Coordination with Indian Tribal Governments, 6 November 2000.

Compliance: Consultation with Indian Tribal Governments, where applicable, and consistent with executive memoranda, DOD Indian policy, and USACE Tribal Policy Principles signifies compliance.

8. EO 13186, Migratory Bird Conservation, 10 January 2001.

Compliance: The 2025 MP would not result in a measurable negative effect on migratory bird populations.

Executive Memorandum

1. Memorandum for the Heads of Agencies from CEQ, Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing NEPA, 11 August 1980.

Compliance: The Proposed Action will not impact prime farmland.

2. Memorandum for the Heads of Executive Departments and Agencies from the President of the United States, Memorandum on Government-to-Government Relations with Native American Tribal Governments, 29 April 1994.

Compliance: Consultation with the Narragansett Tribe, the Stockbridge-Munsee Community, the Mashpee Wampanoag Tribe, the Wampanoag Tribe of Gay Head (Aquinnah), and the Delaware Tribe signifies compliance.

SECTION 5: PUBLIC AND AGENCY COORDINATION

In accordance with NEPA, USACE initiated public involvement and agency scoping activities to solicit input on the proposed revision of the 1998 MP, as well as identifying any issues related to the Proposed Action. The initial scoping meeting was a public open house held at the Sturbridge Town Hall in Sturbridge, MA on April 30, 2024, to inform the public of the intent to revise the MP. The public input period remained open for 30 days from April 30, 2024, to May 30, 2024. The public input period resulted in 8 comments, which can be found in Appendix E of the 2025 MP.

The purpose of this open house was to provide attendees with information regarding the proposed Master Plan revision as well as to provide them with the opportunity to

comment on the proposed East Brimfield Draft Master Plan, Environmental Assessment, and Finding of No Significant Impact. The open house included the following topics:

- What is a Master Plan?
- What a Master Plan is Not
- Why Revise a Master Plan?
- Overview of the National Environmental Policy Act (NEPA) process
- Master Planning process
- Proposed Changes to the Master Plan
- Instructions for submitting comment.

A 30-day public notice advertising the availability of the Draft EA will be published. Any comments received and USACE responses will be available in the Final EA.

Attachment A to this EA includes the press release/public notice, 30-day comment form, and the distribution list for all coordination. The EA has been coordinated with EPA, USFWS, USGS, National Oceanic and Atmospheric Administration (NOAA), MassWildlife, Massachusetts Department of Environmental Protection (MassDEP), Massachusetts SHPO, Narragansett Tribe, Stockbridge-Munsee Community, Maspee Wampanoag Tribe, Wampanoag Tribe of Gay Head (Aquinnah), and Delaware Tribe.

SECTION 6: REFERENCES

CME Associates, Inc (CME). 2008. Ecological Studies Final Report Conant Brook Dam, Westville Lake, and East Brimfield Lake.

Terry, Michael. 2024. Rare, Threatened, and Endangered Species Surveys.

U.S. Army Corps of Engineers (USACE). 1998. Master Plan East Brimfield Lake, Brimfield, Holland, and Sturbridge, Massachusetts

U.S. Army Corps of Engineers (USACE). N.d. Environmental Operating Procedures. Accessed on April 2, 2025. <https://www.usace.army.mil/Missions/Environmental/Environmental-Operating-Principles/>.

U.S. Fish and Wildlife Service (USFWS). 2024. Information for Planning and Consultation (IPaC). Accessed on June 4, 2025. <https://ecos.fws.gov/ipac/>.

ATTACHMENT A: PUBLIC AND AGENCY COORDINATION



U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

News Release

Contacts:

East Brimfield Lake Master Plan Revision Team: EastBrimfieldLakeMasterPlan@usace.army.mil

TJ Atwell, Public Affairs Officer: tj.atwell@usace.army.mil

USACE to host open house for East Brimfield Lake Master Plan revision

NEW ENGLAND – The U.S. Army Corps of Engineers (USACE) will host an open house on Tuesday, April 30, 2024, to kick off a process to revise the 1998 East Brimfield Lake Master Plan. The open house will be held from 4:00-6:00 p.m. at the Sturbridge Town Hall (Veterans Memorial Hall) at 308 Main St, Sturbridge, MA 01566.

During the open house session, there will be no formal presentation. The public is invited to visit at any point during the 4:00-6:00 p.m. time frame to interact with USACE team members. Team members will be stationed around the room and can share information about the revision process, provide the general schedule, and gather initial feedback from the public.

Master Plan Overview

The Master Plan is defined as the strategic land use management document that guides the comprehensive management and development of all recreational, natural, and cultural resources throughout the life of the water resource development project. It defines "how" USACE will manage the resources for public use and conservation.

The current East Brimfield Master Plan, last approved in 1998, needs revision to address changes in regional land use, population, outdoor recreation trends, and the USACE management policy. Key topics to be discussed in the revised Master Plan include revised land use classifications, new natural and recreational resource management objectives, recreation facility needs, and special issues such as invasive species management and threatened and endangered species habitat.

The Master Plan revision WILL NOT address the technical and operational aspects of the lake related to flood risk management or the water conservation missions of the project.

Initial Comments

An initial 30-day comment period will begin April 30, 2024, and end May 30, 2024. The public can send comments, suggestions, and concerns during this time. Comments must be submitted in writing at the open house or digitally via the comment form on the Master Plan Revision web page: <https://www.nae.usace.army.mil/Missions/Recreation/East-Brimfield-Lake/East-Brimfield-Lake-Master-Plan/>.

The web page also contains a presentation which will be available during the open house. The presentation provides a schedule as well as details on an additional comment period after the draft report is released (currently scheduled for June 2025).

About East Brimfield Lake

The East Brimfield Lake project is located along the upper reaches of the Quinebaug River in south central Massachusetts in the towns of Brimfield, Holland and Sturbridge. This is a multi-purpose project built and maintained by the U.S. Army Corps of Engineers (USACE) New England District. The dam was authorized by Congress for flood risk management and recreation purposes. Construction of East Brimfield Dam was completed in June 1960, at a cost of \$7,057,000. It is a rolled earthfill dam that is 520 feet long and 55 feet high holds back a lake capable of storing 9.4 billion gallons of water.

East Brimfield Dam helps to reduce flooding in Sturbridge and Southbridge, Massachusetts, and optimizes its flood damage reduction by coordinating its operation with other dams in the comprehensive Thames River Basin system. The project also provides natural resources management and recreational opportunities that are compatible with the project's primary purpose of flood risk management.

While the main purpose of East Brimfield Lake was to provide flood risk management to the Thames River Basin, over the years the lake has become a recreational draw for nearby visitors. With over 10 miles of multi-use trails, a five-mile-long canoe trail, 1,670 acres of land, 400 acres of water, picnic areas, swimming beach, and three boat launches, the lake can accommodate all kinds of outdoor enthusiasts.

