Mansfield Hollow Lake Master Plan

Thames River Basin

Windham and Tolland Counties, Connecticut

June 2025 **DRAFT REPORT**

US Army Corps of Engineers®
New England District

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EXECUTIVE SUMMARY

Mansfield Hollow 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 Mansfield Hollow Lake Master Plan (hereafter Plan or Master Plan) is a complete revision of the 1979 *Mansfield Hollow 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 Mansfield Hollow Lake over the next 25 years. The 1979 Master Plan has served well past its intended 25-year planning horizon and does not reflect the growing population around the lake and changing regional recreation needs.

Mansfield Hollow Lake, Figure ES.1, 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 these primary 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.

During the 2025 Master Plan revision, Geographic Information System (GIS) mapping technology was utilized to digitize the maps to show the acres identified in the 1979 Master Plan as a basis for the 2025 Mansfield Hollow Master Plan. Due to this more precise measurement technology, discrepancies between the acreages documented in the 1979 plan and the recalculated acres were found. The 2025 Mansfield Hollow Lake Master Plan revision reflects the recalculated 1979 Master Plan acres throughout the document. Both the 1979 and the 2025 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 Mansfield Hollow Lake, 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 Mansfield Hollow Lake, Connecticut 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 significant effect on outdoor recreation, especially at boat ramps.

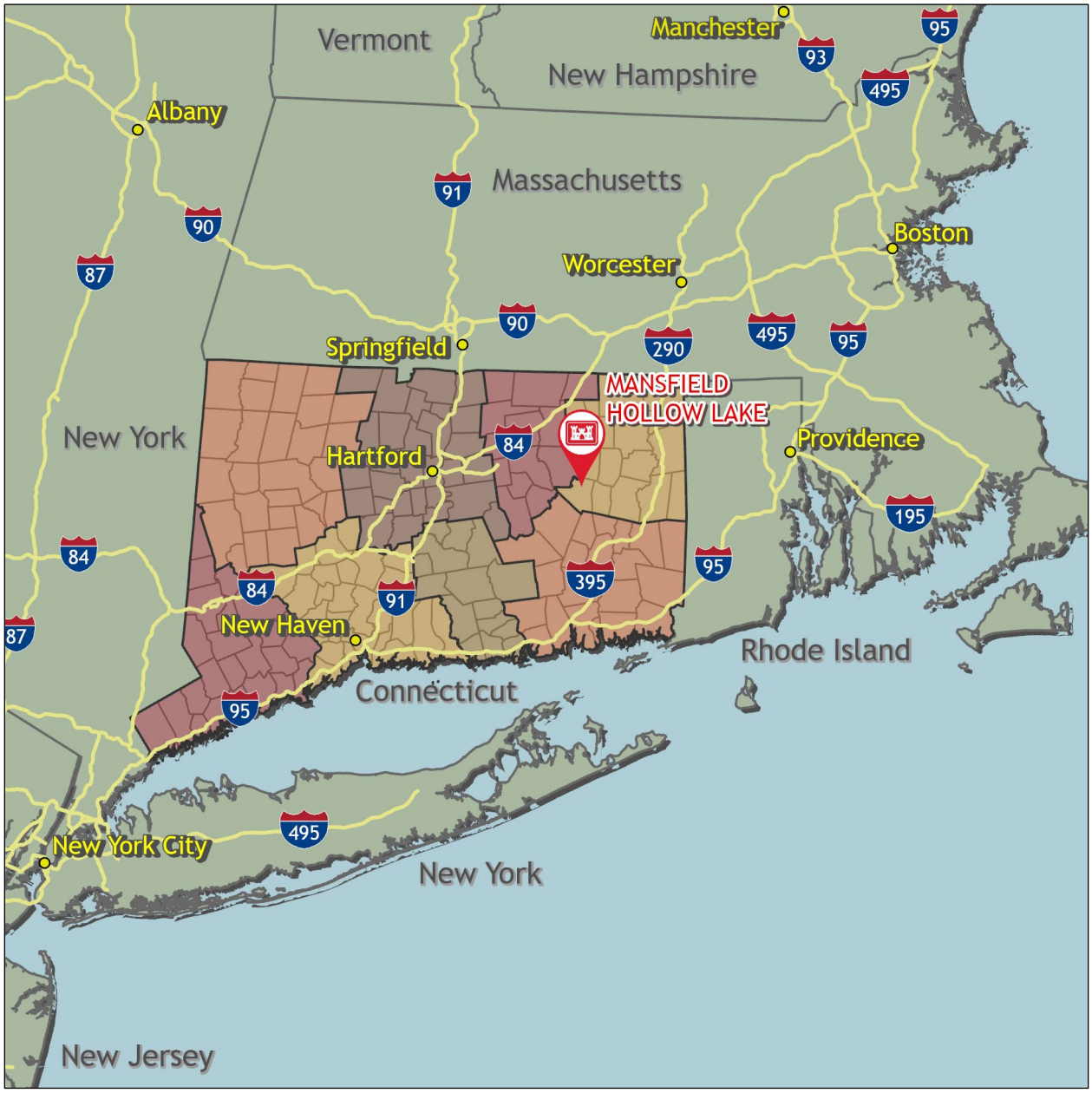

Figure ES.1 Vicinity Map of Mansfield Hollow Lake

The mapping used for this Master Plan revision uses modern satellite imagery and GIS mapping, resulting in different acreage calculations than that of the 1979 Master Plan. Using GIS measurements, Mansfield Hollow Lake has a water surface of 452 acres at the permanent pool of 211.5 feet mean sea level (MSL) NGVD29 and approximately 2,069 acres of federal land lie above the conservation pool with a shoreline of approximately 12 miles encompassing the permanent pool.

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 May 2, 2024, a public open house was held at the Mansfield Public Library in Mansfield Center, Connecticut to inform the public of the intent to revise the Master Plan. The public input period remained open for 30 days from May 2, 2024 to June 2, 2024. At the public open house 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 11 comments for Mansfield Hollow Lake. These comments and the USACE response can be found in Appendix E.

A public open house will be held for the Mansfield Hollow 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 Mansfield Hollow Lake Draft Master Plan. The open house will cover 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 Mansfield Hollow Lake was reclassified either by a change in nomenclature required by regulation or changes needed to identify actual and projected use. Table ES.1 illustrates the prior and revised land and water classifications, which includes a decrease in Project Operations. The majority of changes in land classifications were due to areas previously not classified in the 1979 Master Plan. Under the 2025 Master Plan, these acres are classified as High Density Recreation (HDR), Low Density Recreation (LDR), Vegetation Management (VM), and Wildlife Management (WM). Additionally, the update sets aside land under the Environmentally Sensitive Area classification for environmental, cultural, and/or aesthetic preservation.

Table ES.1 Change from 1979 Land and Water Surface Classifications to 2025 Proposed Land and Water Surface Classification

Prior Land Classifications (1979)	Acres	Proposed Land Classifications (2025)	Acres	Net Difference
Project Operations	271	Project Operations (PO)	133	(138)
Not Classified	1,832	–		
–	–	High Density Recreation (HDR)	61	61
–	–	Low Density Recreation (LDR)	504	504
–	–	Vegetation Management	16	16
–	–	Wildlife Management (WM)	1306	1306
–	–	Environmentally Sensitive Area (ESA)	49	49
LAND TOTAL	**2,103**	**LAND TOTAL**	**2,069**	**(34)**
Prior Water Surface Classifications (1979)	**Acres**	**Proposed Water Surface Classifications (2025)**	**Acres**	**Net Difference**
Water Surface	411	Water Surface	452	41
• Not Classified	411	–	–	(411)
–	–	• Open Recreation	449	449
–	–	• Restricted	3	3
WATER TOTAL	**411**	**WATER TOTAL**	**452**	**41**
TOTAL FEE	**2,514**	**TOTAL FEE**	**2,521**	**7**

*1979 acres are approximate based on digitizing the 1979 land and water classification map. Total fee acreage differences from the 1979 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 2,438 acres.

The acreages of the conservation pool and USACE land lying above the conservation pool were measured using satellite imagery 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 1979 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 Mansfield Hollow Lake. Chapter 2 consists of an inventory and analysis of Mansfield Hollow 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 Mansfield Hollow 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 Mansfield Hollow Lake, in accordance with federal regulations including the National Environmental Policy Act of 1969, as amended (NEPA) 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 1979 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

Mansfield Hollow Lake is located in northeastern Connecticut, straddling the boundary of Windham and Tolland counties. The eastern portion of the reservoir falls within the townships of Chaplin and Windham in Windham County with the western portion within the township of Mansfield in Tolland County. The project location is shown on Figure 1.1. The lake is a result of impoundment of the Natchaug, Fenton and Mt. Hope Rivers by the construction of Mansfield Hollow Dam located on the Natchaug River approximately 5.4 miles upstream of its confluence with the Willimantic River. The confluence of the Natchaug and Willimantic River forms the Shetucket River, which then converges with the Yantic 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 Mansfield Hollow 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 Mansfield Hollow 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 Mansfield Hollow Lake. The New England District created the current Master Plan for the reservoir in 1979. According to the naming convention of the time the authors named this document "Master Plan for Recreation Resources Development". The 1979 Master Plan has served well 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.

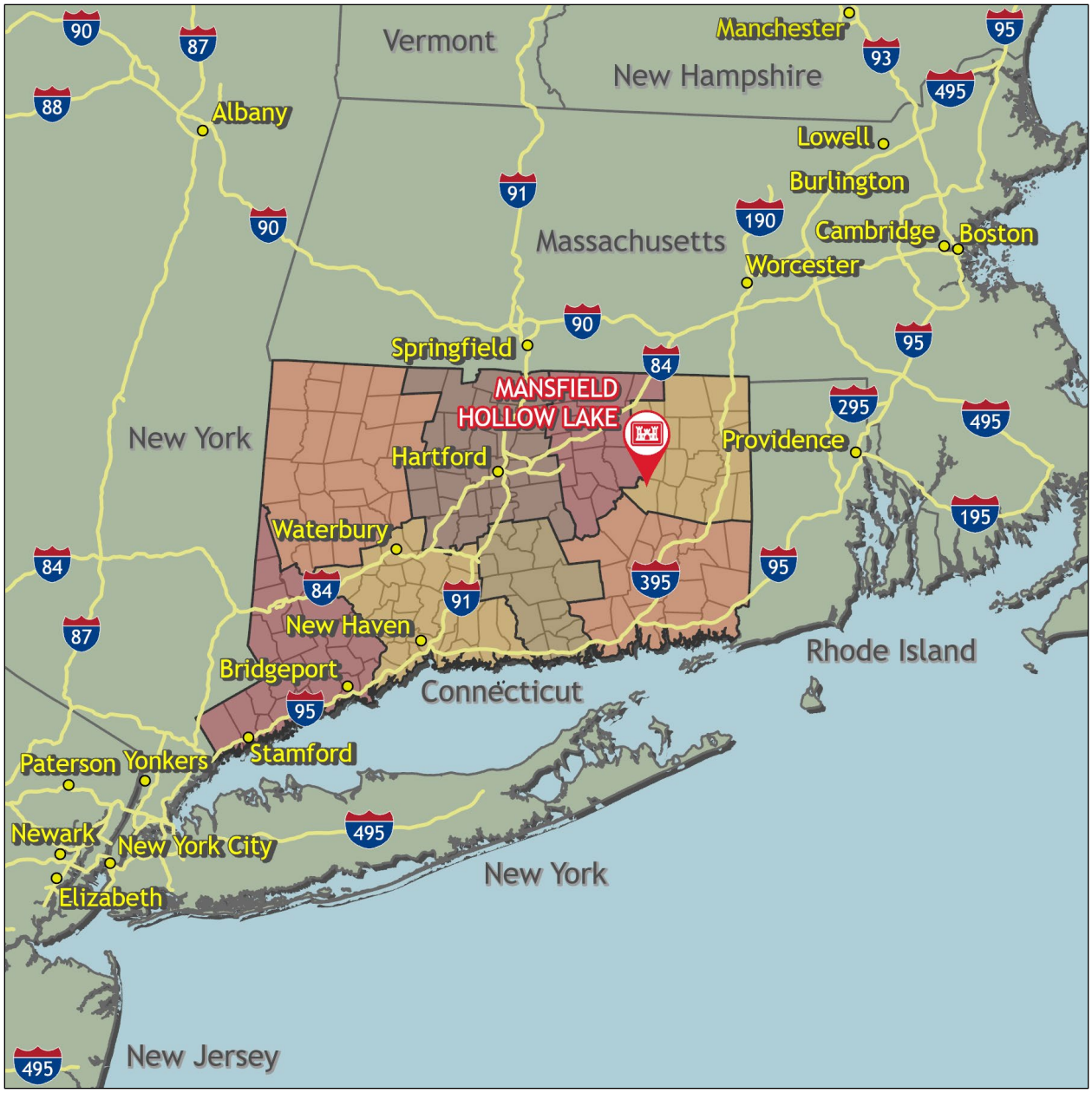

Figure 1.1 Mansfield Hollow Lake Vicinity Map

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 Mansfield Hollow 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 Mansfield Hollow Dam in May 1949 and with completion in June 1952. Mansfield Hollow Lake is an integral part of the Thames River Flood Control Program. Mansfield Hollow Lake provides flood protection to the town of Willimantic directly downstream of the project. Additionally, by working with the other five USACE reservoirs, Mansfield Hollow helps mitigate flood risk towards industrial, commercial, and residential centers within the Thames River watershed.

Mansfield Hollow Lake also provides various recreation opportunities. USACE leases approximately 2,490 acres to the State of Connecticut Department of Energy and Environmental Protection (CTDEEP), successor to the State of Connecticut Department of Environmental Protection for public parks and recreation, fish and wildlife, and forest management purposes. Much of the project lands are open to hunting, birding, and other activities. In addition, CTDEEP manages a large section of the leased land to support upland hunting field dog trials. Mansfield Hollow State Park provides picnicking, hiking, boating, fishing, and other activities. In 1962, the USACE authorized the addition of 16.5 foot deep seasonal pool to provide greater recreation opportunities at the lake.

National USACE missions include 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 Mansfield Hollow 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 Mansfield Hollow 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 Mansfield Hollow 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 Mansfield Hollow 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 Mansfield Hollow 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 Mansfield Hollow Lake and the region in general. In response to these escalating pressures and trends, the USACE is implementing and adopting a full revision of the 1979 Mansfield Hollow 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

Mansfield Hollow Lake occurs within the Natchaug River watershed and the Fenton River, Mount Hope River, and Sawmill Brook-Natchaug River sub-watersheds. These watersheds are part of the larger Shetucket River regional watershed and the Thames River major watershed, which drains large portions of Massachusetts and Connecticut. The Shetucket River regional watershed covers a portion of the western

half of the Thames River major watershed and drains 526 square miles. The Natchaug River watershed drains a total of 176 square miles. All but a miniscule portion of the drainage area lies in Connecticut. The watershed stretches north about 22.7 miles and is nearly 12.4 miles at its widest. Of the three sub-watersheds covering Mansfield Hollow Lake, the majority of project lands fall within the Sawmill Brook-Natchaug River sub-watershed. This sub-watershed stretches northeast for about 13 miles and is 6.6 miles at the widest. It covers 42.9 square miles in total. The Fenton River sub-watershed supports the next largest portion, covering the northwest arm of the project. This sub-watershed stretches 13.8 miles north and is 3.9 miles at the widest and covers 34.4 square miles. Only a small portion of the northern central fee lands falls within the final sub-watershed, the Mount Hope River sub-watershed. It stretches 13.6 miles north, is 5.5 miles at the widest, and covers 36.6 square miles. 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 dam is a rolled earth fill structure with a dumped rock blanket. The dam has a length of 14,050 feet and a maximum height of 68 feet. The dam crest reaches an elevation of 273 feet mean sea level (MSL) National Geodetic Vertical Datum of 1929 (NGVD29) and supports a 15-foot-wide area for an access road. All elevations in this document are NGVD29 unless noted otherwise. The embankment slope varies from 1:2 to 1:2.5 on the upstream side and 1:2 on the downstream slope. The overflow concrete ogee spillway is 690 feet long and crests at 257 feet MSL. The outlet works consists of five gated rectangular conduits. Three of these conduits have an invert elevation at 199 feet MSL, while the remaining two have their inverts at 195 feet MSL. Five 5.5 feet by 7 feet hydraulically operated slide gates control discharge through the conduits. The maximum outlet works can release is 9,700 cubic feet of water per second.

The USACE built two concrete weirs upstream of the dam to provide a constant pool for recreation. The weir upstream of Gate 1 is 16.5 feet tall and the weir upstream of Gate 2 is 11.5 feet tall. Both weirs are box-shaped and used to automatically regulate water levels in the recreation pool.

Mansfield Hollow Lake also utilizes a network of six rolled earth fill dikes in concert with its main dam. The total length of these six dikes is 2,650 feet. Five of these dikes are at the north end of the main embankment and one is at the east end. Dike B, is the largest of these dikes. It protects the community of Mansfield Center from inundation from high pool levels backflowing up Schoolhouse Brook. This dike will form a second pool when Schoolhouse Brook floods, storing 760 acre-feet of water at elevation 250 feet MSL. A rectangular 4 x 5 feet conduit through the dike controls the water draining from this pool. The conduit is 230 feet long and has invert elevations of 218 upstream and 216 downstream of the dike. The conduit controls water using a sluice gate on the upstream end and a backwater flap gate on the downstream end. The conduit can release about 450 cubic feet per second at elevation 245 feet MSL.

The flood control structures at Mansfield Hollow Lake currently support a permanent pool of 16.5 feet at 211.5 feet MSL and a conservation pool of 18.5 feet at 213.5 feet MSL for the spring (March – June). Under current operation, the lake

supports a 450 acre recreation pool that stores 2,800 acre-feet of water. Mansfield Hollow Lake has a flood storage capacity of 49,200 acre-feet of water at the dam's crest, corresponding to 5.8 inches of run-off in its 159 square mile drainage area. At this elevation the resulting pool has a surface area of 1,880 acres and approximately 33 miles of shoreline.

1.6 PROJECT ACCESS

Mansfield Hollow Lake lies within the town limits of Chaplin, Windham, and Mansfield, Connecticut. The nearest settlements are Mansfield Hollow, Mansfield Center, Storrs, and North Windham. Mansfield Hollow is a National Historic District preserving a modest milling village with an historic Kirby mill and several old houses. Mansfield Center is a small village north of Mansfield Hollow and west of the lake with a population of 972, according to the 2020 Census. North Windham is a neighborhood part of the town of Windham. The towns of Chaplin, Windham, and Mansfield have populations of 2,151, 24,428, and 25,892, respectively. Other nearby population centers include Willimantic immediately downstream of the project and Storrs 5 miles to the northwest. Willimantic was formerly a city within the town of Windham but was reabsorbed into Windham in the 1980s following the relocation of the city's main industry, American Thread, to North Carolina. Willimantic has a population of 18,149 and is home to the Eastern Connecticut State University. Storrs, a village of Mansfield, has a resident population of 15,979 is home to the University of Connecticut, with an enrollment of approximately 35,000 students. Further afield, Mansfield Hollow Lake is easily accessible from larger regional cities. Hartford, Connecticut is only 25 miles west from the lake. Springfield, Massachusetts is about 30 miles northwest of Mansfield Hollow Lake. Providence, Rhode Island and Worcester, Massachusetts are both about 40 miles from the lake.