The U.S. Army Corps of Engineers manages the natural resources at East Brimfield Lake for multiple uses: flood risk management, wildlife habitat, forest production, watershed protection, and outdoor recreation. The outdoor sports enthusiast can hunt, fish and boat at East Brimfield Lake. The natural environment of East Brimfield Lake reflects the diverse nature and beauty of New England. The forested rolling hills frame the river valley and the glacially formed kettle ponds of Lost Lake, Green Pond, and Pork Barrel Pond. East Brimfield Lake receives approximately 135,000 visitors per year.

-End-



US Army Corps
of Engineers®

Comment Form Instructions
Public Open House April 30, 2024

Master Plan Revision East Brimfield Lake

The U.S. Army Corps of Engineers is in the process of revising the East Brimfield Lake Master Plan. The Master Plan revision will guide the land and recreational management of the federally owned property that make up the flood storage area for the next 25 years. Management activities include protecting natural and cultural resources, providing access to public land and water recreation, protecting the public, and ensuring reservoir and dam operations. Pertinent information and a copy of the current master plan and land use map can be found on the USACE website below. To add your comments, ideas, or concerns about the future land and recreational management for the Master Plan, please submit comments using any of the following methods:

- Fill out and return a comment form available below or at the following website: www.nae.usace.army.mil/Missions/Recreation/East-Brimfield-Lake/East-Brimfield-Lake-Master-Plan
- Provide comments in an email message or use the comment form and send to: eastbrimfieldlakemasterplan@usace.army.mil
- Provide comments in a letter or use comment form and send via mail to:

USACE East Brimfield Lake Office
Attn: Project Manager
24 Riverview Avenue
Fiskdale, MA 01518

- Drop off written comments to the project office at the address above.

The **30-day comment period is April 30 through May 30, 2024**. Please provide written comments via the methods above. Your input into the Master Plan revision and related environmental concerns under the National Environmental Policy Act (NEPA) is key to developing a successful Master Plan for the lake project. Please write your questions, comments, or suggestions in on the next page and mail or e-mail them to the address above during the comment period. **Comments due by May 30, 2024**. Thank you for your participation!

Comment Form

Public Open House April 30, 2024

Comments due by May 30, 2024

Questions, comments, or suggestions?

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Comment Form

Public Open House April 30, 2024

Comments due by May 30, 2024



Scan QR Code

Optional Information (used for mailing list to keep you informed and will not be used for any other purpose):

Name: _____

Affiliation: _____

Address: _____

City: _____ State: _____

Zip Code: _____ Email: _____

**EAST BRIMFIELD LAKE MASTER PLAN REVISION
OPEN HOUSE NEWS RELEASE**

	Date Sent	Title	Organization/Entity
TOWN	4/12/2024	Town Administrator	Town of Sturbridge
	4/11/2024	Vice Chairman, Board of Selectman	Town of Sturbridge
	4/12/2024	Conservation Director	Town of Sturbridge
	4/11/2024	Fire Chief, Sturbridge Fire Dept.	Town of Sturbridge
	4/12/2024	Chief of Police, Sturbridge	Town of Sturbridge
	4/12/2024	Director, Sturbridge Library	Sturbridge Library
	4/11/2024	Tree Warden	Town of Sturbridge
	4/11/2024	Chairman, Board of Selectman	Town of Brimfield
	4/12/2024	Town Clerk	Town of Brimfield
	4/12/2024	Brimfield Public Library Director	Town of Brimfield
	4/12/2024	Fire Chief, Brimfield Fire Department	Town of Brimfield
	4/11/2024	Chief of Police, Brimfield	Town of Brimfield
	4/12/2024	Co-Chair, Brimfield Conservation Commission	Town of Brimfield
	4/11/2024	Member, Trails Committee	Town of Brimfield
	4/12/2024	Board of Selectman	Town of Holland
	4/12/2024	Fire Chief, Holland Fire Department	Town of Holland
	4/12/2024	Chief of Police, Holland	Town of Holland
	4/12/2024	Chair, Holland Conservation Committee	Town of Holland
STATE	4/12/2024	Admin	MassDEP Central Regional Office
	4/12/2024	Director	MA Div. of Fish & Wildlife
		Executive Director and SHPO, Massachusetts Historical	
	4/12/2024	Commission	MA SHPO
	4/12/2024	Colonel	MA Environmental Police
	4/12/2024	Director	MA Emergency Management
	4/12/2024	Office of Dam Safety	MA Office of Dam Safety
	4/12/2024	Dept. of Conservation & Recreation	MA Dept. of Conservation & Recreation
	4/12/2024	Executive Director	Central MA Regional Planning Commission
	4/12/2024	Senior Endangered Species Review Biologist	MA Div. of Fish & Wildlife
	4/12/2024	Natural Heritage & Endangered Species Program	MA Div. of Fish & Wildlife
FEDERAL	4/12/2024	Director, Office of Environmental Review	EPA
	4/12/2024	Supervisor, Endangered Species Program/Hydropower Program	USFWS
	4/12/2024	Water Center	USGS
	4/12/2024	National Weather Service Hydrologic Office	NOAA
CONGRESSIONAL	4/12/2024	Governor of Massachusetts	MA State House
	4/12/2024	Senator	MA Senate
	4/11/2024	Senator	MA Senate
	4/11/2024	Representative	US Representative
	4/11/2024	Senator	US Senate
TRIBAL		Representative	MA House of Representatives
	4/12/2024	Tribal Historic Preservation Officer	Narragansett Tribe
	4/12/2024	Tribal Historic Preservation Officer	Stockbridge-Munsee Community
	4/12/2024	Tribal Historic Preservation Officer	Mashpee Wampanoag Tribe
	4/12/2024	Tribal Historic Preservation Officer	Wampanoag Tribe of Gay Head (Aquinnah)
LOCAL	4/12/2024	Archaeologist	Delaware Tribe
	4/12/2024	Watershed Conservation Project Manager	Thames River Basin Partnership
	4/12/2024	Executive Director	The Last Green Valley
	4/15/2024	Thames River Basin Commission (CT & MA)	Multiple state & local contacts



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, FORT WORTH DISTRICT
P.O. BOX 17300
FORT WORTH, TX 76102-0300

April 10, 2024

(Sample scoping letter; names and addresses redacted)

Dear _____:

The U.S. Army Corps of Engineers, New England District (USACE), is updating the Master Plan (MP) for East Brimsfield Dam, situated in Hampden and Worcester Counties, Massachusetts. The MP is a document that strategically guides land use management and development of all recreational, natural, and cultural resources at East Brimsfield Dam and is updated approximately every 25 years.

The USACE will provide an in-person, informal initial public scoping open house to provide general information regarding the MP at the City of Sturbridge Town Hall on April 30, 2024, from 4:00-6:00 pm. The City of Sturbridge Town Hall (Veterans Memorial Hall) is at 308 Main Street, Sturbridge, MA 01566. All relevant documents and instructions for providing comments will be available online at <https://www.nae.usace.army.mil/Missions/Recreation/East-Brimfield-Lake/East-Brimfield-Lake-Master-Plan/>. The 30-day comment period will begin on May 1, 2024, and conclude on May 30, 2024.