Several highways provide easy access to Mansfield Hollow Lake. US Highways 44 and 6 provide access from Hartford, Connecticut and Providence, Rhode Island. Interstate 84 provides access from Worcester, Massachusetts and Interstate 91 from Springfield, Massachusetts. An assortment of local arterial roads provide access to Mansfield Hollow Lake from local towns.

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 almost all DMs for Mansfield Hollow Lake from 1959 through 1963. These DMs include Hydrology and Hydraulics, Geology and Soils, Embankment Design, Structural Design, and Structural Computation. The USACE completed the Master Plan for Recreation Resources Development in 1979. A list of the DMs for Mansfield Hollow Lake is listed in Table 1.1.

Table 1.1 Mansfield Hollow Lake Design Memoranda

DM No.	Design Memoranda Title	Date Approved
1	Hydrology & Hydraulics	April 1959
2	General Design	August 1959
3	Real Estate: Part 1- Dam Site, Work & Borrow Areas	September 1959
4	Real Estate: Part 2- Reservoir Area	April 1960
5	Site Geology	August 1959
6	Embankments & Foundations	September 1959
7	Design of Structural Concrete, Mechanical, Electrical, and Misc. Features	August 1959
8	Concrete Materials	July 1959
9	Relocations	August 1959
10	Reservoir Management	June 1963
-	Master Plan for Recreation Resources Development	July 1979

1.8 PERTINENT PROJECT INFORMATION

Table 1.2 provides general pertinent data regarding key reservoir elevations and storage capacity at Mansfield Hollow Lake. Table 1.3 provides pertinent data regarding key reservoir elevations and storage capacity at Mansfield Hollow Lake.

Table 1.2 General Pertinent Information for Mansfield Hollow Lake

Location	
Basin	Thames River
Stream	Natchaug River
River Mile	5.4 miles upstream of the Natchaug River's confluence with the Willimantic
County	Windham and Tolland
State	Connecticut
Drainage Area	
Above Dam	159 square miles
Dam	
Type	Earth fill and embankment
Length	12,420 feet
Height	68 feet
Top Width	15

Spillway	
Type	Concrete gravity ogee weir
Crest Elevation	257 ft. NGVD29
Width	690 feet
Design Discharge	9,700 cubic feet per second (cfs)
Control Works	3 rectangular conduits at invert 199 feet MSL and 2 rectangular conduits at invert 195 feet MSL that are 5.5' x 7' and 26' long and can release 2,900 cfs
Real Estate Acquisition	
Fee Purchase	2,440 acres (260 ft. NGVD29)

(Source: Thames River Basin MMWC 2001: Mansfield Hollow Lake)

Table 1.3 Pertinent Data for Mansfield Hollow Lake

Reservoir Feature	Elevation (ft. NGVD29)	Stage (feet)	Surface Area (acres)	Capacity (acre-feet)	Capacity (inches of runoff)
Invert Elevation	195	0	0	0	0
Permanent Pool	211.5	16.5	450	2800	0
Conservation Pool	213.5	18.5 (Spring)	490	3,480	0.08
Spillway Crest	257	62	1,800	49,200 (net)	5.8 (net)
Maximum Surcharge (Design Criteria)	268.5	73.5	-	-	-
Top of Dam	273	78	-	-	-

(Source: Thames River Basin MMWC 2001: Mansfield Hollow Lake)
*Surface acre references within the text of the 2025 Master Plan align with Table 4.1 Change from 1979 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. 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, Figure 2.1. Mansfield Hollow 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
- 01100002 (HUC 8: Sub Basin) –Shetucket
- 0110000202 (HUC 10: Watershed) – Natchaug River
- 011000020204 (HUC 12: Sub-watershed) – Fenton River
- 011000020205 (HUC 12: Sub-watershed) – Mount Hope River
- 011000020206 (HUC 12: Sub-watershed) – Sawmill Brook-Natchaug River

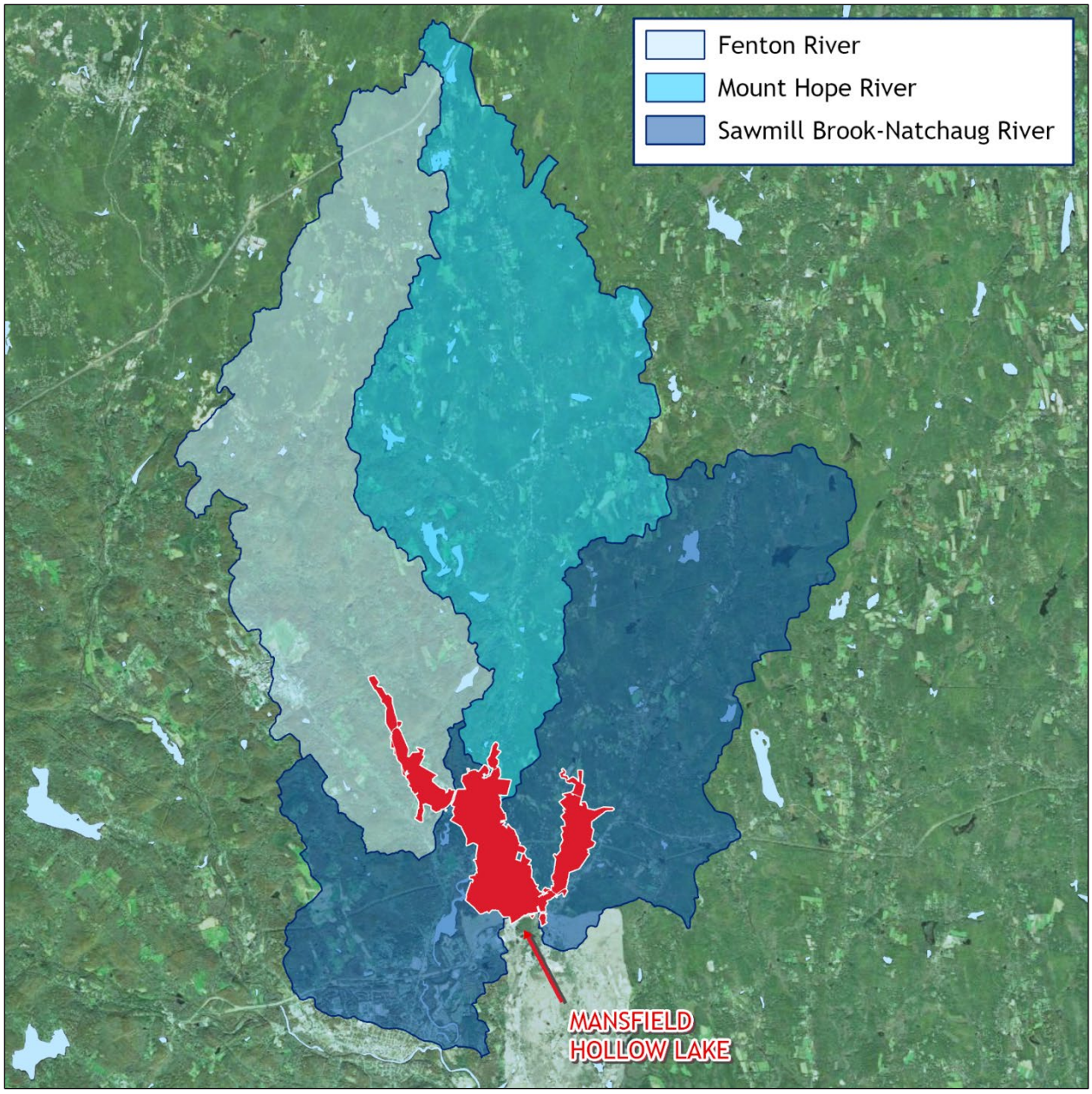

Figure 2.1 Hydrology (HUC 6, 8, 10, 12) Map for Mansfield Hollow (USGS, 2023)

2.1.2 Ground Water

The groundwater at Mansfield Hollow Lake is limited to New England crystalline-rock aquifers. Igneous and metamorphic rocks, primarily gneiss and schist, characterize the aquifers in Connecticut. Well depths of 10-303 feet are common, with the potential for some wells exceeding 500 feet before reaching water. Groundwater generally yields 1-25 gallons per minute but can exceed 200 gallons per minute. Groundwater is generally suitable for most uses. The nearest major aquifer is the central portion of sandstone Early Mesozoic Basin Aquifers, approximately 16 miles to the west, Figure 2.2. The state also mapped local groundwater resources that could also be developed

for water supply. This data mapped the thickness of local aquifers in coarse-grained deposits and fine deposits over coarse-grained deposits. In this data, greater thickness corresponds with greater potential for use as water supply. Several features in the 0-50 and 50-100 thickness classes occur at Mansfield Hollow Lake. These feature classes have the lowest potential for development. Overall, groundwater resources should not impact the management of Mansfield Hollow Lake's land and resources.

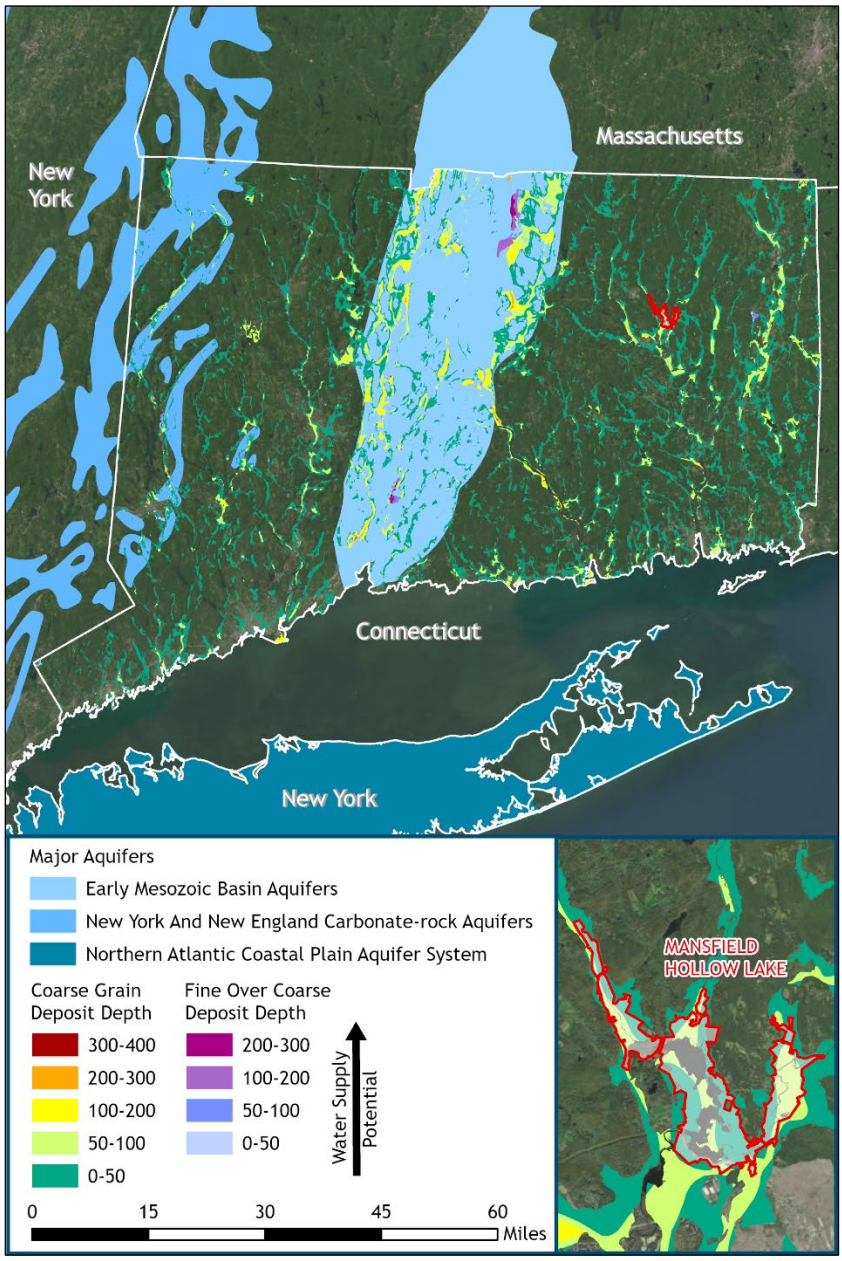

Figure 2.2 Groundwater Map for Mansfield Hollow Lake (USGS, 2007, 2023)

2.2 SEDIMENTATION AND SHORELINE EROSION

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 effectiveness. Frequent inspection will be made of problem areas after erosion has been controlled and periodic maintenance will be scheduled as needed to prevent degradation.

2.3 WATER QUALITY

Connecticut Water Quality Standards (WQS) designate uses and criteria for both surface and groundwater in order to set objectives for water quality (CT DEEP, 2011). Mansfield Hollow Lake is designated as a Class AA surface water (CT DEEP, 2024a). Designated uses for Class AA include existing or proposed drinking water supplies; habitat for fish, other aquatic life, and wildlife; recreation; and water supply for industry and agriculture (CT DEEP, 2011). Other surface waters associated with Mansfield Hollow Lake including the Natchaug River, Mount Hope River, and Fenton River, are also designated as Class AA (CT DEEP, 2024a).

The Connecticut Department of Energy & Environmental Protection (CT DEEP) conducts annual water quality monitoring of the State's waters (CT DEEP, 2022a). According to the CT DEEP 2022 Integrated Water Quality Report, all surface waters within the Mansfield Hollow fee boundary are in attainment with Connecticut WQS (CT DEEP, 2022).

2.4 AIR QUALITY

The U.S. Environmental Protection Agency (EPA) has set National Ambient Air Quality Standards (NAAQS) for six principal pollutants. These include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, and lead. An area is considered to be in attainment if it is meeting or below a given safe standard set by the EPA for the criteria pollutant.

The CT DEEP monitors air quality to determine compliance with NAAQS and evaluate air pollution control measures. There are 14 air quality stations in Connecticut. Air quality stations vary in measured pollutants, whereas some stations do not monitor all principal pollutants.

The State of Connecticut is currently in attainment for carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, and lead. Connecticut is in nonattainment for ozone (Figure 2.3). Mansfield Hollow Lake is a part of the Greater Connecticut ozone nonattainment area which is considered to be in moderate nonattainment for the 2015 8-hour ozone standard.

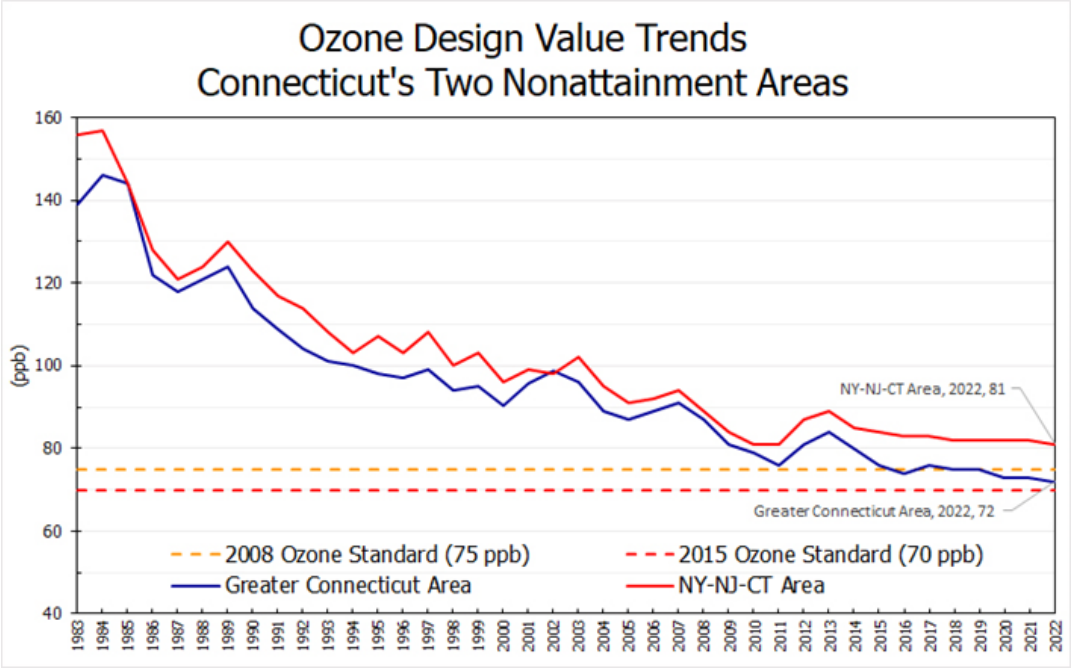

Figure 2.3 Yearly Ozone Measurements for 2015 8-hour Ozone Standard from 1983 to 2022 in Connecticut Nonattainment Areas (CT DEEP, 2023a)

2.5 CLIMATE AND GREENHOUSE GASES

2.5.1 Climate

Climatic regions are often described using Köppen- Geiger Climate Classifications (KCC) according to climatic groups, precipitation, and temperature. Mansfield Hollow Lake has a KCC of Cfa, which is described as a subtropical humid climate (Belda et al., 2014; NOAA, 2023). This classification is characterized by a mild climate with no dry season and a hot summer (NOAA, 2023). The average temperatures of the warmest months are over 72°F, with the coldest months under 64°F (NOAA, 2023). Rainfall occurs year-round but may be variable (NOAA, 2023).

The average monthly climate data for Mansfield Hollow Lake is presented in Figure 2.4 from the Willimantic Windham Airport (AP) weather station. Monthly climatic data includes the average precipitation each month and the average minimum, maximum, and daily average temperatures for each month.

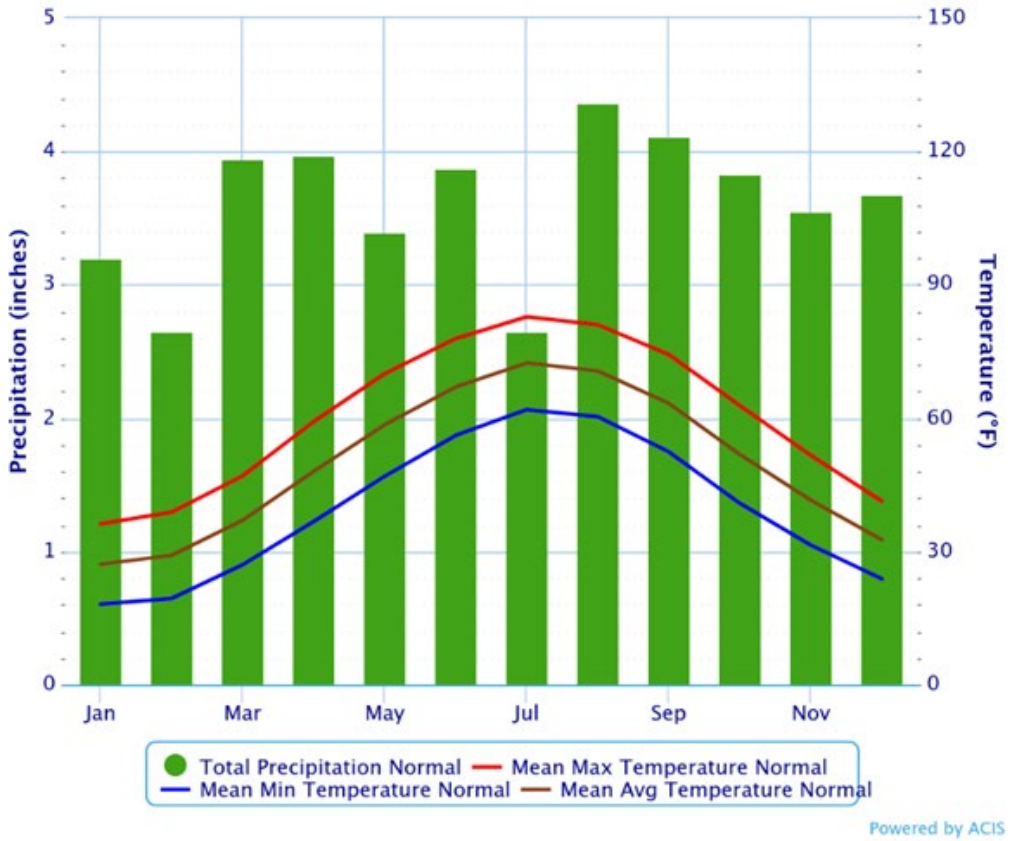

Figure 2.4 Average Monthly Climate for Willimantic Windham AP, Connecticut, 1991-2020 (NOAA, 2024)

2.5.2 Greenhouse Gases (GHG)

EPA's Facility Level Information on Green House Gases Tool (FLIGHT) was utilized to assess regional greenhouse gas emissions reported in 2023. EPA records show that there is 1 GHG contributors located in Tolland County, Connecticut and 2 GHG contributors in Windham County, Connecticut (EPA, 2024a). Table 2.1 describes GHG contributors in Tolland and Windham County. GHG emissions quantities are reported by the EPA in metric tons of Carbon Dioxide equivalent (CO2e). The subpart column describes the type of industry the emitting facility participates in.