The USACE recognizes that Native American Tribes are sovereign nations and are to be consulted on projects through government-to-government consultation rather than as the general public; however, we wish to provide every opportunity for Tribal input and encourage participation in the public meeting if you choose to comment. As the USACE continues to craft the MP, we will reach out to you again to identify areas of great concern for your Tribe, incorporate them into designated Environmentally Sensitive Areas, and determine best management practices for these sensitive areas. All information you choose to provide at that time will remain confidential.

If you have questions or require additional information, please contact Ryan Miranda, Archeologist, Regional Planning and Environmental Center, via email at Ryan.W.Miranda@usace.army.mil or by telephone at (409) 239-8510 or Marc Paiva, Archeologist and Tribal Liaison, New England District via email at Marcis.a.paiva@usace.army.mil or by telephone at (978) 318-8796.

Sincerely,

Kenneth Shingleton

Kenneth L. Shingleton
Chief, Cultural and Environmental Program
Support Section
Regional Environmental and Planning Center



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, FORT WORTH DISTRICT
P.O. BOX 17300
FORT WORTH, TX 76102-0300

May 20, 2025

(Sample letter for review of draft EA; names and address have been redacted)

Good Afternoon:

The U.S. Army Corps of Engineers (USACE) will host an open house on Tuesday, June 12, 2025, to share details on a draft revision of the 1998 East Brimfield Lake Master Plan and the 1998 Conant Brook Dam Master Plan. The open house will be held from 5:00 pm-7:00 p.m. at the Sturbridge Town Hall at 308 Main Street, Sturbridge, Massachusetts 01566. The public open house will cover the proposed changes to the current East Brimfield Lake and Conant Brook Dam Master Plans.

The Master Plan is defined as the strategic land use management document that guides the comprehensive management and development of all recreational, natural, and cultural resources throughout the life of the water resource development project. It defines "how" USACE will manage the resources for public use and conservation. Both the current East Brimfield Lake Master Plan and Conant Brook Dam Master Plan, were last updated in 1998, need revision to address changes in regional land use, population, outdoor recreation trends, and the USACE management policy.

An initial 30-day comment period will begin June 12, 2025, and end July 12, 2025. The Massachusetts Historical Commission can send comments, suggestions, and concerns during this time. Comments must be submitted in writing at the open house or digitally via the comment form on the following Master Plan Revision web pages:

- East Brimfield - <https://www.nae.usace.army.mil/Missions/Recreation/East-Brimfield-Lake/East-Brimfield-Lake-Master-Plan/>
- Conant Brook - <https://www.nae.usace.army.mil/Missions/Recreation/Conant-Brook-Dam/Conant-Brook-Dam-Master-Plan/>

Please send your requests for additional information to Thomas Lesinski, Archaeologist, Environmental Branch, at Thomas.lesinski@usace.army.mil. If you wish to discuss this via telephone, you can reach Mr. Lesinski at (989) 326-5607.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. Morrow", is placed above the typed name.

Robert Morrow, PMP
Chief, Environmental Branch
Regional Planning and Environmental
Center

From: [East Brimfield Lake](#)
To: [East Brimfield Lake](#)
Bcc: [Notifications were sent to the following tribes and SHPO:](#)
Narragansett Tribe
Stockbridge-Munsee Community
Wampanoag Tribe of Gayhead (Aquinnah)
Delaware Tribe
Mashpee Wampanoag Tribe
Massachusetts State Historic Preservation Officer

Subject: U.S. Army Corps of Engineers, East Brimfield Lake Master Plan Revision Open House on Tuesday, April 30, 2024
Date: Friday, April 12, 2024 12:01:00 PM
Attachments: [East-Brimfield-Lake-Master-Plan-Open-House-April-2024.pdf](#)

Greetings,

The U.S. Army Corps of Engineers (USACE) will host an open house on Tuesday, April 30, 2024, to kick off a process to revise the 1998 East Brimfield Lake Master Plan. The open house will be held from 4:00-6:00 p.m. at the Sturbridge Town Hall (Veterans Memorial Hall) at 308 Main St, Sturbridge, MA 01566.

During the open house session, there will be no formal presentation. The public is invited to visit at any point during the 4:00-6:00 p.m. time frame to interact with USACE team members. Team members will be stationed around the room and can share information about the revision process, provide the general schedule, and gather initial feedback from the public.

Please see the attached News Release for more information. Additional information can be found on our website: <https://www.nae.usace.army.mil/Missions/Recreation/East-Brimfield-Lake/East-Brimfield-Lake-Master-Plan/>. Feel free to share this announcement with others. We hope you are able to attend the open house.

Thank you,

East Brimfield Lake Master Plan Revision Team
Thames River Basin
New England District
U.S. Army Corps of Engineers
Email: EastBrimfieldLakeMasterPlan@usace.army.mil

APPENDIX C – WILDLIFE DOCUMENTS



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104



In Reply Refer To:

06/04/2025 17:20:59 UTC

Project Code: 2024-0148310

Project Name: East Brimfield Lake Master Plan

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Updated 4/12/2023 - Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the “**New England Field Office Endangered Species Project Review and Consultation**” website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

<https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review>

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Northern Long-eared Bat - (Updated 4/12/2023) The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule went into effect on March 31, 2023. You may utilize the **Northern Long-eared Bat Rangewide Determination Key** available in IPaC. More information about this Determination Key and the Interim Consultation Framework are available on the northern long-eared bat species page:

<https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>

For projects that previously utilized the 4(d) Determination Key, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project was not completed by March 31, 2023, and may result in incidental take of NLEB, please reach out to our office at newengland@fws.gov to see if reinitiation is necessary.

Additional Info About Section 7 of the Act

Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/service/section-7-consultations>

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to

consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

<https://www.fws.gov/program/migratory-bird-permit>

<https://www.fws.gov/library/collections/bald-and-golden-eagle-management>

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

PROJECT SUMMARY

Project Code: 2024-0148310
Project Name: East Brimfield Lake Master Plan
Project Type: Management Plans Land Management/Restoration
Project Description: IPaC info for the master plan.
Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@42.1052908,-72.15919396360427,14z>



Counties: Hampden and Worcester counties, Massachusetts

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

FLOWERING PLANTS

NAME	STATUS
Small Whorled Pogonia <i>Isotria medeoloides</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Army Corps of Engineers
Name: Nicholas Warner
Address: 696 Virginia rd
City: Concord
State: MA
Zip: 01742
Email: nicholas.warner@usace.army.mil
Phone: 9783188223

Appendix C Table 1: Common Bird Species Potentially Occurring at the East Brimfield Lake Project Area