Table 2.1 EPA Facility Level Information on Greenhouse Gases Tool (FLIGHT) Facilities in Windham and Tolland, Counties, CT (EPA 2024b)

Facility Name	City	County	GHG Quantity (mt CO_2e)	Subpart*
Chaplin Station	Chaplin	Windham	49,345	C,W
Frito-Lay	Killingly	Windham	42,756	C
University of Connecticut	Storrs, Mansfield	Tolland	100,636	Other

*Subpart Codes: D – Electricity Generation; C – General Stationary Fuel Combustion Sources; HH – Municipal Solid Waste Landfills; NN – Suppliers of Natural Gas and Natural Gas Liquids; W – Petroleum and Natural Gas Systems; R – Lead Production; Q – Iron and Steel Production

2.6 TOPOGRAPHY, GEOLOGY, AND SOILS

2.6.1 Topography

The Mansfield Hollow Lake project is located in the Northeastern Coastal ecoregion, specifically Southern New England Coastal Plains and Hills region. This region is characterized by a variably hilly terrain with local ridge systems, plateau-like uplands, broad valley areas, and local areas of steep and rugged topography throughout. The topography is generally hilly terrain with moderate relief.

The Natchaug River is formed by the confluence of the Still River and Bigelow Brook south of Phoenixville, Connecticut, and flows southwesterly to Mansfield Hollow Lake. During heavy rainfalls or rapid snow melt in the spring, the river rises moderately. Summer flow is well sustained by rainfall and groundwater. Due to the generally hilly topography, runoff is fairly rapid throughout the Thames River Basin.

The Natchaug River has a total fall of 267 feet along the total length of 16 miles. In the vicinity of the reservoir, the average slope is 15 feet per mile. Hilly terrain with moderate relief surrounds the reservoir area. The narrow and steep-sided river valleys are flanked by terraces and high hills. Parts of the narrow floodplains are swampy. The upper part of the reservoir inundates a former marsh and swamp. Elevations in the vicinity range from about 190 feet MSL in the streambed at the dam to about 590 feet MSL on a hill east of Chaffeeville overlooking the Fenton River.

2.6.2 Geology

The bedrock underlying the dam and reservoir area is metamorphic gneisses and schists with pegmatite intrusions. The Natchaug, Fenton and Mount Hope Rivers flow mostly over alluvium composed of silt, sand and gravel, although for short distances the Natchaug and Mount Hope Rivers flow through narrow valleys in bedrock and in terraces of glacial drift that line all three steep-sided river valleys. These terraces are the only flat areas above the floodplain and therefore are used in preference to other parts of this predominantly hilly area for most recreation activities. Almost the entire reservoir area, except around the lake below Bassetts Bridge, is underlain by extremely productive aquifers. The U.S. Geological Survey estimates that wells in these aquifers could yield up to several million gallons per day.

2.6.3 Soils

The non-irrigated land capability classification from the Natural Resource Conservation Service (NRCS) shows there are 8 general soil classifications (Class I through Class VIII). All of which occur at Mansfield Hollow Lake, Figure 2.5. 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 noted in Figure 2.5. 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.

The descriptions of the soils and land capability classifications below demonstrate the relative general potential for project lands. The NRCS maintains detailed information on all soil types surrounding Mansfield Hollow 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.

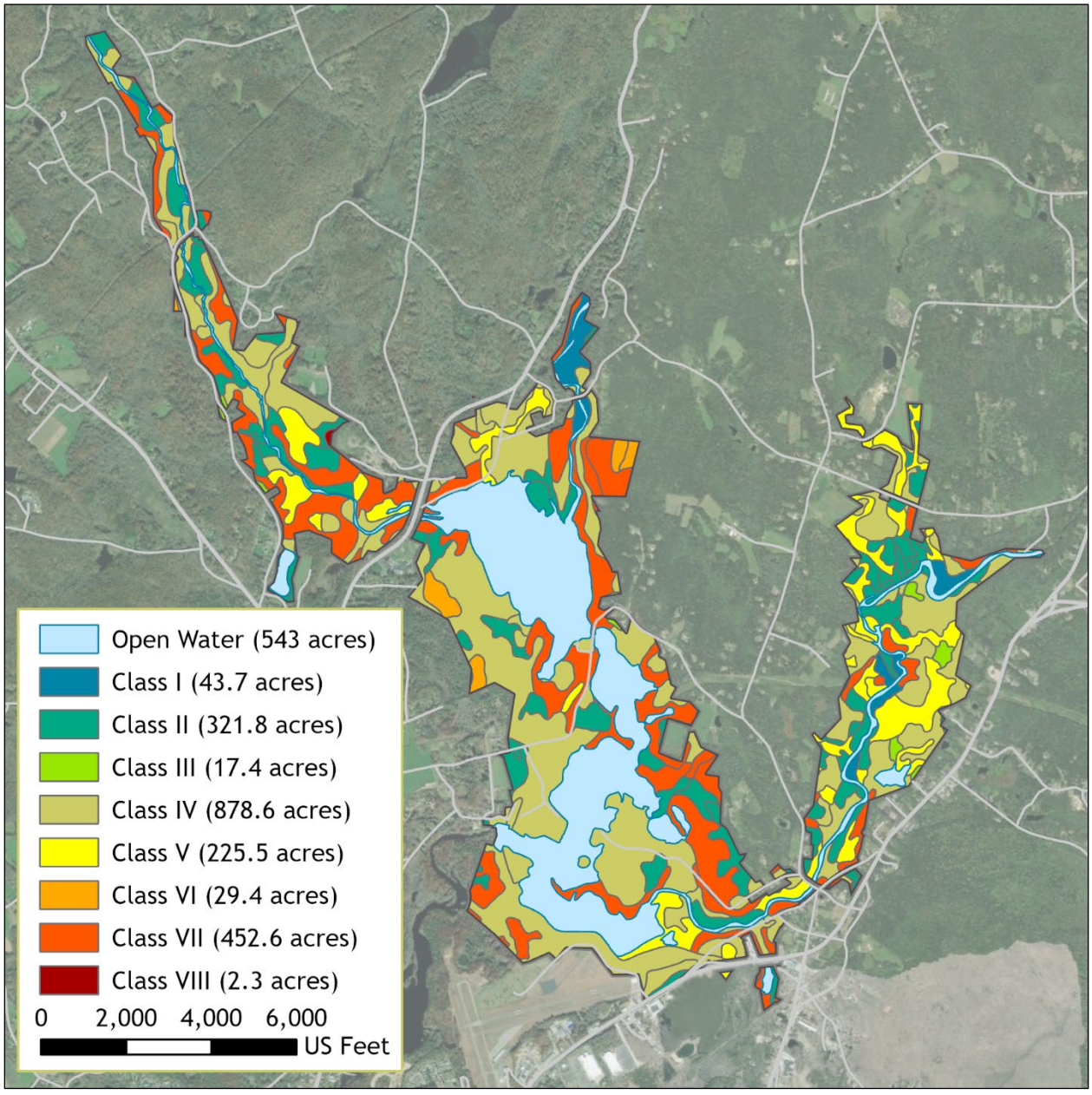

Figure 2.5 Soil Classification Map (NRCS, 2023)

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. Prime farmlands present at Mansfield Hollow Lake are presented in Table 2.2, and Figure 2.6.

Table 2.2 Prime Farmlands Identified at Mansfield Hollow Lake (NRCS, 2024)

Map Symbol	Map Unit Name	Farmland Classification
3	Ridgebury, Leicester, and Whitman soils, 0 to 8 percent slopes, extremely stony	Not prime farmland
13	Walpole sandy loam, 0 to 3 percent slopes	Farmland of statewide importance
15	Scarboro muck, 0 to 3 percent slopes	Not prime farmland
17	Timakwa and Natchaug soils, 0 to 2 percent slopes	Not prime farmland
18	Catden and Freetown soils, 0 to 2 percent slopes	Not prime farmland
23A	Sudbury sandy loam, 0 to 5 percent slopes	All areas are prime farmland
29B	Agawam fine sandy loam, 3 to 8 percent slopes	All areas are prime farmland
34A	Merrimac fine sandy loam, 0 to 3 percent slopes	All areas are prime farmland
34B	Merrimac fine sandy loam, 3 to 8 percent slopes	All areas are prime farmland
34C	Merrimac fine sandy loam, 8 to 15 percent slopes	Farmland of statewide importance
36A	Windsor loamy sandy, 0 to 3 percent slopes	Farmland of statewide importance
36B	Windsor loamy sandy, 3 to 8 percent slopes	Farmland of statewide importance
38A	Hinckley loamy sand, 0 to 3 percent slopes	Farmland of statewide importance
38C	Hinckley loamy sand, 3 to 15 percent slopes	Farmland of statewide importance
38E	Hinckley loamy sand, 15 to 45 percent slopes	Not prime farmland

Map Symbol	Map Unit Name	Farmland Classification
47C	Woodbridge fine sandy loam, 3 to 15 percent slopes, extremely stony	Not prime farmland
52C	Sutton fine sandy loam, 2 to 15 percent slopes, extremely stony	Not prime farmland
57C	Gloucester gravelly sandy loam, 8 to 15 percent slopes	Farmland of statewide importance
58B	Gloucester gravelly sandy loam, 3 to 8 percent slopes, very stony	Farmland of statewide importance
58C	Gloucester gravelly sandy loam, 8 to 15 percent slopes, very stony	Farmland of statewide importance
59C	Gloucester gravelly sandy loam, 8 to 15 percent slopes, very stony	Not prime farmland
59D	Gloucester gravelly sandy loam, 15 to 35 percent slopes, extremely stony	Not prime farmland
62C	Canton and Charlton fine sandy loams, 3 to 15 percent slopes, extremely stony	Not prime farmland
62D	Canton and Charlton fine sandy loams, 15 to 35 percent slopes, extremely stony	Not prime farmland
73C	Charlton-Chatfield complex, 0 to 15 percent slopes, very rocky	Not prime farmland
73E	Charlton-Chatfield complex, 15 to 45 percent slopes, very rocky	Not prime farmland
85B	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes, very stony	Farmland of statewide importance
100	Suncock loamy fine sand	Farmland of statewide importance
101	Occum fine sandy loam	All areas are prime farmland
102	Pootatuck fine sandy loam	All areas are prime farmland
103	Rippowam fine sandy loam	Farmland of statewide importance
108	Saco silt loam, frequently ponded, 0 to 2 percent slopes, frequently flooded	Not prime farmland

Map Symbol	Map Unit Name	Farmland Classification
302	Dumps	Not prime farmland
305	Udorthents-Pits complex, gravelly	Not prime farmland
306	Udorthents-Urban land complex	Not prime farmland
701B	Ninigret fine sandy loam, 3 to 8 percent slopes	All areas are prime farmland
W	Water	Not prime farmland

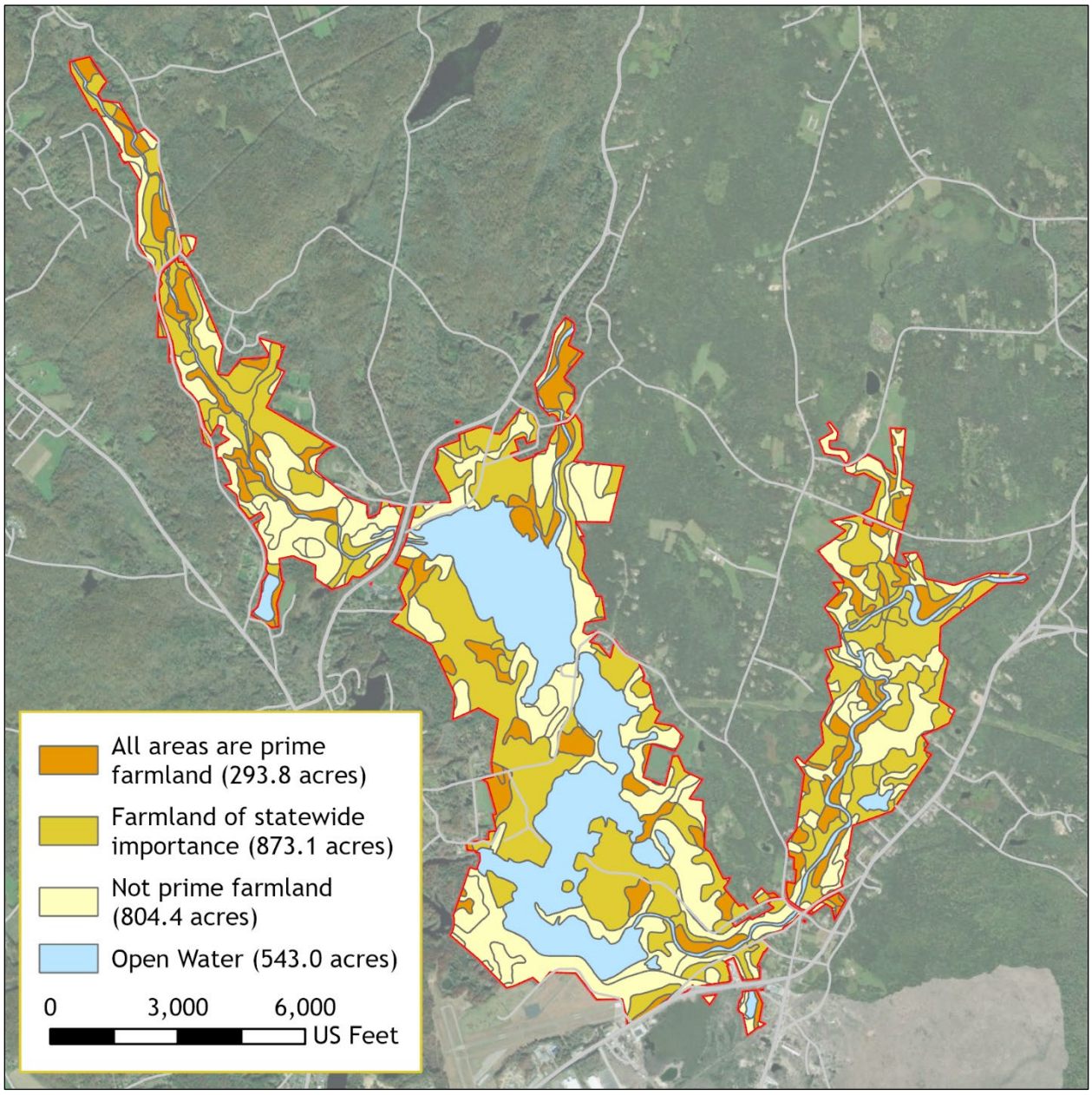

Figure 2.6 Prime Farmland Soils Map (NRCS, 2023)

2.7 NATURAL RESOURCE ANALYSIS

2.7.1 Fish and Wildlife Resources

Fish and wildlife occurring at Mansfield Hollow Lake are typical of Tolland and Windham counties. Tables 2.3, 2.4, and 2.5 provide lists of common wildlife species occurring at Mansfield Hollow Lake (CTDEEP, 2023b; CTDEEP, 2006).

Table 2.6 provides a list of observed fish species within Mansfield Hollow Lake and tributaries within the federal fee boundary (CTDEEP, 2024b).

Table 2.3 Common Mammals Species Potentially Occurring at Mansfield Hollow Lake

Common Name	Scientific Name
Coyote	*Canis latrans*
American beaver	*Castor canadensis*
Virginia opossum	*Didelphis virginiana*
Southern flying squirrel	*Glaucomys volans*
River otter	*Lontra canadensis*
Bobcat	*Lynx rufus*
Groundhog	*Marmota monax*
Striped skunk	*Mephitis mephitis*
White-tailed deer	*Odocoileus virginianus*
Muskrat	*Ondatra zibethicus*
Fisher	*Pekania pennanti*
Raccoon	*Procyon lotor*
Gray squirrel	*Sciurus carolinensis*
Eastern cottontail	*Sylvilagus floridanus*
New England cottontail	*Sylvilagus transitionalis*
Eastern chipmunk	*Tamias striatus*
Red squirrel	*Tamiasciurus hudsonicus*
Gray fox	*Urocyon cinereoargenteus*
Black bear	*Ursus americanus*
Red fox	*Vulpes vulpes*

Table 2.4 Common Bird Species Potentially Occurring at Mansfield Hollow Lake

Common Name	Scientific Name
Sharp-shinned hawk	*Accipiter striatus*
Wood duck	*Aix sponsa*
Grasshopper sparrow	*Ammodramus savannarum*
Dabbling ducks	*Anas spp.*
Great egret	*Ardea alba*
Canada goose	*Branta canadensis*
Northern flicker	*Colaptes auratus*
Rock pigeon	*Columba livia*
American crow	*Corvus brachyrhynchos*
Mute swan	*Cygnus olor*
Bobolink	*Dolichonyx oryzivorus*
Downy woodpecker	*Dryobates pubescens*
Pileated woodpecker	*Dryocopus pileatus*
Snowy egret	*Egretta thula*
Horned lark	*Eremophila alpestris*
Peregrine falcon	*Falco peregrinus*
American kestrel	*Falco sparverius*
Bald eagle	*Haliaeetus leucocephalus*
Red-bellied woodpecker	*Melanerpes carolinus*
Hairy woodpecker	*Leuconotopicus villosus*
Wild turkey	*Meleagris gallopavo*
Brown-headed cowbird	*Molothrus ater*
Osprey	*Pandion haliaetus*
Savannah sparrow	*Passerculus sandwichensis*
Common pheasant	*Phasianus colchicus*
King rail	*Rallus elegans*
American woodcock	*Scolopax minor*
Eastern bluebird	*Sialia sialis*
Yellow-bellied sapsucker	*Sphyrapicus varius*
Eastern meadowlark	*Sturnella magna*

Table 2.5 Common Reptile Species Occurring at Mansfield Hollow Lake

Common Name	Scientific Name
Eastern wormsnake	*Carphophis amoenus*
Common snapping turtle	*Chelydra serpentina*
Eastern painted turtle	*Chrysemys picta*
Spotted turtle	*Clemmys guttata*
North American racer	*Coluber constrictor*
Ring-necked snake	*Diadophis punctatus*
Wood turtle	*Glyptemys insculpta*
Eastern hog-nosed snake	*Heterodon platirhinos*
Milksnake	*Lampropeltis triangulum*
Northern watersnake	*Nerodia sipedon*
Smooth greensnake	*Opheodrys vernalis*

Common Name	Scientific Name
Eastern musk turtle	*Sternotherus odoratus*
Dekay's brownsnake	*Storeria dekayi*
Red-bellied snake	*Storeria occipitomaculata*
Eastern box turtle	*Terrapene carolina*
Common gartersnake	*Thamnophis sirtalis*
Common ribbonsnake	*Thamnophis sauritus*

Table 2.6 Observed Fish Species within the Mansfield Hollow Lake Federal Fee Boundary from CT DEEP Freshwater Fish Surveys

Common Name	Scientific Name
Yellow bullhead	*Ameiurus natalis*
Brown bullhead	*Ameiurus nebulosus*
American eel	*Anguilla rostrata*
White sucker	*Catostomus commersonii*
Northern pike	*Esox lucius*
Chain pickerel	*Esox niger*
Tessellated darter	*Etheostoma olmstedi*
Banded killifish	*Fundulus diaphanus*
Green sunfish	*Lepomis cyanellus*
Pumpkinseed	*Lepomis gibbosus*
Bluegill	*Lepomis macrochirus*
Redbreast sunfish	*Lepomis auritus*
Common shiner	*Luxilus cornutus*
Smallmouth bass	*Micropterus dolomieu*
Largemouth bass	*Micropterus salmoides*
Golden shiner	*Notemigonus crysoleucas*
Spottail shiner	*Notropis hudsonius*
Rainbow trout	*Oncorhynchus mykiss*
Yellow perch	*Perca flavescens*
Black crappie	*Pomoxis nigromaculatus*
Blacknose dace	*Rhinichthys atratulus*
Brown trout	*Salmo trutta*
Brook trout	*Salvelinus fontinalis*
Fallfish	*Semotilus corporalis*

2.7.2 Vegetative Resources

Mansfield Hollow Lake sits within the EPA Level IV Southern New England Coastal Plains and Hills ecoregion (Griffith, et al., 2009). The Southern New England Coastal Plains and Hills ecoregion includes deciduous forests with some mixed and evergreen forests. Dominant vegetation may include Appalachian oak-pine forests, oak-hickory forests, and oak-hemlock-white pine forests (Griffith, et al., 2009). Common species include red oak (*Quercus rubra*), white oak (*Quercus alba*), scarlet oak (*Quercus coccinea*), black oak (*Quercus velutina*), chestnut oak (*Quercus montana*), white pine (*Pinus strobus*), red maple (*Acer rubrum*), pignut hickory (*Carya glabra*), shagbark hickory (*Carya ovata*), and mockernut hickory (*Carya tomentosa*) (Griffith, et al., 2009).

Mesic forests may include sugar maple (*Acer saccharum*), red oak (*Quercus rubra*), American beech (*Fagus grandifolia*), and white ash (*Fraxinus americana*) (Griffith, et al., 2009). Swamps may include red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*), hemlock (*Tsuga canadensis*), or Atlantic white cedar (*Chamaecyparis thyoides*). On small river floodplains, pin oak-green ash forests are dominant. Woody swamps may include swamp white oak (*Quercus bicolor*), red maple (*Acer rubrum*), and American elm (*Ulmus americana*) (Griffith, et al., 2009). Land uses for this ecoregion include deciduous forest, urban, suburban and rural residential land, hay/pasture, cropland, mixed and evergreen forest, woody wetlands, public state forest, and state park lands (Griffith, et al., 2009).

2.7.3 Threatened and Endangered Species

Federal

The USFWS Information for Planning and Consultation (IPaC) was reviewed to determine project area resources and evaluate project compliance with the Endangered Species Act, Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. An IPaC report was generated to indicate federal conservation species and other resources under USFWS jurisdiction (see Appendix C). Birds of Conservation Concern (BCC) are identified through IPaC alongside species protected under the Endangered Species Act. BCC species are migratory and non-migratory bird species which have the highest conservation priority as identified by USFWS (USFWS, 2021). Table 2.7 describes species protected under the Endangered Species Act. Table 2.8 describes those protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act (USFWS, 2024a).

Table 2.7 Federally Listed Species Potentially Occurring at Mansfield Hollow Lake (USFWS, 2024a)

Common Name	Scientific Name	Federal Status
Northern long-eared bat	*Myotis septentrionalis*	Endangered
Tri-colored bat	*Perimyotis septentrionalis*	Proposed Endangered

Table 2.8 Federally Listed Migratory Birds Potentially Occurring at Mansfield Hollow Lake (USFWS, 2024a)

Common Name	Scientific Name	Federal Status
Bald eagle	*Haliaeetus leucocephalus*	Bald and Golden Eagle Protection Act
Black-billed cuckoo	*Coccyzus erythropthalmus*	Bird of Conservation Concern (BCC)
Blue-winged warbler	*Vermivora cyanoptera*	BCC
Bobolink	*Dolichonyx oryzivorus*	BCC
Canada warbler	*Cardellina canadensis*	BCC
Cerulean warbler	*Setophaga cerulea*	BCC
Chimney swift	*Chaetura pelagica*	BCC
Grasshopper sparrow	*Ammodramus savannarum perpallidus*	BCC
Kentucky warbler	*Geothlypis formosa*	BCC
King rail	*Rallus elegans*	BCC
Least tern	*Sternula antillarum antillarum*	BCC
Lesser yellowlegs	*Tringa flavipes*	BCC
Long-eared owl	*Asio otus*	BCC
Pectoral sandpiper	*Calidris melanotos*	BCC
Prairie warbler	*Setophaga discolor*	BCC
Prothonotary warbler	*Protonotaria citrea*	BCC
Red-headed woodpecker	*Melanerpes erythrocephalus*	BCC
Rusty blackbird	*Euphagus carolinus*	BCC
Scarlet tanager	*Piranga olivacea*	BCC
Semipalmated sandpiper	*Calidris pusilla*	BCC
Short-billed dowitcher	*Limnodromus griseus*	BCC
Whimbrel	*Numenius phaeopus hudsonicus*	BCC
Wood thrush	*Hylocichla mustelina*	BCC

State

An automated site assessment was generated to identify potential state-listed conservation species using the Connecticut Natural Diversity Data Base (NDDB). NDDB maintains data on populations of state endangered, threatened, or special concern species. There is one state sensitive species undisclosed by CT NDDB due to risk of collection. Table 2.9 describes state-listed species documented within or in close proximity to Mansfield Hollow Lake (Appendix C).

Table 2.9 State-Listed Conservation Species Potentially Occurring at Mansfield Hollow Lake

Common Name	Scientific Name	State Status
Northern spring salamander	*Gyrinophilus porphyriticus*	Threatened
Eastern hog-nosed snake	*Heterodon platirhinos*	Special Concern
Wood turtle	*Glyptemys insculpta*	Special Concern
Eastern ribbon snake	*Thamnophis sauritus*	Special Concern
Spotted turtle	*Clemmys guttata*	Special Concern
Grasshopper sparrow	*Ammodramus savannarum*	Endangered
Horned lark	*Eremophila alpestris*	Endangered
King rail	*Rallus elegans*	Endangered
Eastern meadowlark	*Sturnella magna*	Threatened
American kestrel	*Falco sparverius*	Special Concern
Savannah sparrow	*Passerculus sandwichensis*	Special Concern
Bobolink	*Dolichonyx oryzivorus*	Special Concern
Brook floater	*Alasmidonta varicosa*	Endangered
Hessel's hairstreak	*Callophrys hesseli*	Endangered
Barrens chytonix	*Chytonix sensilis*	Endangered
Northern flower moth	*Schinia septentrionalis*	Threatened
Frosted elfin	*Callophrys irus*	Threatened
Sleepy duskywing	*Erynnis brizo*	Threatened
American rubyspot	*Hetaerina americana*	Threatened
Scrub euchlaena	*Euchlaena madusaria*	Threatened
Pine barrens zanclognatha	*Zanclognatha martha*	Threatened
Slender clearwing	*Hemaris gracilis*	Threatened
Disc gyro	*Gyraulus circumstriatus*	Special Concern
Eastern pearlshell	*Margaritifera margaritifera*	Special Concern
Oblique zale	*Zale obliqua*	Special Concern
Spinose flower moth	*Schinia spinosae*	Special Concern
Horace's duskywing	*Erynnis horatius*	Special Concern
Mustached clubtail	*Gomphus adelphus*	Special Concern
Purse web spider	*Sphodros niger*	Special Concern
Henry's elfin	*Callophrys henrici*	Special Concern
Scribbled sallow moth	*Sympistis perscripta*	Special Concern
Waxed sallow	*Chaetaglaea cerata*	Special Concern
Harris' checkerspot	*Chlosyne harrisii*	Special Concern Historical
Capillary pondweed	*Potamogeton gemmiparus*	Threatened

Common Name	Scientific Name	State Status
Low frostweed	*Crocanthemum propinquum*	Special Concern
Beck's water-marigold	*Bidens beckii*	Special Concern

2.7.4 Invasive Species

EO 13112, as amended by EO 13751, defines an invasive species as a non-native organism whose introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health. Invasive species can change community structure, composition, and ecosystem processes. Careful management can minimize these negative impacts. Table 2.10 and 2.11 list the invasive species present at Mansfield Hollow Lake.

Various methods are used to manage invasive species by staff and volunteers at the projects. These methods of control include:

- Biological: use of other living organisms to suppress invasive species
- Chemical: application of registered pesticides for control of targeted species
- Manual: hand pulling, digging, weed wrenching, cutting
- Mechanical: mechanized removal or control of invasive species including mowing, forestry equipment, chainsaws, aquatic harvesting equipment, and/or the use of traps
- Cultural: education, outreach, and other activities to improve public practices on lands and reduce spread of invasive species and/or manipulation of habitats to increase mortality

Table 2.10 Terrestrial Invasive Species Occurring at Mansfield Hollow Lake

Common Name	Scientific Name
Norway maple	*Acer platanoides*
Sycamore maple	*Acer pseudoplatanus*
Garlic mustard	*Alliaria petiolate*
Japanese barberry	*Berberis thunbergia*
Oriental bittersweet; Asiatic bittersweet	*Celastrus orbiculatus*
Autumn olive	*Elaeagnus umbellata*
Winged euonymus; Burning bush	*Euonymus alatus*
Japanese knotweed	*Fallopia japonica*
European buckthorn; Glossy buckthorn	*Frangula alnus*
Yellow iris	*Iris pseudacorus*
Japanese honeysuckle	*Lonicera japonica*
Morrow's honeysuckle	*Lonicera morrowii*
Bell's honeysuckle	*Lonicera x bella [morrowii x tatarica]*
Purple loosestrife	*Lythrum salicaria*
Common reed	*Phragmites australis*
Common buckthorn	*Rhamnus cathartica*
Black locust	*Robinia pseudoacacia*
Multiflora rose	*Rosa multiflora*
Black swallow-wort	*Vincetoxicum nigrum*

Table 2.11 Aquatic Invasive Species Occurring at Mansfield Hollow Lake

Common Name	Scientific Name
Carolina fanwort; fanwort	*Cabomba caroliniana*
Variable watermilfoil	*Myriophyllum heterophyllum*
Eurasian watermilfoil; European watermilfoil	*Myriophyllum spicatum*
Crisped pondweed; curly pondweed	*Potamogeton crispus L.*
Water chestnut	*Trapa natans*

2.7.5 Ecological Setting

The EPA's ecoregion classifications describe the broader ecological setting of Mansfield Hollow 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. Ecoregions are used to describe areas with similar

ecosystems and in type, quality, and quantity of environmental resources (EPA, 2024b). Ecoregions are classified through a hierarchical scale, which ranges from general to detailed ecoregions. Level IV and III ecoregions are described below. Level IV ecoregions describe localized vegetation, whereas Level III describe the regional ecosystems. Information in this section is summarized from the North American Terrestrial Ecoregions – Level III descriptions document (Wiken, 2011). Figure 2.7 shows EPA's Level III ecoregions at Mansfield Hollow Lake and surrounding areas.

Mansfield Hollow Lake is a part of the Northeastern Coastal Zone Level III ecoregion. This is the predominant Level III ecoregion in Connecticut and is found throughout Southern New England and in coastal areas of New Hampshire and southern Maine. The Northeastern Highland Level III ecoregion is also found in Connecticut but is restricted to the north-western region of the state. The climate in the Northeastern Coastal Zone is described as a severe, humid continental climate, characterized by warm summers and severe winters. The natural vegetation types are Appalachian oak forests and northeastern oak-pine forests. The ecoregion's hydrology includes abundant perennial streams, lakes, ponds, and wetlands. Landforms include irregular plains, plains with low to high hills, and open hills. Soils are relatively nutrient poor and are typically Inceptisols with moderate soil development. The geology of the Northeastern Coastal Zone is varied but is predominantly igneous and metamorphic rocks.

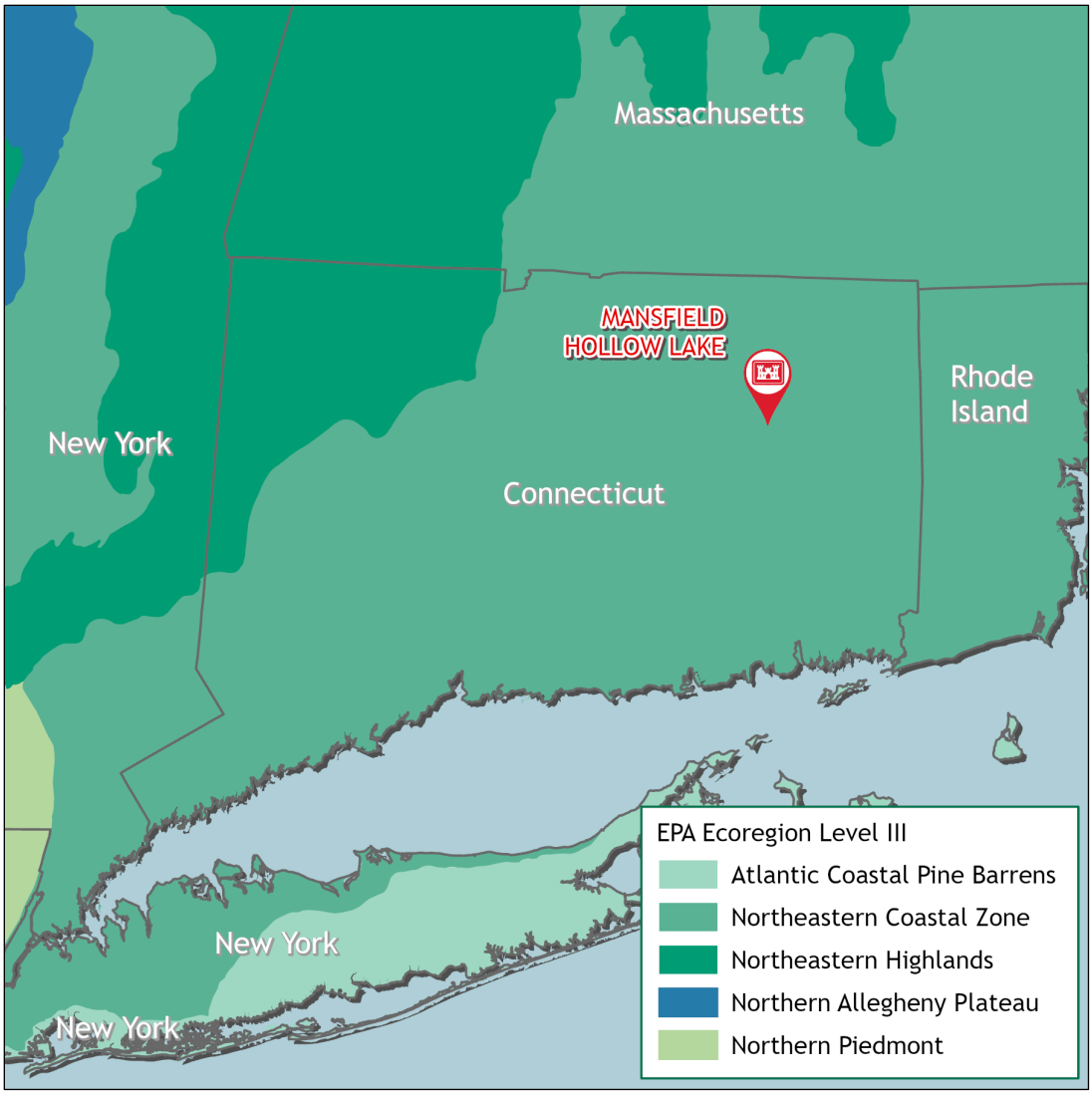

Figure 2.7 EPA Level III Ecoregions Surrounding Mansfield Hollow Lake

2.7.6 Wetlands

The U.S. Fish and Wildlife Service (USFWS) maintains the National Wetlands Inventory (NWI), which is a wetlands database across the United States. Using the NWI's GIS data, there are approximately 911 acres of wetlands present within the fee boundary for Mansfield Hollow Lake (USFWS, 2024b). Figure 2.8 displays the mapped wetlands using the NWI database at Mansfield Hollow Lake and Table 2.12 summarizes the wetlands by NWI wetland type.

Table 2.12 NWI Wetlands by Type at Mansfield Hollow Lake (USFWS, 2024b)

Wetland Type	Acres
Lake	464
Freshwater	213

Wetland Type	Acres
Forested/Shrub	
Riverine	151
Freshwater Emergent	63
Pond	20

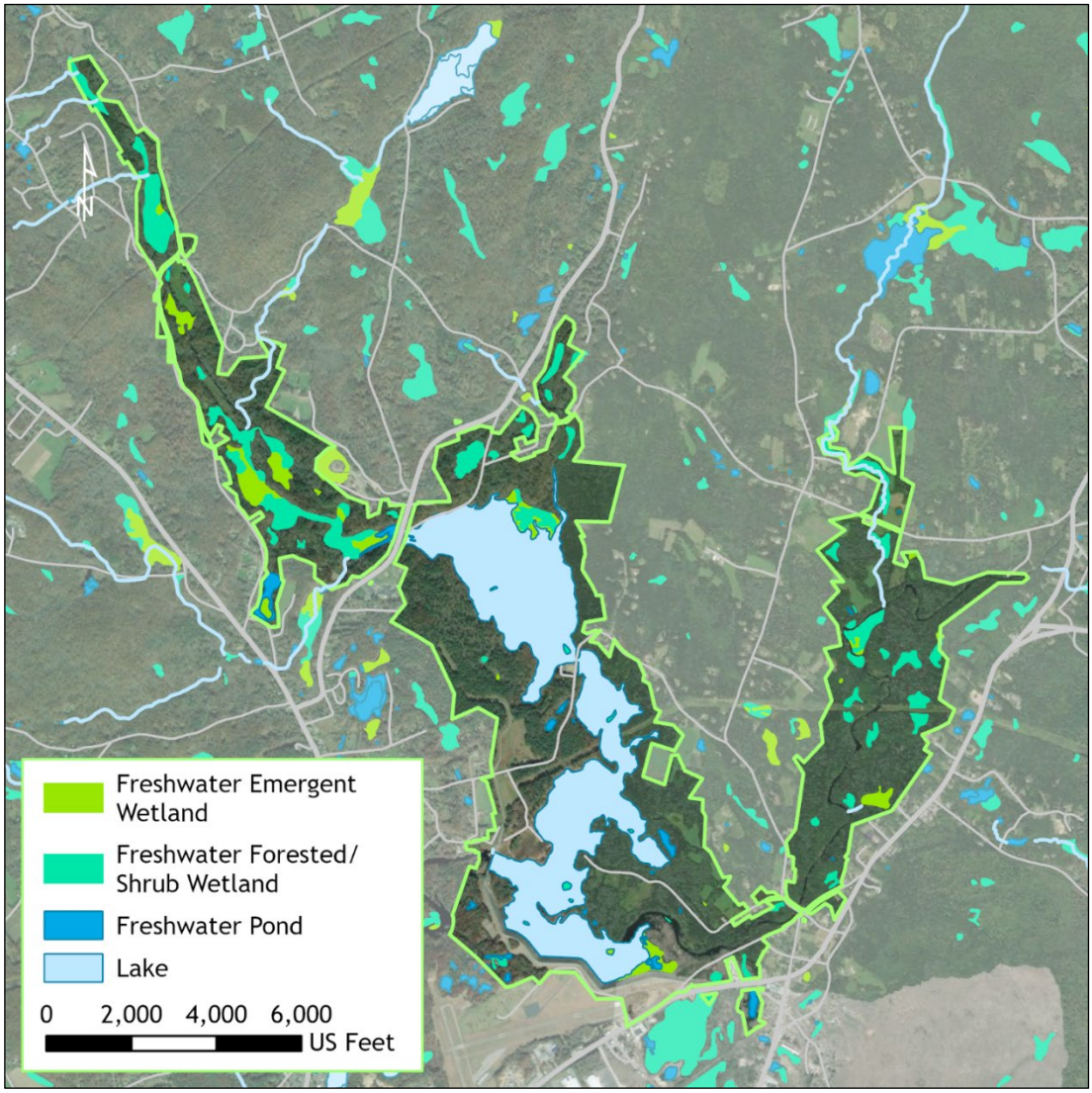

Figure 2.8 NWI Wetlands at Mansfield Hollow Lake (NWI, 2023)

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 area of the Mansfield Hollow Lake project (EnviroMapper 2024).