Common Name / Scientific Name	Common Name / Scientific Name
Scarlet tanager (<i>Piranga olivacea</i>)	Woodcock (<i>Scolopax minor</i>)
Wood duck (<i>Aix sponsa</i>)	Wild turkey (<i>Meleagris gallopavo</i>)
Great blue heron (<i>Ardea Herodias</i>)	Red-winged blackbird (<i>Agelaius phoeniceus</i>)
Common merganser (<i>Mergus merganser</i>)	Mallard (<i>Anas platyrhynchos</i>)
Canada goose (<i>Branta canadensis</i>)	Red-tailed hawk (<i>Buteo jamaicensis</i>)
American robin (<i>Turdus migratorius</i>)	Bluejay (<i>Cyanocitta cristata</i>)
American goldfinch (<i>Spinus tristis</i>)	American tree sparrow (<i>Spizelloides arborea</i>)

Appendix C Table 2: Common Invertebrate Species Potentially Occurring at the East Brimfield Lake Project Area

Common Name / Scientific Name	Common Name / Scientific Name
Spotted salamander (<i>Ambystoma maculatum</i>)	Red-spotted newt (<i>Notophthalmus viridescens</i>)
Northern spring peeper (<i>Pseudacris crucifer</i>)	American bullfrog (<i>Lithobates catesbeianus</i>)
Eastern American toad (<i>Anaxyrus americanus</i>)	Common musk turtle (<i>Sternotherus odoratus</i>)
Eastern box turtle (<i>Terrapene carolina carolina</i>)	Common snapping turtle (<i>Chelydra serpentina</i>)
DeKay's brown snake (<i>Storeria dekayi</i>)	Northern black racer (<i>Coluber constrictor</i>)
Eastern garter snake (<i>Thamnophis sirtalis sirtalis</i>)	Spinycheek crayfish (<i>Faxonius limosus</i>)

Appendix C Table 3: Common Mammal Species Potentially Occurring at the East Brimfield Lake Project Area

Common Name / Scientific Name	Common Name / Scientific Name
White-tailed deer (<i>Odocoileus virginianus</i>)	Eastern cottontail (<i>Sylvilagus floridanus</i>)
Eastern grey squirrel (<i>Sciurus carolinensis</i>)	Eastern chipmunk (<i>Tamias striatus</i>)
North American river otter (<i>Lontra canadensis</i>)	Groundhog (<i>Marmota monax</i>)
Coyote (<i>Canis latrans</i>)	Raccoon (<i>Procyon lotor</i>)
North American beaver (<i>Castor canadensis</i>)	American mink (<i>Neovison vison</i>)

Common shrew (<i>Sorex cinereus</i>)	Big brown bat (<i>Eptesicus fuscus</i>)
Striped skunk (<i>Mephitis mephitis</i>)	Fisher (<i>Pekania pennanti</i>)
Eastern meadow vole (<i>Microtus pennsylvanicus</i>)	North American porcupine (<i>Erethizon dorsatum</i>)

Appendix C Table 4: Additional Rare, Threatened, and Endangered Species Potentially Occurring in Sturbridge and Brimfield (MassWildlife n.d.)

Common Name / Scientific Name	Last Recorded	State Listing
American bittern (<i>Botaurus lentiginosus</i>)	1997	Endangered
Brook snaketail (<i>Ophiogomphus aspersus</i>)	2004	Special concern
Jefferson salamander (<i>Ambystoma jeffersonianum</i>)	2015	Special concern
Lake quillwort (<i>Isoetes lacustris</i>)	1930	Endangered
Orange sallow moth (<i>Pyrrhia aurantiago</i>)	2010	Special concern
Rapids clubtail (<i>Phanogomphus quadricolor</i>)	2023	Endangered
American bittersweet (<i>Celastrus scandens</i>)	2009	Threatened
Appalachian bristle-fern (<i>Crepidomanes intricatum</i>)	2010	Special concern
Autumn coral-root (<i>Corallorhiza odontorhiza</i>)	1984	Special concern
Bald eagle (<i>Haliaeetus leucocephalus</i>)	1999	Special concern
Climbing fern (<i>Lygodium palmatum</i>)	1937	Special concern
Climbing fumitory (<i>Adlumia fungosa</i>)	2019	Special concern
Drooping speargrass (<i>Poa saltuensis</i> ssp. <i>Languida</i>)	2000	Endangered
Dwarf bulrush (<i>Cyperus subsquarrosus</i>)	2009	Threatened
Hessel's hairstreak (<i>Callophrys hesseli</i>)	1997	Special concern
Indiana myotis (<i>Myotis sodalist</i>)	1938	Endangered
Little brown bat (<i>Myotis lucifugus</i>)	1983	Endangered
Northern long-eared bat (<i>Myotis septentrionalis</i>)	2000	Endangered
Mountain spleenwort (<i>Asplenium montanum</i>)	1946	Endangered
New England blazing star (<i>Liatris novae-angliae</i>)	1934	Special concern
Pale green orchid (<i>Platanthera flava</i> var. <i>herbiola</i>)	1933	Threatened
Saltpond grass (<i>Leptochloa fusca</i> ssp. <i>fascicularis</i>)	2008	Threatened

APPENDIX D – PERTINENT LAWS

- Antiquities Act of 1906, Public Law 59-209, 34 Stat. 225, 54 U.S.C. Sections 320301-320303: The first Federal law established to protect what are now known as "cultural resources" on public lands. It provides a permit procedure for investigating "antiquities" and consists of two parts: An act for the Preservation of American Antiquities, and Uniform Rules and Regulations.
- Flood Control Act of 1938, Public Law 75-761: This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.
- Bald and Golden Eagle Protection Act, as amended, 16 U.S.C. Sections 668-668d: This Act prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or any manner, any bald eagle [or any golden eagle], alive or dead, or any part, nest, or egg thereof. The Act defines "take" as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.
- Flood Control Act of 1944, Public Law 78-534: Section 4 of the act as last amended in 1962 by Section 207 of Public Law 87-874 authorizes USACE to construct, maintain, and operate public parks and recreational facilities in reservoir areas and to grant leases and licenses for lands, including facilities, preferably to Federal, State or local governmental agencies.
- River and Harbor Act of 1946, Public Law 79-525: This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.
- Flood Control Act of 1954, Public Law 83-780: This act authorizes the construction, maintenance, and operation of public parks and recreational facilities in reservoir areas under the control of the Department of the Army and authorizes the Secretary of the Army to grant leases of lands in reservoir areas deemed to be in the public interest.
- Fish and Wildlife Coordination Act, Public Law 85-624: This act, as amended, sets down the general policy that fish and wildlife conservation shall receive equal consideration with other project purposes and be coordinated with other features of water resource development programs. Opportunities for improving fish and wildlife resources and adverse effects on these resources shall be examined along with other purposes which might be served by water resources development.
- An Act to provide for the protection of forest cover for reservoir areas under the jurisdiction of the Secretary of the Army and the Chief of Engineers, Public Law 86-717: This act provides for the protection of forest and other vegetative cover for reservoir areas under this jurisdiction of the Secretary of the Army and the Chief of Engineers.
- River and Harbor Act of 1962, Public Law 87-874: This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.