The EPA's EnviroMapper tool reports there are approximately 117 EPA listed facilities in a 5-mile buffered area extending from the Mansfield Hollow Lake fee boundary (EPA, 2024d). These facilities are from: Resource Conservation and Recovery Act sites; Toxic Release Inventory sites; Assessment, Cleanup, and Redevelopment Exchange System sites; and Integrated Compliance Information System for Air sites. There are no Superfund or Comprehensive Environmental Response, Compensation, and Liability Act sites within a 5-mile radius. Figure 2.9 shows the EnviroMapper sites found within a 5-mile buffer of the Mansfield Hollow Lake federal fee boundary.

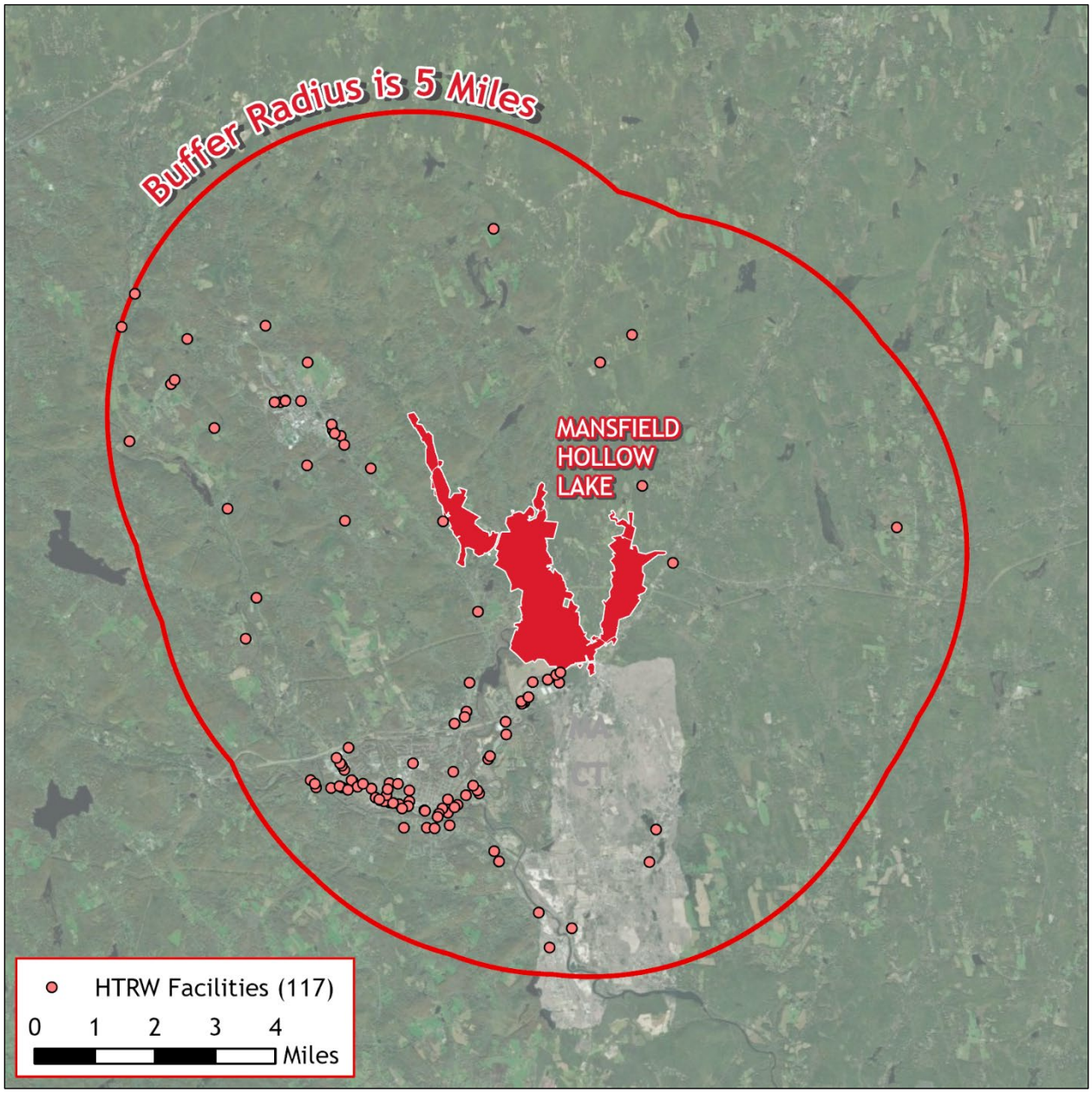

Figure 2.9 EPA EnviroMapper Facilities within a 5 Mile Radius of Mansfield Hollow Lake (EPA, 2023B)

2.9 HEALTH AND SAFETY

The safety of project visitors is of utmost importance, and rules and regulations relating to safety have been established for both project personnel and the visiting public. All USACE employees in a reservoir management capacity are trained in first aid and CPR. In addition, all potential safety hazards at Mansfield Hollow Lake have been identified and protective measures have been implemented as necessary. The necessary guardrails and fences have been installed along roads and around the dam, and signs and barricades are located in appropriate places throughout the project. The log boom is also a safety measure which helps prevent boaters from getting dangerously close to the dam's intake works. The State of Connecticut Department of Public Health prohibits swimming, bathing or any other water contact activities in the project area because the water supply reservoir for the city of Willimantic is located one mile downstream from Mansfield Hollow Dam (MP 1979).

2.10 AESTHETIC RESOURCES

Aesthetic resources comprise both the built and natural environments that provoke feelings of inspiration and awe, while providing opportunities for the enjoyment of the natural beauty of the landscape. Visitors to Mansfield Hollow Lake will discover a wide array of natural areas to take in views of scenic shorelines, picturesque forest landscapes, and artifacts from the historic New England milling and farming industry. Pleasing views from the overlook of the dam offer visitors a panoramic view of the area. The 452-acre permanent pool provides anglers, boaters, and paddlers ample opportunity to enjoy the abundant scenic landscape by water. The vistas can be appreciated throughout every season by a variety of visitors.

Several other public recreational areas are located near Mansfield Hollow Lake. The Mansfield Hollow State Park maintains many hiking trails, allowing access for visitors to take advantage of the scenic qualities of the lake and surrounding areas. A portion of the Nipmuck Trail runs within the boundaries of the Mansfield Hollow Lake project, a trail network which runs from Mansfield, Connecticut to the Massachusetts border. The forest resources on the project are managed for their wildlife, recreational, and aesthetic values. There are numerous places of historic significance in Mansfield and the surrounding area including the Nipmuck Trail, Nathan Hale State Monument, and the Eleanor Williams House (1710), which is listed in the National Register. Approximately 5 miles away is the University of Connecticut, which was founded in 1881 as one of the original land grant colleges.

The Kirby Mill, built by the National Thread Company in 1882, is also located near the Mansfield Hollow Dam. The stone mill was briefly owned (but not operated) by Willimantic's American Thread Company, and then in 1902 it was sold to George Kirby, a Providence jeweler who produced eyeglasses frames and related accessories. During World War I the mill temporarily made munition parts for the U.S. Army. Following Kirby's death in 1965, the mill was conveyed to the State of Connecticut and used for storage. The mill was privately sold in 1997 and renovated for use as commercial office

space and light industry. An innovative hydropower facility was later installed that produces enough renewable energy to power the mill building as well as approximately 250 homes.

Protection and preservation of natural site amenities is a fundamental project purpose in this Master Plan. The land encompassed by the dam and reservoir area is typical of the southern New England countryside, characterized by rolling wooded hills, quiet streams and expanses of sky framed by forest growth. To ensure that visitors can continue enjoying the presence of nature, development must be coordinated and balanced with tangible and intangible site assets (MP 1979).

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. 306101 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.

2.11.1 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 (Lore et al. 2011; Lothrop et al. 2018):

Pre-Contact Periods

- Paleo-Indian Period (10,500 to 8,000 BC)
- Early Archaic Period (8,000 to 5,500 BC)
- Middle Archaic Period (5,500 to 3,000 BC)
- Late Archaic Period (3,000 to 1,000 BC)
- Early Woodland Period (1,000 BC to 300 AD)
- Middle Woodland Period (300 to 950 AD)
- Late Woodland Period (950 to 1500 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 Mansfield Hollow Lake include a record of occupations by indigenous populations from as early as the Paleo-Indian Period (ca. 10,500 BC) through the Contact period (1500 to 1675 AD) and into the present day. There are 61 pre-contact and 27 post-contact archaeological sites recorded within the project area. Pre-contact archaeological sites in the project area range from small scatters of chipped stone tools to campsites or small villages representing multiple episodes of occupation. Sites are typically found on low terraces overlooking ponds, wetlands, and streams. Pre-contact artifacts include stone projectile points, chipped stone tools, shell, bone, ceramics, and burned rock. Notable pre-contact sites in the project area include the Shuba Road Site (Late Archaic), the Turnip Meadow 2 Site (Late Archaic), the Spillway Site (Late Archaic to Early Woodland), the Warren Sargent Site (Late Archaic to Early Woodland), the Mount Hope River Site (Middle Woodland), and the Mansure Lane Site (Late Woodland). Two larger encampments that represent sustained occupation are the

Copperhead Site (Woodland) and the Fenton River Knoll Site (Atwood 1999, Lore et al. 2011).

Post-contact settlement in the project area begins in the late 17th century in the nearby communities of Windham (founded in 1692), Mansfield (founded in 1703), and Chaplin (founded in 1822). Post-contact sites are represented by farmsteads, mills, dams, fish weirs, and transportation infrastructure. Beginning in the Late 18th century and throughout the 19th century, silk production is established in the region and silk mills emerge as a popular industry with mills in Mansfield, Gurleyville, Hank's Hill, and Atwoodville. Other industries in the region include agriculture, paper mills, and cotton and woolen mills. By the 20th century, activities in the region were mostly limited to agriculture focused on dairy and poultry. Notable post-contact sites in the project area include the O.S. Chaffee and Son Silk Mill Complex, the Fenton River Fish Weirs, the McFarlane and Sons Silk Mill Complex, the Atwood/McFarlane Silk Mill, the R.M. Johnson Farm, J. Topliff Residence, the Lincoln Woolen Mill, the H. Spafford/J.F. McCarthy Site, Bedlam Road Brick Clamp, L. Allen and W. Johnson Farmstead, Bassett Road Bridge, Warrenville Road Foundations (Atwood 1999, Lore et al. 2011)

There have been six previous cultural resources investigations within Mansfield Hollow Lake project area. The first of these investigations was a visual surface inspection by Public Archaeology Survey Team, Inc. (PAST) (1979) within the towns of Tolland, Mansfield, and Willington, with portions overlapping the project area. A second reconnaissance investigation was conducted by Public Archaeology Laboratory, Inc. (PAL) in 1994 (Cherau and Russo 1994). This investigation was conducted for the USACE for the Mansfield Hollow Lake project to identify areas of archaeological sensitivity and perform limited subsurface investigations. Three additional surveys for the USACE in the project area included a 1997 survey of a proposed boathouse (Bellantoni 1997), a survey of an irrigation main and associated power line (PAST 2001), and a survey for a proposed transmission line (Raber Associates 2008). Finally, the most comprehensive investigation was conducted by Richard Grubb & Associates (Lore et al. 2011). This investigation expanded on the reconnaissance by PAL to include additional archival research, the excavation of 6,115 shovel tests, the identification of 38 pre-contact and 6 post-contact sites. 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 a low potential for the recovery of archaeological deposits.

2.11.2 Long Tern Cultural Resource Objectives

Cultural and environmental formation processes have affected cultural resources within the Mansfield Hollow 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. Subsurface looting has not been documented in the project area, but artifacts have been removed by local collectors. Impacts from surface collection are 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, wave action, inundation, and recreation.

A Historic Properties Management Plan (HPMP) was created by the USACE for Mansfield Hollow Lake (Atwood 1999), but it predates the 2011 investigations by Richard Grubb & Associates. 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 Mansfield Hollow Lake project but lacks a robust synthesis of these data. It is recommended that the USACE develop a comprehensive ICRMP in consultation with the Connecticut 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 Richard Grubb & Associates (Lore et al. 2011) 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

Mansfield Hollow Lake is on the border of Windham County and Tolland County, Connecticut. It is 5 miles north of Windham, Connecticut. The zone of interest (50-mile radius) for the socio-economic analysis covers portions of three states including Connecticut, Massachusetts, and Rhode Island. Counties within the zone of interest are listed below.

- Hartford County, CT
- Middlesex County, CT
- New London County, CT
- Tolland County, CT
- Windham County, CT
- Hampden County, MA
- Worcester County, MA
- Kent County, RI

2.12.2 Population

The total population in the zone of interest in 2021 was 3,091,426 (Table 2.13). Approximately 29% of the zone of interest's population resides in Hartford County, Connecticut, 28% reside in Worcester County, Massachusetts, and 15% reside in

Hampden County, Massachusetts. The remaining counties in the zone of interest each account for less than 9% of the zone's population.

From 2021 to 2040, the population in the zone of interest is expected to increase by 1.6% from 3,091,426 to 3,140,888, an average annual growth rate of 0.08%. 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%), New London County, CT (2.62%), Tolland County, CT (2.96%), Windham County, CT (15.77%), and Worcester County, MA (1.70%). Counties forecasted to decrease in population include: Middlesex County, CT (-10.00%), Hampden County, MA (-5.39%), Kent County, RI (-2.36%). Population for the years 2010 and 2020 are included for historical reference.

Table 2.13 Population Estimates (2010, 2020, 2021) and Projections

Geographical Area	2010 Population	2020 Population	2021 Population Estimate	Population Projection Estimates
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
Middlesex County, CT	165,697	162,742	164,568	148,107
New London County, CT	274,055	266,868	269,131	276,187
Tolland County, CT	152,781	150,947	150,120	154,561
Windham County, CT	118,519	116,657	116,503	134,875
Hampden County, MA	463,678	466,647	466,265	441,146
Worcester County, MA	799,553	826,655	856,858	871,384
Kent County, RI	166,103	164,122	169,345	165,351
Zone of Interest Total	**3,034,864**	**3046,791**	**3,091,426**	**3,140,888**

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.

Table 2.14 shows the populations estimates for the states and zone of interest counties by gender. Only New London County and Tolland County have a higher number of men than women. The distribution of the population by gender in the zone of interest is approximately 49% male and 51% female which is consistent with the states.

Table 2.14 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
Middlesex County, CT	80,905	83,663
New London County, CT	135,514	133,617
Tolland County, CT	75,675	74,445
Windham County, CT	58,073	58,430
Hampden County, MA	226,473	239,792
Worcester County, MA	424,801	432,057
Kent County, RI	82,525	86,820
Zone of Interest Total	**1,522,931**	**1,568,495**

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

Figure 2.10 shows the percent of the population that falls within certain age brackets for Connecticut, Massachusetts, Rhode Island, and the entire zone of interest. In the zone of interest 30% of the population is below the age of 25, 45% is between 25 and 59, and 25% are over the age of 60.

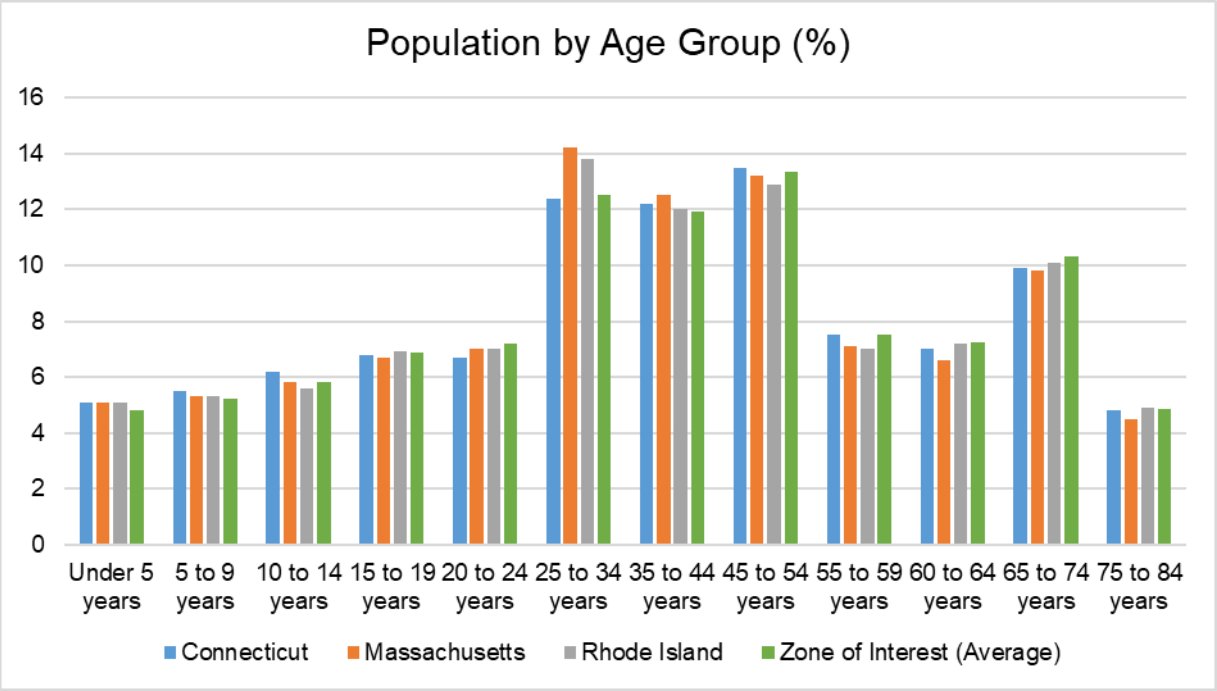

Figure 2.10 Percent of Population by Age Group (2021)

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

Population by race and Hispanic Origin is displayed in Table 2.15. The zone of interest is approximately 70% White, 15% Hispanic or Latino, 4.4% Asian, 7% 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, 0.12% 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. The population in the Commonwealth of 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. The population in the state of 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 2.15 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
Middlesex County, CT	135,257	10,975	7,745	127	5,347	0	366	4,751
New London County, CT	199,072	30,806	13,981	1,207	10,879	27	1,036	12,123
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
Hampden County, MA	283,947	123,235	35,811	465	11,518	13	1,112	10,164
Worcester County, MA	637,645	104,707	39,976	953	43,256	247	5,772	24,302
Kent County, RI	146,674	9,852	3,006	232	5,115	19	539	3,908
Zone of Interest	**2,151,596**	**472,260**	**222,964**	**4,314**	**135,783**	**537**	**13,871**	**90,101**

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

2.12.3 Education and Employment

Table 2.16 displays the highest level of education attained by the population ages 25 and over. In the zone of interest, 3.6% of the population have less than a 9th grade education; another 5.6% have between a 9th and 12th grade education; 28% have at least a high school diploma or equivalent; 18% have some college education; 9%

have an associate degree; 21% have a bachelor's degree; and 15% have a graduate or professional degree.

In Connecticut, 4% of the population have less than a 9th grade education; another 4.9% 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 2.16 Population Estimate by Highest Level of Educational Attainment, Population 25 Years of Age and Older (2021)

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
Middlesex County, CT	121,357	2,073	4,011	30,523	20,366	11,447	29,559	23,378
New London County, CT	189,965	4,736	8,487	54,331	39,861	16,907	35,980	29,663
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
Hampden County, MA	318,636	17,324	26,859	96,780	57,079	30,688	54,293	35,613
Worcester County, MA	594,147	18,838	31,284	159,573	104,541	53,800	133,744	92,367
Kent County, RI	125,594	3,026	6,439	35,915	25,469	13,452	25,703	15,590
Zone of Interest	**2,156,121**	**77,214**	**120,430**	**593,167**	**385,907**	**195,898**	**451,552**	**331,953**

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 2.17. Figure 2.11 shows that the largest percentage of the zone of interest is employed in the educational services, and health care and social assistance sector at 13.7%. 5.81% of the population works in manufacturing, 5.46% work in retail trade, 5.23% in professional, scientific, and management, and administrative and waste management services, 4.07% work in arts, entertainment, and recreation, and accommodation and food services, 3.92% work in finance and insurance, and real estate and rental and leasing. The remainder of the employment sectors each comprise less than 3% of the zone of interest's labor force.

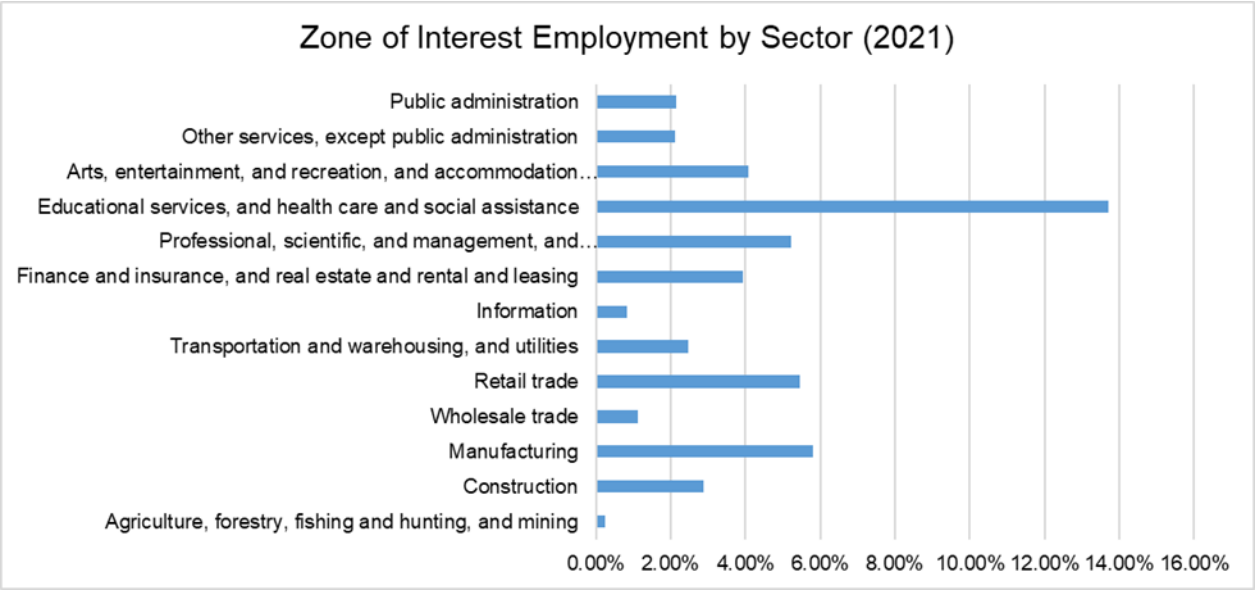

Figure 2-11 Zone of Interest Employment by Sector (2021)

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

Table 2.17 Annual Average Employment by Sector (2021)

Employment Sector	Connecticut	Massachusetts	Rhode Island	Hartford County, CT	Middlesex County, CT	New London County, CT	Tolland County, CT	Windham County, CT	Hampden County, MA	Worcester County, MA	Kent County, RI
Civilian employed population 16 years and over	1,822,995	3,667,019	552,707	453,935	88,097	131,803	77,173	57,987	212,917	437,940	90,361
Agriculture, forestry, fishing and hunting, and mining	7,314	15,477	2,456	1,291	338	846	516	1,082	1,202	1,831	296
Construction	113,665	215,903	34,191	23,323	5,733	8,017	5,025	3,770	9,655	27,780	5,575
Manufacturing	192,688	327,152	58,412	49,850	9,675	18,738	8,684	8,209	23,963	51,232	9,839
Wholesale trade	41,165	75,996	12,517	10,267	1,973	2,032	1,652	1,199	5,976	9,795	2,119
Retail trade	194,081	367,234	63,561	48,153	8,767	13,719	7,566	7,720	22,861	49,787	10,570
Transportation and warehousing, and utilities	80,481	150,820	25,610	23,508	3,523	5,060	3,246	3,311	13,436	20,208	4,479
Information	36,259	79,530	8,383	8,738	1,450	1,682	1,230	766	2,539	7,736	1,573
Finance and insurance, and real estate and rental and leasing	164,657	268,309	37,725	48,071	7,915	5,995	6,990	2,807	14,963	27,512	7,309
Professional, scientific, and management, and administrative and waste management services	212,866	544,131	60,497	50,462	9,974	12,414	7,155	3,920	16,651	51,791	9,874
Educational services, and health care and social assistance	482,274	1,031,113	148,764	116,677	23,835	33,173	23,312	15,619	65,130	124,164	23,189
Arts, entertainment, and recreation, and accommodation and food services	148,835	289,688	53,323	34,392	7,271	18,069	5,870	5,113	16,343	31,271	7,756
Other services, except public administration	82,217	158,526	24,236	19,988	3,737	5,432	2,896	2,268	8,911	18,577	3,595
Public administration	66,493	143,140	23,032	19,215	3,906	6,626	3,031	2,203	11,287	16,256	4,187

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 2.18. In 2021, the zone of interest had an unemployment rate of 5.61%, lower than the unemployment rates of Connecticut (6.06%) and Rhode Island (6.02%) and higher than rate in Massachusetts (5.42%).

Table 2.18 Labor Force, Employment and Unemployment Rates Annual Averages (2021)

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%
Middlesex County, CT	92,422	88,097	4,325	4.68%
New London County, CT	138,958	131,803	7,155	5.15%
Tolland County, CT	80,946	77,173	3,773	4.66%
Windham County, CT	62,261	57,987	4,274	6.86%
Hampden County, MA	227,941	212,917	15,024	6.59%
Worcester County, MA	463,375	437,940	25,435	5.49%
Kent County, RI	94,526	90,361	4,165	4.41%
Zone of Interest	**1,642,368**	**1,550,213**	**92,155**	**5.61%**

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

2.12.4 Households, Income and Poverty

Table 2.19 displays the number of households and average household sizes in the state and zone of interest. There were approximately 1,218,241 households in the zone of interest with an average household size of 2.56.

Table 2.19 Households and Average Household Size

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
Middlesex County, CT	68,200	2.48
New London County, CT	109,481	2.47
Tolland County, CT	56,989	2.56

Geographic Area	Total Households	Average Household Size
Windham County, CT	45,425	2.54
Hampden County, MA	183,309	2.58
Worcester County, MA	326,571	2.71
Kent County, RI	71,737	2.51
Zone of Interest	**1,218,241**	**2.56**

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 $90,833 in Middlesex County, MA in 2021, as displayed in Table 2.20. Per capita income in the zone of interest was $41,319 in 2021, higher than the per capita income of the state of Rhode Island ($39,603) and lower than the state of Connecticut ($47,869) and the Commonwealth of Massachusetts ($48,617).

Table 2.20 Median and Per Capita Income (2021, Inflation Adjusted)

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
Middlesex County, CT	$90,833	$48,670
New London County, CT	$79,040	$42,312
Tolland County, CT	$88,525	$42,942
Windham County, CT	$71,418	$35,032
Hampden County, MA	$61,310	$33,375
Worcester County, MA	$81,660	$41,528
Kent County, RI	$79,880	$43,050
Zone of Interest	**$79,123**	**$41,319**

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

Table 2.21 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 Windham County, CT at 11.3%. In terms of families below the poverty level, Middlesex County, CT has the lowest percentage with 3.4% and Hampden County, CT has the highest with 18.3%. The Commonwealth of Massachusetts has the lowest families below the poverty line with 6.6%, while Rhode Island has the highest with 7.4%.

Table 2.21 Percent of Families and People Whose Income in the Past 12 Months Fell 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%
Middlesex County, CT	3.40%	6.40%
New London County, CT	6.20%	8.70%
Tolland County, CT	5.00%	9.70%
Windham County, CT	7.40%	11.30%
Hampden County, MA	11.30%	15.90%
Worcester County, MA	6.50%	9.80%
Kent County, RI	4.80%	7.70%
Zone of Interest	**6.51%**	**10.05%**

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

Mansfield Hollow Lake visitors are a diverse group that includes local residents, hunters, fishers, trail users, cyclists, and day users who picnic, paddle, boat, observe wildlife, and sightsee. The peak visitation months are June through September. At Mansfield Hollow Lake, the USACE maintains traffic counters at locations where the majority of visitation occurs. These locations generally include developed park areas, minor access points, and sites leased to non-USACE organizations.

Table 2.22 provides 5 years of annual visitation by activity figures for FY2019-2023 and also 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 divided between boating, fishing, walking, hiking, jogging, and sightseeing. Other popular activities include picnicking and water contact activities. Overall visitation is generally decreasing over the last 5 years. Visitation numbers peaked in 2021 with 457,488 visitors but dropped in 2023 to 300,782 visitors.

Table 2.22 Mansfield Hollow Lake Visitation by Activity FY2019-2023

Activity	2019	2020	2021	2022	2023
Boating*	102,460	161,009	144,741	93,329	98,446
Fishing**	81,569	125,594	113,230	73,700	76,592

Activity	2019	2020	2021	2022	2023
Walking, Hiking, and Jogging	190,305	208,867	199,134	152,377	120,830
Picnicking	49,705	73,691	66,802	44,249	44,720
Bicycling and Skateboarding	6,223	6,750	6,450	4,965	3,896
Field sports	5,233	7,743	7,021	4,654	4,697
Special Event	9,743	14,937	13,475	8,788	9,105
Other Activities	23,921	31,259	28,900	20,317	18,630
Sightseeing	79,258	106,175	142,921	118,372	119,712
Year	2019	2020	2021	2022	2023
Total Visitation	413,534	448,427	457,488	300,547	300,782

Source: USACE VERS (Visitation Estimation & Reporting System, 2019-2023)
*sum of boating, power boating, and nonpowered boating
**sum of fishing, boat fishing, and shore fishing

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 Mansfield Hollow Lake.

2.13.2 Recreation Areas and Facilities

Mansfield Hollow Lake provides numerous opportunities for recreational pursuits. The CT DEEP manages the present recreational facilities around the lake as Mansfield Hollow State Park and Boat Ramp as well as the State Field Dog Trial Area. The natural beauty and scenery provided by the project area attracts nearby residents and visitors. The Columbia Canoe Club sponsors canoe/kayak lessons and group paddling events at Mansfield Hollow in the summer. A portion of the Nipmuck Trail runs within the boundaries of the Mansfield Hollow Lake project. The complete Nipmuck Trail runs from Mansfield, CT to the Massachusetts border. Wintertime draws ice fishers, snowshoers, and cross country skiers to the project.

CT DEEP also provides opportunities for fishing, hunting, hiking, and maintains the public access roads to their facilities. The USACE manages the Mansfield Hollow Lake Project Site Area (PSA) as defined in the Operational Management Plan (OMP). Mansfield Hollow Lake is open to the public for boating, hiking, mountain biking, cross-country skiing, horseback riding, hunting, and fishing. Swimming is not presently allowed because of the proximity of this project to the Willimantic water supply reservoir located about a half mile downstream. An inventory of recreational facilities is noted

below. Table 2.23 lists the various recreational facilities at Mansfield Hollow Lake. Each recreational area is more specifically described in Chapter 5.

Table 2.23 Developed Recreational Facilities at Mansfield Hollow Lake

Recreation Area	Managing Agency	Camping	Showers	Boat Ramps	Fishing Facilities	Picnic	Playground	Swimming Area	Trails
Mansfield Hollow Lake	USACE							N/A	X
State Field Dog Trial Area	CTDEEP							N/A	
State Park and Boat Ramp	CTDEEP			X		X		N/A	X

Source: USACE Lakes website

Hunting, Fishing, and Trapping

Hunting is allowed at Mansfield Hollow Lake in designated areas and in accordance with the Connecticut Fish and Game Laws and posted regulations. In the fall, the CT DEEP stock pheasants in the fields around the lake, which makes Mansfield Hollow Lake a popular destination for upland bird hunters. Deer hunting is also popular, which begins in mid-September and runs through December 31. Visitors are encouraged to wear fluorescent orange during this time of the year.

Fishing is permitted at Mansfield Hollow Lake and in the Natchaug, Fenton, and Mount Hope Rivers. The Natchaug River is stocked with rainbow, brook, and brown trout by the CT DEEP. Common warm water fish species in the lake include northern pike, largemouth and smallmouth bass, pickerel, perch, carp, and sunfish. An inland CT DEEP fishing license is required for anyone 16 years of age or older fishing at Mansfield Hollow Lake or the adjoining rivers.

Trapping is permitted on project lands in accordance with applicable federal and state laws. Interested parties must request a trapping permit from the USACE.

Day Use and Picnicking

Opportunities for outdoor family fun and recreation at the park areas surrounding Mansfield Hollow Lake include boating, picnicking, and sightseeing. There are many picnic tables available for use at Mansfield Hollow State Park, as well as horseshoe pits and open field sports. An open-air picnic shelter can be reserved for a fee by calling the CT DEEP. Mansfield Hollow Lake does not offer any overnight camping. There is no fee to use the recreation areas.

Boating

Boaters will find a boat ramp located on Bassetts Bridge Road. There is currently no fee required to use the boat ramp. Boating on Mansfield Hollow Lake is in accordance with Connecticut boating laws and USACE regulations. Mansfield Hollow Lake has an 8 MPH limit and does not allow water-skiing.

Hiking Trails

Mansfield Hollow Lake provides visitors the opportunity to access multiuse trails at Mansfield Hollow State Park and Boat Ramp (Table 2.24). There are five multi-use trail systems at Mansfield Hollow Lake. These are signified by the five different colored trail markers and together stretch a total of 14.5 miles. The trails are signified as follows: blue, blue/white, yellow, white, and red. The entire trail system is maintained by the CT DEEP.

Additionally, a very popular hiking route is the top of the Mansfield Hollow Dike, maintained by the USACE. The northern section stretches approximately 1.5 miles from the dam through the State Park and ends at the baseball fields at Mansfield Elementary School on Route 89. Parking for access to this section is at the dam site and at the State Park. The southern section is 1.3 miles from the Route 6 parking lot to the dam. Parking for access to this section is at the Route 6 commuter parking lot. This section provides stunning views of the lake.

Table 2.24 Trails at Mansfield Hollow Lake

Trail	Length (Approximate)	Use/Description
Red	0.83 mile	Non-motorized, multi-use
Yellow	4.37 miles	Non-motorized, multi-use Includes one picnic area
White	0.74 mile	Non-motorized, multi-use
Flood Control Levee	Southern portion 1.3 miles Northern portion 1.5 miles	Foot travel only
Fenton (Blue/White)	1 mile	Foot travel only
Nipmuck (Blue)	7.81 miles	Foot travel only. The Nipmuck Trail is a 42.5 mile Blue-Blazed hiking trail system in northeast Connecticut. The trail crosses through numerous recreation and conservation areas including Sawmill Preserve, Mansfield Hollow State Park, the Natchaug and Nipmuck State Forests, Schoolhouse Brook Park, the Yale Forest, Bigelow Hollow State Park, and land conservation trusts, most notably Joshua's Trust.

2.13.3 Recreation Analysis

The current Connecticut Statewide Comprehensive Outdoor Recreation Plan (SCORP) is being prepared by the CT DEEP for 2024-2029. The draft version is publicly available with an official publication expected in 2025. The 2023 survey data was a collaboration between CT DEEP and the Center for Community Engagement and Social Research (CCESR) at Central Connecticut State University (CCSU). The SCORP serves to address emerging issues in Connecticut outdoor recreation and set priority areas to serve as the foundation for action over the next five years. According to the 2024-2029 Connecticut SCORP the following goals were identified:

1. Provide equitable and sustainable access to outdoor recreation in Connecticut.
2. Enhance visitor experience and tourism by providing welcoming, safe, and well-maintained outdoor recreation areas and recreation amenities.
3. Address the threats of climate change to outdoor recreation and the conservation of natural, historic and cultural resources by working together with outdoor recreation participants to implement climate and conservation action.

To implement these goals the SCORP identified 28 recommendations.

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:

- Running, walking, and hiking was the most popular outdoor land-based activity with 83% of household participation.
- Households reported the following land-based activities at the highest frequency rates of several times a week: walking and hiking (46%), geocaching/ letterboxing/ mobile app games (40%), and running (37%).
- The top three land-based activities were walking/ hiking (69%), visiting historic sites (35%), and running (30%).
- Based on a need or desire for additional access, there is consistent need for picnic areas/shelters (60%) and significant increases for volleyball/ tennis/basketball courts (49%), ADA-accessible trails (24%), snorkeling/ scuba diving (22%) and skiing/snowshoeing trails (21%).
- Examining gender differences, the top activities for men compared to women are hunting or trapping (94% male), target/trap shooting or archery (94% male), fishing (90% male) and golf (87% male) while the top activities for women compared to men are horse camping (94% female) and horseback riding/showing (87% female).

2.13.4 Recreation Carrying Capacity

The plan formulated herein proposes to provide a variety of activities and to encourage optimal, safe use of present public use areas without causing irreparable harm to natural resources. The carrying capacity of the land is determined primarily by the distinct characteristics of the site including but not limited to soil type, steepness of topography, and available moisture. Recreational carrying capacity of the lake's water surface is based primarily on available space and numbers of users. These characteristics, both natural and manmade, are development constraints that determine the type and number of facilities that should be provided.