- Land and Water Conservation Fund Act of 1965, Public Law 88-578: This act established a fund from which U.S. Congress can make appropriations for outdoor recreation. This law makes entrance and user fees at reservoirs possible by deleting the words "without charge" from Section 4 of the 1944 Flood Control Act, as amended.
- Outdoor Recreation Planning and Development Act, Public Law 88-29: Authorized the Secretary of the Interior to inventory and classify outdoor recreation needs and resources and to prepare a comprehensive outdoor recreation plan taking into consideration the plans of the various Federal agencies, State, and other political subdivisions. It also states that the federal agencies undertaking recreational activities shall consult with the Secretary of the Interior concerning these activities and shall carry out such responsibilities in general conformance with the nationwide plan.
- Federal Water Project Recreation Act, Public Law 89-72: This act requires that not less than one-half the separable costs of developing recreational facilities and all operation and maintenance costs at Federal reservoir projects shall be borne by a non-Federal public body. A HQUSACE/OMB implementation policy made these provisions applicable to projects completed prior to 1965.
- Water Resources Planning Act, Public Law 89-80: This act established the Water Resources Council and gives it the responsibility to encourage the development, conservation, and use of the Nation's water and related land resources on a coordinated and comprehensive basis.
- National Historic Preservation Act of 1966, Public Law 89-665, 54 U.S.C. Sections 300101 et seq.: This act provides for: (1) an expanded National Register of significant sites and objects; (2) matching grants to states undertaking historic and archeological resource inventories; and (3) a program of grants-in aid to the National Trust for Historic Preservation; and (4) the establishment of an Advisory Council on Historic Preservation. Section 106 requires that the President's Advisory Council on Historic Preservation have an opportunity to comment on any undertaking which adversely affects properties listed, nominated, or considered important enough to be included on the National Register of Historic Places.
- Flood Control Act of 1968, Section 210, Public Law 90-483: Restricted collection of entrance fee at USACE lakes and reservoirs to users of highly developed facilities requiring continuous presence of personnel.
- National Environmental Policy Act of 1969 (NEPA), Public Law 91-190, 42 U.S.C. Sections 4321 et seq.: NEPA declared it a national policy to encourage productive and enjoyable harmony between man and his environment, and for other purposes. Specifically, it declared a "continuing policy of the Federal Government... to use all practicable means and measures...to foster and promote the general welfare, to create conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." Section 102 authorized and directed that, to the fullest extent possible, the policies, regulations and public law of the United States shall be

interpreted and administered in accordance with the policies of the Act. It is Section 102 that requires consideration of environmental impacts associated with Federal actions. Section 101 of NEPA requires the federal government to use all practicable means to create and maintain conditions under which man and nature can exist in productive harmony.

Specifically, Section 101 of NEPA declares:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations
 - Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings
 - Attain the widest range of beneficial uses of the environment without degradation risk to health or safety or other undesirable and unintended consequences
 - Preserve important historic, cultural, and natural aspects of our national heritage and maintain wherever possible an environment which supports diversity and variety of individual choice
 - Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities
 - Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources
- River and Harbor Act of 1970 and Flood Control Act of 1970, Public Law 91-611: Establishes the requirement for evaluating the economic, social, and environmental impacts of projects.
 - To restore the Golden Eagle program to the Land and Water Conservation Fund Act, Public Law 92-347: This act revises Public Law 88-578, the Land and Water Conservation Fund Act of 1965, to require Federal agencies to collect special recreation user fees for the use of specialized sites developed at Federal expense and to prohibit the USACE from collecting entrance fees to projects.
 - Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500: The Federal Water Pollution Control Act of 1948 (PL 845, 80th U.S. Congress), as amended in 1961, 1966, 1970, 1972, 1977, and 1987, established the basic tenet of uniform State standards for water quality. Public Law 92-500 strongly affirms the Federal interest in this area. "The objective of this act is to restore and maintain the chemical, physical and biological integrity of the Nation's waters."
 - Public Law 93-81: This law amends Section 4 of the Land and Water Conservation Fund Act of 1965, as amended, to require each Federal agency to collect special recreation use fees for the use of sites, facilities, equipment, or services furnished at Federal expense.
 - Endangered Species Act of 1973, Public Law 93-205, 16 U.S.C. Sections 1531 et seq.: This law repeals the Endangered Species Conservation Act of 1969. It also directs all Federal departments/agencies to carry out programs to conserve endangered and threatened species of fish, wildlife, and plants and to preserve the habitat of these species in consultation with the Secretary of the Interior. This Act establishes a procedure for coordination, assessment, and consultation.

- Water Resources Development Act of 1974, Public Law 93-251: Section 107 of this law establishes a broad Federal policy which makes it possible to participate with local governmental entities in the costs of sewage treatment plan installations.
- Archeological and Historic Preservation Act of 1974, Public Law 93-291: The Secretary of the Interior shall coordinate all Federal survey and recovery activities authorized under this expansion of the 1960 act. The Federal Construction agency may transfer up to one percent of project funds to the Secretary with such transferred funds considered non-reimbursable project costs. This amends the Reserve Salvage Act of 1960 (PL-86-523).
- An act to amend the Land Water Conservation Fund Act, as amended, to provide for collection of special recreation use fees at additional campgrounds, and for other purposes, Public Law 93-303: This law amends Section 4 of the Land and Water Conservation Fund Act of 1965, as amended, to establish less restricted criteria under which Federal agencies may charge fees for the use of campgrounds developed and operated at Federal areas under their control.
- An Act to amend the Land and Water Conservation Fund Act of 1965, as amended, to establish the National Historic Preservation Fund, and for other purposes, Public Law 94-422: Expands the role of the Advisory Council on Historic Preservation. Section 201 amends Section 106 of the National Historical Preservation Act of 1966 to say that the Council can comment on activities which will have an adverse effect on sites either included in or eligible for inclusion in the National Register of Historic Places.
- Clean Water Act of 1977, as amended, Public Law 95-217: This Act amends the Federal Water Pollution Control Act Amendments of 1972 and extends the appropriations authorization. The Clean Water Act is a comprehensive Federal water pollution control program that has as its primary goal the reduction and control of the discharge of pollutants into the nation's navigable waters. The Clean Water Act of 1977 has been amended by the Water Quality Act of 1987, Public Law 100-4.
- American Indian Religious Freedom Act, Public Law 95-341: The Act protects the rights of Native Americans to exercise their traditional religions by ensuring access to sites, use and possession of sacred objections, and the freedom to worship through ceremonials and traditional rites.
- Endangered Species Act Amendments of 1978, Public Law 95-632: This law amends the Endangered Species Act of 1973. Section 7 directs agencies to conduct a biological assessment to identify threatened or endangered species that may be present in the area of any proposed project. This assessment is conducted as part of a Federal agency's compliance with the requirements of Section 102 of NEPA.
- Archeological Resources Protection Act of 1979, Public Law 96-95: This Act protects archeological resources and sites that are on public and tribal lands and that fosters increased cooperation and exchange of information between governmental authorities, the professional archeological community, and private individuals. It also establishes requirements for issuance of permits by the Federal land managers to excavate or remove any archeological resource located on public or Indian lands.

- Supplemental Appropriations Act, 1983, Public Law 98-63: This Act authorized the USACE Volunteer Program. The United States Army Chief of Engineers may accept the services of volunteers and provide for their incidental expenses to carry out any activity of the USACE, except policymaking or law or regulatory enforcement.
- Water Resources Development Act of 1986, Public Law 99-662: Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure.
- North American Wetland Conservation Act of 1989, Public Law 101-233: This act directs the conservation of North American wetland ecosystems and requires agencies to manage their lands for wetland/waterfowl purposes to the extent consistent with missions.
- Americans with Disabilities Act of 1990 (ADA), PL101-336, as amended by the ADA Amendments Act of 2008 (PL110-325): This law prohibits discrimination based on disabilities in, among others, the area of public accommodations and requires reasonable accommodations for persons with disabilities.
- Native American Graves Protection and Repatriation Act, Public Law 101-601: This act requires Federal agencies to return Native American human remains and cultural items, including funerary objects and sacred objects, to their respective peoples.
- Water Resources Development Act (WRDA) of 1992 PL 102-580: This act authorizes the USACE to accept contributions of funds, materials and services from non-Federal public and private entities to be used for managing recreational sites and facilities and natural resources.
- Omnibus Reconciliation Act of 1993, Public Law 103-66: Day use fees - authorizes the USACE to collect fees for the use of developed recreational sites and facilities, including campsites, swimming beaches and boat ramps.
- WRDA 1996, PL 104-303: authorizes recreation and fish and wildlife mitigation as purposes of a project, to the extent that the additional purposes do not adversely affect flood control, power generation, or other authorized purposes of a project.
- Omnibus Parks and Public Lands Management Act of 1996, Public Law 104-333: This act created an advisory commission to review the current and anticipated demand for recreational opportunities at lakes or reservoirs managed by the Federal Government and to develop alternatives to enhance such opportunities for such use by the public.
- Neo-tropical Migratory Bird Conservation Act of 2000, Public Law 106-147: This act promotes the conservation of habitat for neo-tropical migratory birds.

APPENDIX E – PUBLIC COMMENT

INITIAL PUBLIC SCOPING (April 30, 2024 – May 30, 2024)

COMMENT	RESPONSE
<p>Good afternoon, On Monday, May 6th, the Sturbridge Select Board asked me to draft a comment from them indicating their full support for the reopening of Streeter Beach. The people of the Town as well as its elected officials have indicated that this is high on a priority list – and, in fact, has been listed on the goals for me as Town Administrator. Toward that end, I have spoken informally with our local Army Corps contacts as well as the Sturbridge Recreation Director, and the Town is willing to work with the Army Corps to upgrade the public facilities – and look into the question of roadway access. If you have any further questions, please feel free to reach out to me.</p>	<p>Concur. Continued discussion with the town of Sturbridge regarding the re-opening of Streeter Beach is a USACE priority. Proposed land classification changes within the Streeter Beach area are included in the draft master plan and will allow for recreation. USACE supports to opportunity to partner in the re-opening of the area which will provide recreation opportunities for visitors. Additional information about Streeter Beach is included in Section 5.3.1.</p>
<p>Several staff and Board and Committee members and residents were able to attend the East Brimfield Lake Master Plan Revision Public Involvement session held in Sturbridge on April 30th We do appreciate the opportunity to be part of this very important Master Plan revision process that will provide the framework to guide the land and recreational management of this federally owned property for the next 25 years or so. I am pleased to provide these written comments on behalf of the Town of Sturbridge Planning Department. In addition to providing flood control for the towns of Sturbridge and Southbridge, the East Brimfield Lake property became a regional draw and valuable recreational resource for the residents of the Town of Sturbridge. Unfortunately, the Streeter Beach Recreation Area was closed in 2009 when DCR was undergoing major budget reductions. This loss was felt immediately by our residents and those surrounding our community and is still felt today. Recent planning efforts undertaken by the Town including our Master Plan (2011) and Open Space and Recreation Plan (OSRP) (2018) have common goals of develop, maintain and improve access to water resources. The OSRP lists an objective as "Investigate a Town lease agreement with the Army Corp. of Engineers to re-open Streeter Point Beach with the potential of a pay for access system that can help to offset costs." Therefore, the Town would like to work with the USACE to make this goal a reality. As I understand the current Master Plan</p>	<p>Concur. Continued discussion with the town of Sturbridge regarding the re-opening of Streeter Beach is a USACE priority. Proposed land classification changes within the Streeter Beach area are included in the draft master plan and will allow for recreation.</p>

COMMENT	RESPONSE
<p>for the East Brimfield Lake property; the area known as the Streeter Beach Recreation Area is zoned for Recreational Use. We strongly encourage this designation to remain with the new Master Plan Update. Without this designation, we do know that the hopes of ever re-opening this recreational resource will be lost. We appreciate the opportunity to comment and look forward to receiving further information about this process. Should you require any additional information, please do not hesitate to contact us.</p>	
<p>To whom it may concern: Thank you for the opportunity to comment on the upcoming revision of the East Brimfield Lake (the “Lake”) Master plan by the United States Army Corp of Engineers (ACOE). Please include me on any appropriate informational email list regarding the content and final scope of the planned revision as well as access to the draft document in 2025.</p> <ol style="list-style-type: none"> 1. The information in an associated slide presentation states that currently there are “no proposed changes in the Master Plan”. Given the age (1998), increased development in the watershed, emerging eco-tourism effects on future recreational needs, necessary compliance with current environmental regulations, and changes in USACOE policies, including “Climate Ready” provisions, the scope and goals of the revised Master Plan need to accommodate and update these areas of interest accordingly. 3. As with any watershed-based plan, acquisition and updating of the most recent environmental information will be critical. The mapping needs to, at a minimum, include topography, stream and tributary network, land use, highway and street grids, location of publicly-owned or conservation lands, popular hiking trails, areas of notable cultural interest, etc. 2. The revised major goals and purpose of the Master Plan need to be explicitly stated and indicate the extent to which local input was incorporated or, if not, why it was not included. There should be some inclusion of indicators to judge whether goals are achieved under the plan and provisions to be make changes if inadequate progress occurs. 4. ACOE should update information regarding the major water inputs in the Lake and a 	<p>Noted. The master plan update process requires a full update of the 1998 East Brimfield Lake Master Plan to include mapping. The draft document will contain proposed changes and address many of the items noted within the comment. Updated maps can be found throughout the plan as well as in Appendix A. Goals were established by USACE policy and objectives determined by the project delivery team through review of existing and future management strategies, best practices, and stakeholder input. These can be found in Ch. 3. Water runoff is not a topic covered by the master plan.</p>