No formal recreation carrying capacity studies have been conducted at Mansfield Hollow 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. Mansfield Hollow Lake visitation has declined, slightly, over the past 5 years. However, a formal carrying capacity study is recommended to apply future appropriate best management practices including site management, regulating visitor behavior, and modifying visitor behavior as needed. A previous carrying capacity analysis conducted in 2015 yielded the data below:

Recreation Areas:
Boat Ramp - Parking – 117 spaces @ 4.3 people/car = 503 users
State Park – 60 parking spaces @ 4.3 people/car = 258 users
32 tables x 8 users/table = 256 users
Dam Site – 14 parking spaces @ 4.3 people/car = 60 users
Field Dog Trial Area- 40 parking spaces @ 4.3 people/car = 172 users
Route 6 Dike – 42 parking spaces @ 4.3 people/car = 181 users

No carrying capacity deficiencies currently exist at the Mansfield Hollow Lake recreation areas. Since future use of the facilities is expected to increase, continued maintenance and improvement should be practiced to ensure a high quality recreation experience.

2.14 REAL ESTATE

A total of 2,543 acres of fee simple land and 105 acres of flowage easement were acquired for the Mansfield Hollow Dam project. 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. The easement properties are southeast of the dam in the village of North Windham, the southwest corner of Chaplin, and the southeast corner of Mansfield.

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. As of 2024, outgrants at Mansfield Hollow Lake include leases, licenses, easements, consents, permits, and others which include the following:

- 12 Easements
- 3 Licenses
- 2 Leases
- 2 Consents
- 0 Permits

The demand for real estate outgrants at Mansfield Hollow Lake ranks moderately 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 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 Mansfield Hollow 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 Mansfield Hollow 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. Efforts are continuously underway to resolve these unauthorized acts, but the sheer volume creates a workload that is difficult to accomplish. 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 Mansfield Hollow 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, Mansfield Hollow 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:

- Connecticut Wildlife Action Plan
- Connecticut SCORP

The objectives in this Master Plan are intended to provide project benefits, meet public needs, and foster environmental sustainability for Mansfield Hollow Lake to the greatest extent possible. Tables 3.1 through 3.4 list the objectives for Mansfield Hollow 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 and protection of natural resources.	*		*	*	*
Identify potential locations for future low density recreation areas to accommodate visitation growth on USACE fee property. Provide opportunities for day use activities, especially low impact activities.	*		*		
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.	*		*		
Consider flood/conservation pool to address potential impact to recreational facilities and lake access.	*	*	*	*	
Ensure consistency with USACE Natural Resource Management (NRM) Strategic Plan.					*
Monitor the Connecticut 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 Mansfield Hollow Lake.	*		*		*

Recreational Objectives	Goals				
	A	B	C	D	E
Support the state hunting and fishing programs on project lands including upland bird habitat, riverine fishery habitat and northern pike spawning habitat in the marshes.	*	*	*	*	
Work with partners and stakeholders to manage, maintain and improve the recreational opportunities in outgranted areas including multipurpose trails.		*	*		

*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.	*	*		*	
Collaborate with stakeholders to 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 designated recreation lands/waters in ways that balance visitor use with protection of natural resources.		*	*		
Optimize resources and partnerships for protection, enhancement and restoration of fish and wildlife habitats.		*			
Minimize activities which disturb the scenic beauty and aesthetics of the project.	*	*	*	*	
Deter unauthorized use and damage of public lands through utilization of Title 36 CFR authorities, as well as state and local rules and regulations related to the protection of natural resources.	*	*	*	*	*
Collaborate with partners to manage lands and waters to reduce the spread of invasive, non-native, and aggressively spreading native species.	*	*		*	*

Natural Resource Management Objectives	Goals				
	A	B	C	D	E
Protect and restore important native habitats such as grasslands, pine barrens, riparian zones, and wetlands where they occur or historically occurred on project lands. Special emphasis should be placed on protection and/or 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.	*	*		*	*
As funding permits, complete an inventory of timber resources and prepare a Forest Management Plan. Work with partners to encourage best management practices to promote the vigor and health of forests, woodlands, and grasslands (timber harvest, prescribed burns, etc.).	*	*		*	*

*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
Enhance and explore opportunities for communication with partner agencies, special interest groups, and the general public. Utilize new technology and social media as a platform to share information with visitors and stakeholders.	*	*	*	*	*
Provide educational, interpretive, and outreach programs at the project. Topics to include history, project purposes (flood risk management, water supply, water quality, and recreation), water safety, cultural resources, ecology, and USACE missions.	*	*	*	*	*
Promote USACE National outreach initiatives, including water safety, pollinators, etc.	*		*	*	*
Educate adjacent landowners on real estate policies and procedures in order to reduce encroachment actions.	*	*	*	*	*

*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
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.	*	*			

Cultural Resources Management Objectives	Goals				
	A	B	C	D	E
Preserve and protect cultural resources sites in compliance with existing federal statutes and regulations and USACE studies including the 1994 Public Archaeological Laboratory Historic and Archaeological Reconnaissance Inventory and Survey/Cultural Resource Management Plan as well as the 2011 Hardlines Design Co. Intensive Archaeological Survey.	*	*	*	*	*

*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 the 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 Mansfield Hollow Lake, the primary 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 (Land Use Zones)

The previous version of the Mansfield Hollow Lake Master Plan included land classification criteria that were similar, but not identical to the current criteria. In the previous plan, these prior land classifications were called land-use zones and were not clearly defined or mapped. 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 1979 Master Plan to the 2025 Master Plan Revision. The previous land-use categories 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 1979 Master Plan described a picnic area and scenic outlook within the Operations Area.
- **Not Classified:** These acres were not classified in the 1979 Master Plan.

Table 4.1 Change from 1979 Land and Water Surface Classifications to 2025 Proposed Land and Water Surface Classification

Prior Land Classifications (1979)	Acres	Proposed Land Classifications (2025)	Acres	Net Difference
Project Operations	271	Project Operations (PO)	133	(138)
Not Classified	1,832	–		
–	–	High Density Recreation (HDR)	61	61
–	–	Low Density Recreation (LDR)	504	504
–	–	Vegetation Management (VM)	16	16
–	–	Wildlife Management (WM)	1,306	1,306
–	–	Environmentally Sensitive Area (ESA)	49	49
LAND TOTAL	**2,103**	**LAND TOTAL**	**2,069**	**(34)**
Prior Water Surface Classifications (1979)	**Acres**	**Proposed Water Surface Classifications (2025)**	**Acres**	**Net Difference**
Water Surface	411	Water Surface	452	41
• Not Classified	411	–	–	(411)
–	–	• Open Recreation	449	449
–	–	• Restricted	3	3
WATER TOTAL	**411**	**WATER TOTAL**	**452**	**41**
TOTAL FEE	**2,514**	**TOTAL FEE**	**2,521**	**7**

* Total Acreage differences from the 1979 total to the 2025 totals are due to improvements in measurement technology, real estate actions, deposition/siltation, and erosion.
**Water acreage differences from the 1979 total to the 2025 totals are due to differing permanent pool levels. In 1979,a pool level of 15 feet was used but in 2025, a 16.5 feet pool level was used.

4.2.3 Land Classifications

USACE regulation EP 1130-2-550 requires 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 Mansfield Hollow Lake were established after considering public comments and input from key stakeholders, including elected officials, city and county governments, and lessees operating on USACE land. Additionally, information from the 2024-2029 Connecticut SCORP, including public comment, 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 or hiking along the top of the dikes. Regardless of any limited recreation use allowed on these lands, the primary classification of PO will take precedent over other uses. There are 133 acres of PO 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 Mansfield Hollow Lake, prior land classifications included a number of areas under the HDR classification. Several of these areas were never developed and/or were determined by the study team to be unsuitable for development resulting in a change to another, more suitable land classification. There are 61 acres at Mansfield Hollow 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 Mansfield Hollow Lake with this classification.

Environmentally Sensitive Areas (ESA)

ESAs include scientific, ecological, cultural, and aesthetic features identified and in need of preservation. At Mansfield Hollow Lake, there are 49 acres of land 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 ramp, and/or primitive sanitary facilities. There are 1,826 acres of MRML lands at Mansfield Hollow 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 504 acres under this land classification at Mansfield Hollow 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 1,306 acres of land included in this classification at Mansfield Hollow Lake.

Vegetative Management (VM)

VM lands designated for stewardship of forest, grassland, and other native vegetative cover. Passive recreation activities previously described may be allowed in these areas. There are 16 acres of land included in this classification at Mansfield Hollow 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 lands included in this classification at Mansfield Hollow Lake.

4.2.4 Water Surface Classifications

There are 452 acres of water surface at the permanent pool (also referred to normal pool elevation) at 211.5 feet MSL at Mansfield Hollow Lake with 449 acres classified as open recreation and 3 acres classified as restricted.

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 Mansfield Hollow 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 buoys 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 Mansfield Hollow Lake.

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. Mansfield Hollow Lake has no water surface areas designated as a Fish and Wildlife Sanctuary.

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 449 acres of open recreation water surface at Mansfield Hollow Lake.

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.

A flowage easement, in general, grants to the government the perpetual right to occasionally flood/inundate land during flood risk management operations and to access the land from time to time to remove natural and artificial structures or obstructions except existing buildings, which may be detrimental to the operation and maintenance of the dam. Reservoir lands have been purchased in fee by the Government to elevation 260.0, which is 3.0 feet above spillway crest. USACE owns 2,438 acres of land in fee for the project and holds flowage easements on 141 acres according to the New England District Real Estate Office Real Estate Management Information System (REMIS) data.

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 Mansfield Hollow Lake are Project Operations, High Density Recreation, Environmentally Sensitive Areas, and Multiple Resource Management Lands, which consist of Low Density Recreation, Wildlife Management, and Vegetative 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 Mansfield Hollow Operational Management Plan (OMP).

To assure alignment with the OMP, the references to Mansfield Hollow Lake Project Site Area (PSA) in this chapter relate to the Mansfield Hollow Lake PSA description found in the OMP. There are a total of three PSAs at the Project: Mansfield Hollow Lake, State Park and Boat Ramp, and the State Field Dog Trial Area.

5.2 PROJECT OPERATIONS

PO is land associated with the dam, spillway, dikes, project office, maintenance facilities, and other areas solely for the operation of the project. There are 133 acres of lands under this classification, all of which are managed by the USACE. Within the Mansfield Hollow Lake PSA are Mansfield Hollow Dam, spillway, and associated dikes. All are included in the PO classification. The Dam Site parking lot has 15 parking spots and provides access to the north dike of Mansfield Hollow Dam, which is 1.5 miles long and stretches from the dam to the baseball fields at Mansfield Elementary School on Route 89. The Route 6 parking lot straddles both USACE and Connecticut Department of Transportation (CT DOT) land and is maintained by CT DOT. The parking lot has 55 parking spots and provides access to the south dike of Mansfield Hollow Dam, which is 1.3 miles long and affords stunning views of the lake. Visitors enjoy walking along the top of the dikes as the surface is paved, flat, free of obstructions and vehicle traffic, and provides panoramic views of the lake on the south end.

The management plan for the PO 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 shoreline fishing and hiking is currently allowed within some areas classified as PO, but USACE considers this use to be incidental and may prohibit such use without notice for project operational or security needs. Public vehicular traffic is currently not allowed on the road traversing the crest of the paved dikes. USACE maintains the road across the dike structures.

Recommended future actions for these areas include facility upgrades 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 such as invasive species

control and wildlife management through use of food or pollinator plots will be implemented as appropriate.

5.3 HIGH DENSITY RECREATION

Mansfield Hollow Lake has 61 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 CT DEEP through a 25 year lease agreement. 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 2024-2029 Connecticut SCORP, activities such as walking/hiking, visiting historic sites, and running remain the most favorite and are common activities that can be undertaken at Mansfield Hollow Lake (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 Mansfield Hollow Lake. The future management of HDR areas includes continuing to maintain and improve existing facilities through partnerships and other funding options.

5.3.1 USACE Managed High Density Recreation Areas

There are currently no USACE managed HDR acres at Mansfield Hollow Lake.

5.3.2 Non-USACE Managed High Density Recreation Areas

Mansfield Hollow Lake has one recreation area leased to CT DEEP within the HDR category. There are no other recreational outgrants issued in the form of permits or leases to recreational partners, referred to as grantees, at Mansfield Hollow Lake for the purpose of HDR. Similar to the leases with CT DEEP, if in the future, new leases are developed, each grantee would be responsible for the operation and maintenance of their leased area. Although USACE does not provide direct maintenance within any of the leased locations, it may occasionally lend support where and when appropriate. The USACE reviews requests and ensures compliance with applicable laws and regulations for proposed activities in all leased and USACE-operated HDR areas. USACE works with partners to ensure that recreation areas are managed and operated in accordance with the objectives prescribed in Chapter 3.

State Park and Boat Ramp

The State Park and Boat Ramp PSA (Photo 5.1) comprises approximately 61 acres and is located on Bassetts Bridge Road. The State Park is a shaded picnic area with picnic tables, charcoal grills, seasonal restrooms, horseshoe pits, an open ball field, and a covered open air picnic shelter available for reservation by contacting the CT DEEP. Multiple hiking trails can be accessed within this area. The Mansfield Hollow Lake Boat Ramp has a gravel parking lot that can accommodate approximately 50 vehicles. Put in and take out areas include a large concrete launch ramp and a gradual gravel slope into the water. The carry from the water's edge is less than 50 feet for canoes and kayaks. There are seasonal public restrooms available. There is no electricity or water available at this site.

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 Mansfield Hollow Lake under this classification.

5.5 ENVIRONMENTALLY SENSITIVE AREAS

There are 49 acres of ESAs designated at Mansfield Hollow Lake (Table 5.1) in which 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, NHPA or applicable state statues. These areas must be managed to ensure they are not adversely impacted. Typically, limited or no development of public use is allowed on these lands. No agricultural or grazing uses are permitted on these lands unless necessary for a specific resource management benefit, such as habitat restoration and management.

Table 5.1 Summary of ESAs at Mansfield Hollow Lake

ESA#	Acres	Location and Description
ESA 1	48	ESA 1 is located between Natchuag River and Windham Airport. This area hosts a Pine Barren Ecosystem which is an area of great ecological importance.
ESA 2	1	ESA 2 is located is located near Willimantic Road and has been designated by the study team as having scientific, ecological, cultural, or aesthetic features present.

5.6 MULTIPLE RESOURCE MANAGEMENT LANDS

The 1,826 acres of MRML are organized into four sub-classifications. These sub-classifications are LDR, WM, VM, and FOIR. The following is a description of each sub-classification's resource objectives, acreages, and description of use.

5.6.1 Low Density Recreation (LDR)

At Mansfield Hollow 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 natural surface multipurpose trails. There are 504 acres classified as LDR.

5.6.1.1 USACE Managed Low Density Recreation Areas

Mansfield Hollow Lake PSA

The LDR land classification encompasses the majority of the 53 acres between the dam and Bassetts Bridge Road. This area is popular for hiking, dog walking, cross country skiing, and fishing from the shoreline. A gravel parking lot across from the State Park on Bassetts Bridge Road provides 12 parking spots for visitors to access this area. Additional access is provided across the road at the Mansfield Hollow State Park parking lot as well as at the Dam Site.

5.6.1.2 Non-USACE Managed Low Density Recreation Areas

State Field Dog Trial Area

The State Field Dog Trial Area comprises mixed fields and forest. There is a gravel parking lot at the end of North Windham Road with parking for approximately 20 vehicles. The CT DEEP oversees this area for field trials, which are competitive events that evaluate hunting dogs' performance. Dogs are scored on their ability to locate game, their style, speed, and obedience. Field trial events are usually held on weekends from March to October during daylight hours and are open to organized field trial groups with a special permit issued by the CT DEEP.

5.6.2 Wildlife Management (WM)

These are lands designated for the stewardship of fish and wildlife resources and are managed by USACE and CT DEEP. There are currently 1,306 acres of land under this classification at Mansfield Hollow 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). CT DEEP manages wildlife and game species 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 2 known federally listed species, along with 23 federally listed migratory birds, and 36 known state-listed species that could utilize habitat within the Mansfield Hollow Lake area. 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 (Tables 2.7 to 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
- Nuisance wildlife 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 (VM)

These are lands that have vegetative types considered to be sensitive and needing special classification to ensure success. There are 16 acres currently identified at Mansfield Hollow Lake for VM purposes.

Within the Mansfield Hollow Lake PSA, there are approximately 20 acres of sandplain grassland that is classified as VM. This area contains a loop hiking trail around its perimeter but is primarily managed for its unique vegetation and habitat. This sandplain grassland habitat is an underrepresented natural community that many Wildlife Species of Greatest Conservation Need rely on to survive and reproduce, including grassland nesting birds. The USACE and CT DEEP are actively managing this area utilizing the latest best management techniques including the use of prescribed fire to maintain and enhance the habitat and promote key species of the sandplain grassland. A prescribed burn was conducted in April 2024 to reduce the regrowth of woody shrubs while promoting preferable conditions for key warm season target grassland species such as little bluestem and the northern blazing star.

5.6.4 Future/Inactive Recreation Areas (FOIR)

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 Mansfield Hollow Lake.

5.7 WATER SURFACE

At the permanent pool (also referred to normal pool elevation at 211.5 feet MSL) there are 452 acres of surface water within USACE fee boundary.

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 one of 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 Mansfield Hollow 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, adopting Sustainable Sites Initiative criteria where applicable 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 rapports 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

Mansfield Hollow 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 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 Mansfield Hollow Lake, the USACE decided that the creation of utility corridors would not be necessary. Existing utility corridors are depicted in Map 5.1 Major Utility Outgrants.

Currently Algonquin Gas has a Real Estate Easement with USACE for a natural gas pipeline right of way across the northern end of Mansfield Hollow Lake property. Additionally, Eversource Energy (formerly Connecticut Light and Power) has a Real Estate Easement with USACE for an electric powerline right of way across USACE property.

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 NHPA of 1966 (as amended); ARPA of 1979; 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 Mansfield Hollow Lake Master Plan. The Tribes the USACE consults with are the Narragansett Tribe, Wampanoag Tribe of Gay Head (Aquinnah), Mohegan Tribe, and Mashantucket Pequot Tribal Nation. 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 Mansfield Hollow 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 Mansfield Hollow Lake and will likely lead to more efficient reviews and better outcomes meeting objectives for both parties.

6.4 FISHERIES MANAGEMENT

The Mansfield Hollow Lake project provides important and valuable natural resources and recreational opportunities, with fish and wildlife management objectives being carried out on project lands. The waterways provide visitors optimal fishing opportunities in the lake, rivers, and streams. Fishing tournaments are popular at Mansfield Hollow Lake, with ample fishing opportunities for both large and smallmouth bass. A species of particular interest is the Northern Pike, which was introduced into Mansfield Hollow Lake in 1992 by the CT DEEP Fisheries Division. Northern pike were introduced to utilize the abundant forage fish (shiners and suckers) and stunted panfish (yellow perch) populations, and to diversify the lake's sport fishery. In collaboration with the CT DEEP Inland Fisheries Division, USACE at Mansfield Hollow Lake modified their early spring pool level to flood adjacent marsh and lakeshore vegetation to improve spawning habitat for the northern pike. This proved very successful, with the majority of pike resulting from natural reproduction.