COMMENT	RESPONSE
<p>hydrologic budget to identify the source of waters and any associated environmental threats from runoff. For example, the location of any significant non-point sources of nutrients and contaminants in the watershed (such as storm drainage off adjacent highways) should be identified.</p> <p>5. The plan should include information regarding the recent effects of climate change on lake flushing and elevation changes.</p> <p>6. The Master Plan should identify current water quality status in the lake and any non-compliance issues. Existing historic water quality data should be summarized and a regular water quality monitoring program, including general water quality parameters, nutrients, and toxic materials (including emerging contaminants) should be established. At a minimum, one year of seasonal monitoring (3-4 times) should be conducted.</p> <p>7. Updated information regarding the current fisheries resource – species, quality, and habitat in the Lake should be collected and data summarized. A good quality updated bathymetric map needs to be provided.</p> <p>8. A description and mapping of the aquatic plant community (macrophytes) in the Lake (species, location, and density) should be provided.</p> <p>9. Are there non-indigenous invasive macrophyte species present in the lake? If so, the Plan should provide strategy to manage these nuisance plants as to prevent spread of these invasive species downstream and to the nearby six Great Ponds within Sturbridge. This strategy should include both in-lake management (e.g., drawdown herbicide treatment, nutrient input reductions) as well as instructions at the boat ramp regarding cleaning off of biological materials and, better yet, on-site monitors to ensure compliance during recreational season.</p> <p>10. If in-lake macrophyte management is to be conducted, will both the Sturbridge and Brimfield Conservation Commission be involved in the necessary Notice of Intent permit process under the Wetland Protection Act?</p> <p>11. Watercraft-based recreation is expanding in East Brimfield Lake. Any changes to future use or configuration of the existing boat ramp, including changes in parking capacity or seasonal limits,</p>	

COMMENT	RESPONSE
<p>should be identified and justified.</p> <p>Strong Recommendation</p> <p>The initial public meeting on April 30th apparently met minimal legal provisions for public notice but left much to be desired with regard to public awareness and participation, as indicated by the sparse attendance. Future meetings should be much more widely advertised. Most interested parties were unaware of this meeting which was not advertised on common public means, such as outside event billboards, day-of-meeting notices at town buildings, local access TV and other means. Town officials were unaware of the scope or nature of the meeting even on the day of the event. Further, it was held at a time (4-6 pm) which discouraged attendance by most working residents. This called into question whether public opinion on this important plan is truly valued or whether this is the pro forma process by which the ACOE hopes to package a generic Master Plan for the Lake with minimal effort and budgeting. USACOE should actively seek involvement and input from interested parties for future Master Plan developments. A minimum list of organizations that should be directly contacted includes: Sturbridge Select Board, Sturbridge Planning Dept., Sturbridge Conservation Commission, Sturbridge Parks and Recreation Dept., Sturbridge Lakes Advisory Committee, Sturbridge Trails Committee (TREK), and the Last Green Valley. Other local organizations, including those in Southbridge, are also likely to be interested. Thank you for the opportunity to comment on this process,</p>	
<p>Representatives of the Sturbridge Open Space Committee attended the East Brimfield Lake Master Plan Revision Public Involvement event held at the Sturbridge Town Hall on April 30, 2024. We had great and informative conversations with the participants. The Sturbridge Open Space Committee strongly requests that the land area of Streeter Beach in Sturbridge continue to be classified for recreational use. Although the Sturbridge area has many water resources, adequate swimming areas are limited. Since its closing in 2009, the loss of Streeter Beach as a recreational area has been felt by families and tourists throughout the region. For several years,</p>	<p>Concur. Continued discussion with the town of Sturbridge regarding the re-opening of Streeter Beach is a USACE priority. Proposed land classification changes within the Streeter Beach area are included in the draft master plan and will allow for recreation.</p>

COMMENT	RESPONSE
<p>the Open Space Committee has been advocating to our local boards the importance of reopening the Streeter Beach property. The Open Space Committee and the Sturbridge community would be an appreciative partner of the USACE and efforts to reopen the Streeter Beach Facility to the public.</p>	
<p>Thank you for hosting the East Brimfield Lake Master Plan Public involvement event in Sturbridge Townhall. The residents of Sturbridge have benefited from the Army corps and the resources they continue to protect. Thank you. At the meeting your representatives were focused on what the residents of Sturbridge would like to see moving forward. Number one on our list is to see Streeter beach reopened. The town needs a good area for families to swim. A lease agreement similar to what the state and Army corps shared in the past would be a real benefit. Army Corps has been a great partner in the town's open space program and helped our Trails committee on many occasions. Going forward this is a good direction. The Grand Trunk crosses you domain. Good Water quality is a challenge for us all. While I understand it is not in your charter this is a growing problem in the waters you control. Please keep this in mind as you build your plan. Thank you for the work you do.</p>	<p>Concur. Continued discussion with the town of Sturbridge regarding the re-opening of Streeter Beach is a USACE priority. Proposed land classification changes within the Streeter Beach area are included in the draft master plan and will allow for recreation.</p>
<p>The Last Green Valley, Inc. (TLGV) is pleased to learn the U.S. Army Corps of Engineers (USACE) is soliciting public comments and participation in the master plan revision process for the East Brimfield Lake project. The existing plan was written in 1998 and is overdue for an update that reflects changing conditions and community needs. Subsequent to the plan's completion in 1998, Congress expanded The Last Green Valley National Heritage Corridor to include the Towns of Brimfield, Holland and Sturbridge. Since then, TLGV, as the nonprofit charged with managing the</p>	<p>Noted. USACE considers TLGV a valuable partner. Coordination of the Grand trunk Trail expansion with TLGV is a proven example of the importance of partnerships. USACE currently has no plans to reduce recreation opportunities at East Brimfield Lake. Funding and staffing limits the expansion of recreational areas, however future partnership opportunities may allow for the re-opening of Streeter</p>

COMMENT	RESPONSE
<p>Corridor, has worked closely with USACE staff to promote the natural, cultural and recreational resources of the East Brimfield Lake project. More specifically, TLGV has supported USACE's efforts to improve trail connections and water access, including creation of the 45-mile long Quinebaug River National Recreation Water Trail that starts with the segment from Holland to East Brimfield Lake. TLGV also promotes all of East Brimfield Lake's recreational assets in our annual <i>Explore!</i> guide to the Corridor. TLGV respectfully requests that USACE prioritize sustainable management of recreational opportunities in its plan update. At a minimum, TLGV recommends retaining the appropriate planning classifications to support existing recreational amenities including multi-use and accessible trails, water trails, swimming beaches, car-top and motorboat launches, picnic areas, and birding, fishing and hunting areas. However, since demand for outdoor, nature-based recreation will continue to increase, TLGV recommends that USACE plan for and prioritize increased recreational use throughout most of the East Brimfield Lake project. Enhanced amenities could include additional Rangers and interpretive programs, accessible fishing platforms and kayak/canoe launches, more accessible trails, more trail connections, more sanitary facilities, expanded operating hours at Lake Siog Park and re-opening Streeter Point Beach. TLGV supports the Town of Sturbridge's request to ensure the Streeter Point Recreation Area is classified for recreational use. The public has very few opportunities to access clean lakes for swimming, and re-opening Streeter Point Beach would provide that opportunity. All of USACE's projects in The Last Green Valley National Heritage Corridor provide important recreational opportunities. As the public demand for outdoor, nature-based recreation continues to rise, USACE's lands and water will become even more critical to the region's health and economic vitality. TLGV supports USACE's efforts to plan for the future and to secure the funding necessary to implement sustainable management of these resources. Please let us know how we can help USACE secure appropriate funding to better serve the public with enhanced recreational</p>	<p>Beach. USACE Park Rangers at East Brimfield host interpretive programs as requested. Volunteers and partners are always welcome to contact the office to support these programs. Improvements to the Lake Siog restroom were recently completed to accommodate increased use in the area. USACE welcomes the discussion regarding funds to support recreation at East Brimfield Lake.</p>

COMMENT	RESPONSE
<p>opportunities. Thank you for the opportunity to comment.</p>	
<p>On behalf of the Sturbridge Tourist Association (STA), please accept this letter in support of the East Brimfield Lake Master Plan Revision. As we all are aware, outdoor recreation continues to be a hugely popular outlet for people of all ages and abilities. As an example, Sturbridge currently contains nearly 35 miles of trails that attract over 66,000 visitors annually. Sturbridge possesses over 900 hotel rooms and over 350 RV pads which will attract over 500,000 visitors annually. Parks, beaches, trails and open space offer not just quality of life benefits for residents but also attract visitors and tourists with consumer spending power. The Sturbridge 2018 Open Space and Recreation Plan (OSRP) offers goals to develop, maintain and improve access to water resources. The East Brimfield Lake property was once a valuable and popular recreational resource for the residents of the Town of Sturbridge and the Commonwealth. The OSRP aspires to investigate a Town lease agreement with the Army Corp. of Engineers to re-open Streeter Point Beach with the potential of a pay for access system that can help to offset costs." The STA strongly supports efforts to work with the USACE to make this goal a reality. The current Master Plan for the East Brimfield Lake property; the area known as the Streeter Beach Recreation Area is zoned for Recreational Use. We strongly encourage this designation to remain with the new Master Plan Update. Without this designation, we do know that the hopes of ever re-opening this recreational resource will be lost. We appreciate the opportunity to comment. Developing outdoor recreational attractions strengthens our environment, offers healthy and recreational outlets and delivers economic value in the commerce that visitorship offers. Should you require any additional information, please do not hesitate to contact us.</p>	<p>Noted. A recreation analysis for the area was completed for the draft master plan. The Massachusetts Statewide Comprehensive Outdoor Recreation Plan (2017) and the Town of Sturbridge Open Space and Recreation Plan (2018) were both reviewed during this process. Continued discussion with the town of Sturbridge regarding the re-opening of Streeter Beach is a USACE priority. Proposed land classification changes within the Streeter Beach area are included in the draft master plan and will allow for recreation.</p>

COMMENT	RESPONSE
<p>The Sturbridge Recreation Committee appreciates the opportunity to submit written comments on the Master Plan revision process in response to the Public Involvement Session and Master Plan Update. The Town of Sturbridge has been actively working to recreate the former Streeter Beach Recreation Area and we strongly encourage this area, zoned for Recreational Use, to remain in the new Master Plan Update. Last year, Town Departments including Recreation and Public Works, and the Sturbridge Town Administrator resumed conversations with the Army Corp. of Engineers on investigating a Town lease agreement to re-open Streeter Beach, which has been highlighted as a goal in our Master Plan (2011) and Open Space and Recreation Plan (2018). The Town of Sturbridge shares common goals with the USACE to develop, maintain and improve access to water resources. The Sturbridge Recreation Committee has great hopes to re-open this recreational resource. With an operating budget developed and a pay for access system available to offset costs, we can certainly envision providing access to safe, family fun at this wonderful beach area once again. Outdoor Recreation options are very limited in Sturbridge and surrounding areas due to developments and lack of access, but our community continues to grow and needs appropriate, designated areas to enjoy and explore the outdoors. There is significant physical and mental benefits to providing outdoor Recreation opportunities to residents of all ages. Reopening Streeter Beach will bring swimming, kayaking, canoeing, fishing, and grilling opportunities back to Sturbridge families, individuals, neighbors, and visitors. Reopening the beach will also help to offset the significant use of Cedar Recreation Area on Cedar Lake in Sturbridge, as the facility was not designed to support the increase of usage after the closure of Streeter Beach. Thank you for the opportunity to submit these comments-and we look forward to future discussions on the Master Plan Update and Streeter Beach.</p>	<p>Concur. Continued discussion with the town of Sturbridge regarding the re-opening of Streeter Beach is a USACE priority. Proposed land classification changes within the Streeter Beach area are included in the draft master plan and will allow for recreation.</p>

DRAFT MASTER PLAN PUBLIC COMMENTS

Section to be added after draft release.

APPENDIX F – ACRONYMS

AQI	Air Quality Index
CFS	Cubic Feet per Second
CRMP	Cultural Resources Management Plan
DFG	Massachusetts Department of Fish and Game
DM	Design Memorandum
EA	Environmental Assessment, NEPA Document
EOP	Environmental Operating Principles
EP	Engineering Pamphlet
EPA	United States Environmental Protection Agency
ER	Engineering Regulation
ESA	Environmentally Sensitive Area
°F	Degrees Fahrenheit
FONSI	Finding of No Significant Impact
FWCA	Fish and Wildlife Coordination act of 1958
GIS	Geographical Information Systems
HDR	High Density Recreation
HPMP	Historic Properties Management Plan
HQ	USACE Headquarters (also HQUSACE)
IPaC	Information for Planning and Consultation
LDR	Low Density Recreation
LEED	Leadership in Energy and Environmental Design
MassWildlife	Massachusetts Division of Fisheries and Wildlife
DEP	Massachusetts Environmental Police
MP	Master Plan or Master Planning
MWCM	Master Water Control Manual
MRML	Multiple Resource Management Lands
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act, 1970
NGVD/NGVD29	National Geodetic Vertical Datum (1929)
NHPA	National Historic Prevention Act
NRHP	National Register of Historic Places
NRCS	Natural Resource Conservation Service
NRHP	National Registry of Historic Places
NWI	National Wetland Inventory
O&M	Operations and Maintenance
OMB	Office of Management and Budget
OMP	Operations Management Plan for a specific lake Project
PL	Public Law
PO	Project Operations
RPEC	Regional Planning and Environmental Center
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SGCN	Species of Greatest Conservation Need
SHPO	State Historical Preservation Office
TCP	Traditional Cultural Properties
U.S.	United States (also US)

USGCRP	U.S. Global Change Research Program
USACE	United States Army Corps of Engineers
USFWS	U. S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VM	Vegetative Management Area
WDA	Workforce Development Area