In 1999, the Inland Fisheries Division in cooperation with USACE began managing a 12-acre wetland area adjacent to the Fenton River for northern pike production to support the lake's pike fishery and as a source of fingerlings to establish and maintain pike fisheries in other lakes throughout the state. Pike production has exceeded expectations with an average of 7,766 five-inch fingerlings produced annually during the first five years of operation. The Mansfield Hollow marsh had a banner year

in 2018. They removed 16,000 fingerlings that year, which was the majority of the state total of 22,000 fingerlings.

6.5 PINE BARREN ECOSYSTEM (EXEMPLARY NATURAL COMMUNITY)

Mansfield Hollow Dam maintains areas of great ecological importance, including the sandplain grassland area and the pitch pine/scrub oak habitat near the southern boundary of the project (Photo 6.1). These are fire adapted ecosystems which require disturbance, whether through natural or prescribed burns, or timber harvests to sustain themselves and promote regeneration. USACE utilizes forest management techniques to remove older, undesirable overstory trees to allow for regeneration of young pitch pine saplings that would otherwise not be able to survive in shaded areas or without fire.

Through active conservation efforts, USACE in partnership with the University of Connecticut and Eastern Connecticut State University has improved four acres of important invertebrate habitat by installing fence enclosures to reduce deer browse and promoting planting of wild indigo and wild lupine plants. The community of restoration experts has been collaborating since 2004 to survey stands of wild indigo and wild lupine, collect seeds to be propagated in greenhouses, and identify optimal locations to reintroduce seedlings back into the environment. Wild indigo is a key host species for the State threatened butterfly, the frosted elfin (Callophyrs irus) and protection of the species directly supports the pollinator species.

Additionally, in collaboration with CT DEEP Forestry Division, prescribed burn efforts have been taking place elsewhere at Mansfield Hollow Lake to promote the key species of the sandplain grassland area. Prescribed burns in April 2024 were conducted to reduce the regrowth of woody shrubs while promoting preferable conditions for key warm season target grassland species such as little bluestem and the northern blazing star.

Photo 6.1 Pine Barren Ecosystem

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 Mansfield Hollow 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 Mansfield Hollow 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 Mansfield Hollow Lake Master Plan.

The USACE began planning to revise the Mansfield Hollow Lake Master Plan in the spring of 2024. The objectives for the Mater Plan revision are to (1) revise land classifications to reflect changes in USACE land management policies since the 1979 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 May 2, 2024, a public open house was held at the Mansfield Public Library in Mansfield Center, Connecticut to inform the public of the intent to revise the Master Plan. The public input period remained open for 30 days from May 2, 2024, through June 2, 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

Mansfield Hollow Lake, USACE received 11 comments. 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 Master Plan, Environmental Assessment, and Finding of No Significant Impacts (FONSI).

7.4 TRIBAL CONSULTATION

In 2024, the USACE notified the Narragansett Tribe, Wampanoag Tribe of Gay Head (Aquinnah), Mohegan Tribe, and Mashantucket Pequot Tribal Nation 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.

CHAPTER 8 - SUMMARY OF RECOMMENDATIONS

8.1 SUMMARY OVERVIEW

The preparation of this Master Plan for Mansfield Hollow 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 Mansfield Hollow Lake as also reflected in ER 1130-2-540 Change 2 dated July 2005. Factors considered in the Master Plan development were identified through public involvement and review of regional and statewide planning documents including the current Connecticut SCORP prepared by the CT DEEP for 2024-2029, EPA Ecoregion Handbook and descriptions, and the USFWS ICAP website. This Master Plan will guide the long-term sustainability of the outdoor recreation program and natural resources associated with Mansfield Hollow 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 Mansfield Hollow Lake as described in Table 8.1 and explained in Table 8.2.

Table 8.1 Change from 1979 Land and Water Surface Classification to 2025 Proposed Land and Water Surface Classification(1)

Prior Land Classifications (1979)	Acres	Proposed Land Classifications (2025)	Acres	Net Difference
Project Operations	271	Project Operations (PO)	133	(138)
Not Classified	1,832	–		
–	–	High Density Recreation (HDR)	61	61
–	–	Low Density Recreation (LDR)	504	504
–	–	Vegetation Management	16	16
–	–	Wildlife Management (WM)	1,306	1,306
–	–	Environmentally Sensitive Area (ESA)	49	49
LAND TOTAL	**2,103**	**LAND TOTAL**	**2,069**	**(34)**
Prior Water Surface Classifications (1979)	**Acres**	**Proposed Water Surface Classifications (2025)**	**Acres**	**Net Difference**
Water Surface	411	Water Surface	452	41
• Not Classified	411	–	–	(411)
–	–	• Open Recreation	449	449
–	–	• Restricted	3	3
WATER TOTAL	**411**	**WATER TOTAL**	**452**	**41**
TOTAL FEE	**2,514**	**TOTAL FEE**	**2,521**	**7**

(1)Total Acreage differences from the 1979 total to the 2025 totals are due to improvements in measurement technology, real estate actions, deposition/siltation, and erosion.

Table 8.2 Proposed Changes and Justifications for Land Classifications[1,2]

Land Classification	Description of Changes [2]	Justification
Project Operations (PO)	Net decrease in PO from 271 acres to 133 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. Areas initially identified in the 1979 Master Plan as PO were decreased slightly to align with the current management of these acres under the ESA and LDR classifications.
High Density Recreation (HDR)	Net increase in HDR from 0 acres to 61 acres.	This change is largely due to defining the Mansfield Hollow State Park Area as HDR. Acres previously classified as PO between the State Park and the dike off Bassetts Bridge Road were also changed to HDR to align with current use.
MRML – Low Density Recreation (LDR)	Net increase in LDR from 0 acres to 504 acres.	The 1979 Master Plan did not define LDR acres. The vast majority of the increase in LDR is due to the alignment of LDR acres with the existing long term CT DEEP lease agreement. These acres allow for passive recreation such as trails and fishing areas. Areas previously classified as PO near the main dike have trails were also changed to LDR to meet current management strategies.
MRML – Wildlife Management (WM)	Net increase from 0 acres to 1,306 acres.	The large increase in acres classified as WM is due to the classification of acres not previously classified in the 1979 Master Plan. Acres north, northeast, and northwest of the lake were identified as WM.
MRML – Vegetation Management (VM)	Net increase from 0 acres to 16 acres.	Acres south of the dam near US Hwy 6 which were previously classified as PO, were reclassified as VM. This classification aligns with current and future management in the area.

Land Classification	Description of Changes (2)	Justification
Environmentally Sensitive (ESA)	Net increase from 0 acres to 49 acres.	ESA acres were identified to capture the sandplain grassland area and the pitch pine/scrub oak habitat near the southern boundary of the project.
Water Surface	Net increase in Water Surface from 411 acres to 452 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.

CHAPTER 9 - BIBLIOGRAPHY

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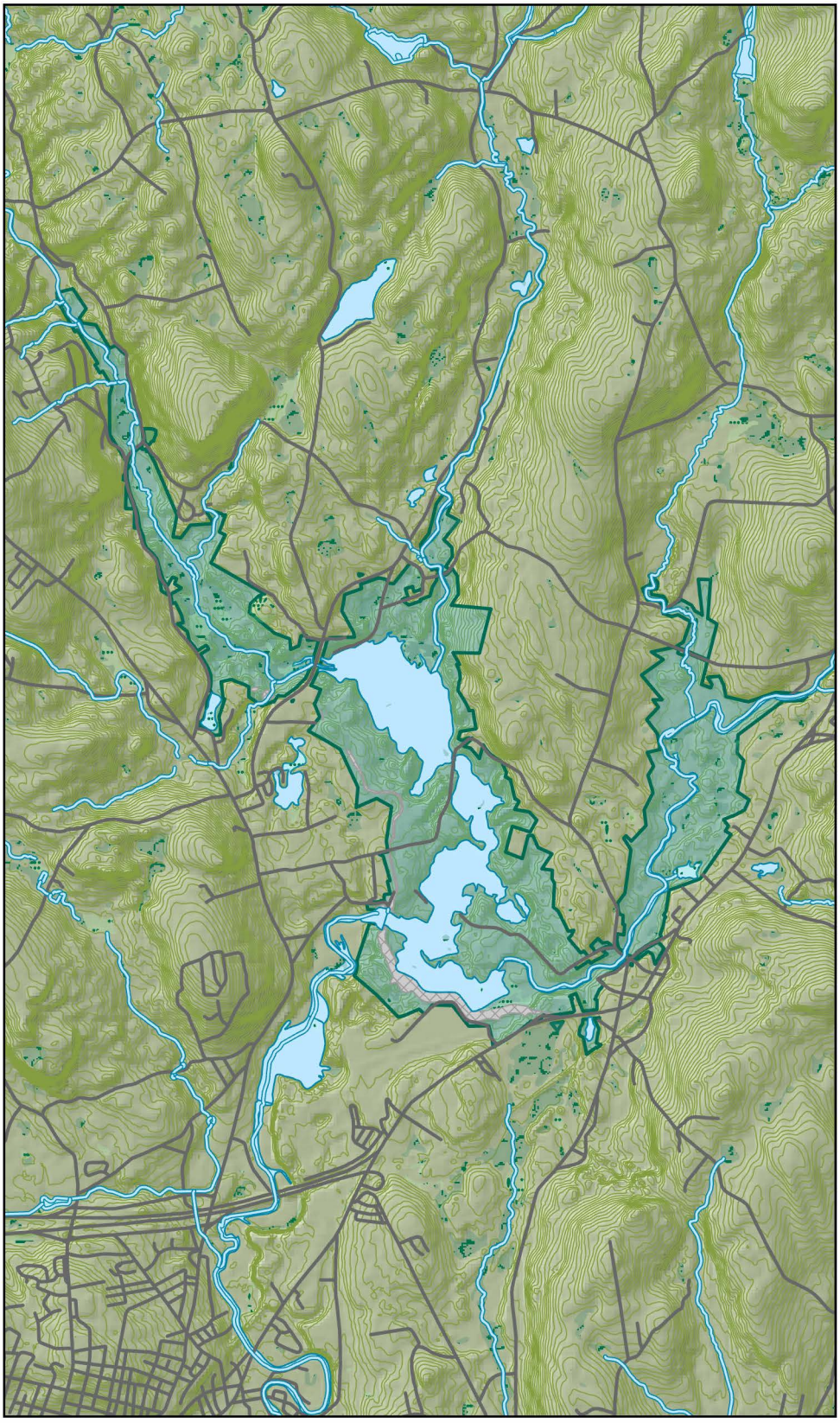
APPENDIX A – LAND CLASSIFICATION, MANAGING AGENCIES, AND RECREATION MAPS

US Army Corps of Engineers®
New England District

MANSFIELD HOLLOW LAKE

2025 MASTER PLAN REVISION

SHEET INDEX (MAP 0.1)



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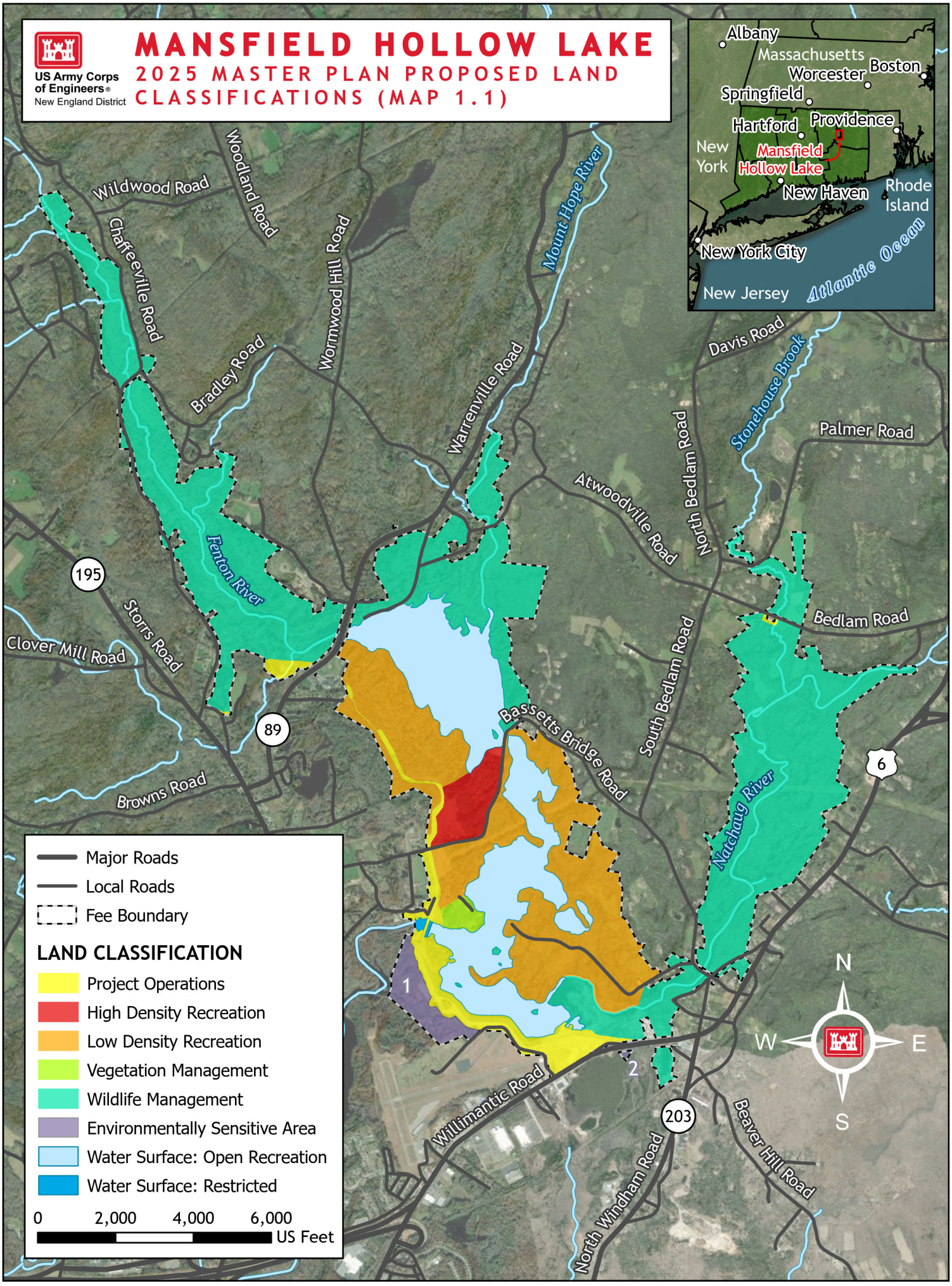
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Springfield
Hartford
Providence
New York
Mansfield Hollow Lake
New Haven
Rhode Island
New York City
New Jersey
Atlantic Ocean
Wildwood Road
Woodland Road
Chaffeeville Road
Wormwood Hill Road
Mount Hope River
Bradley Road
Warrenville Road
Davis Road
Stonehouse Brook
Palmer Road
Atwoodville Road
North Bedlam Road
Fenton River
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Storrs Road
Clover Mill Road
Bedlam Road
South Bedlam Road
Bassetts Bridge Road
89
Browns Road
6
Natchaug River
Major Roads
Local Roads
Fee Boundary
LAND CLASSIFICATION
Project Operations
High Density Recreation
Low Density Recreation
Vegetation Management
Wildlife Management
Environmentally Sensitive Area
Water Surface: Open Recreation
Water Surface: Restricted
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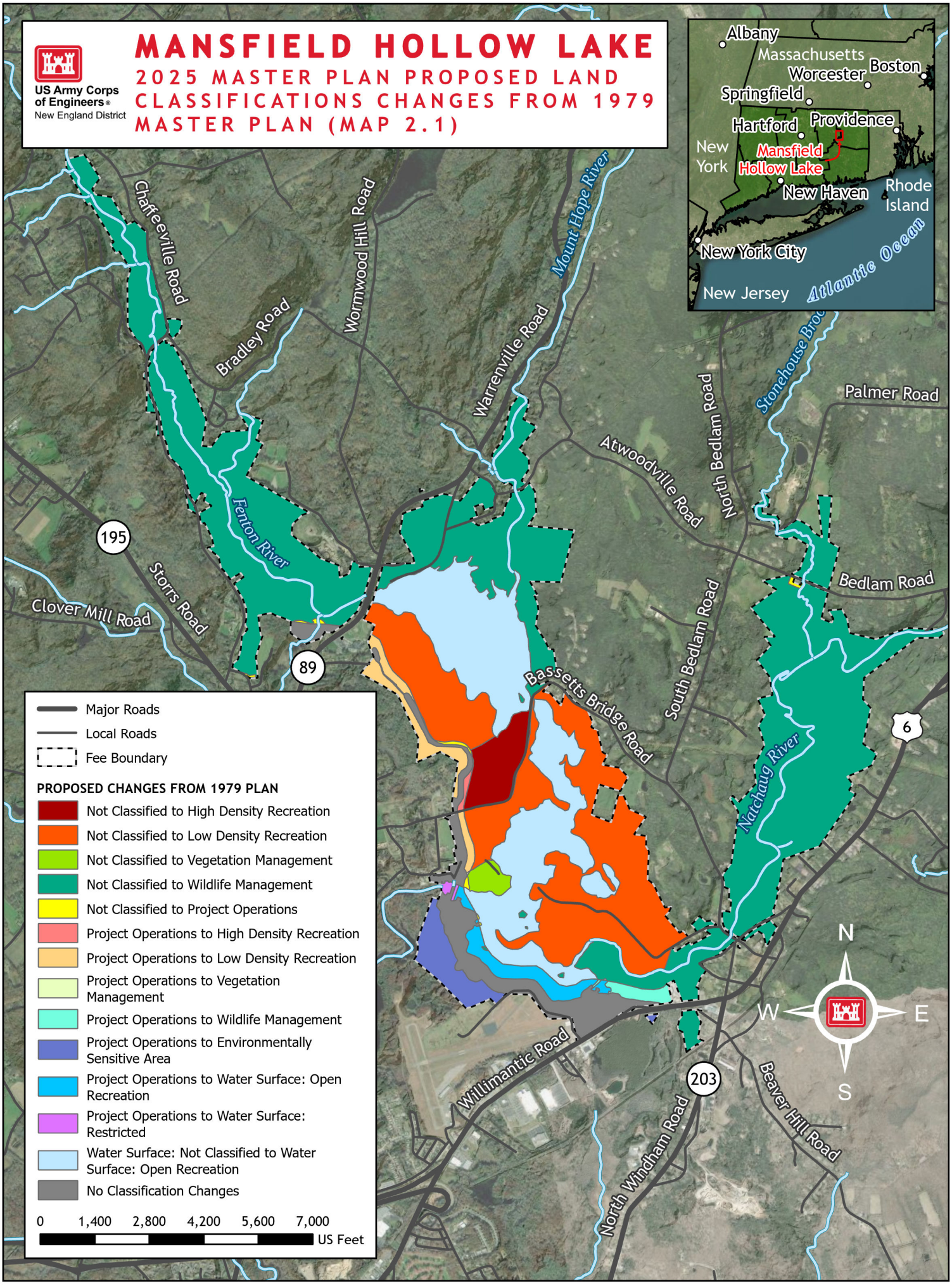
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Beaver Hill Road
North Windham Road
N
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Local Roads
Fee Boundary
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Not Classified to Low Density Recreation
Not Classified to Vegetation Management
Not Classified to Wildlife Management
Not Classified to Project Operations
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Project Operations to Low Density Recreation
Project Operations to Vegetation Management
Project Operations to Wildlife Management
Project Operations to Environmentally Sensitive Area
Project Operations to Water Surface: Open Recreation
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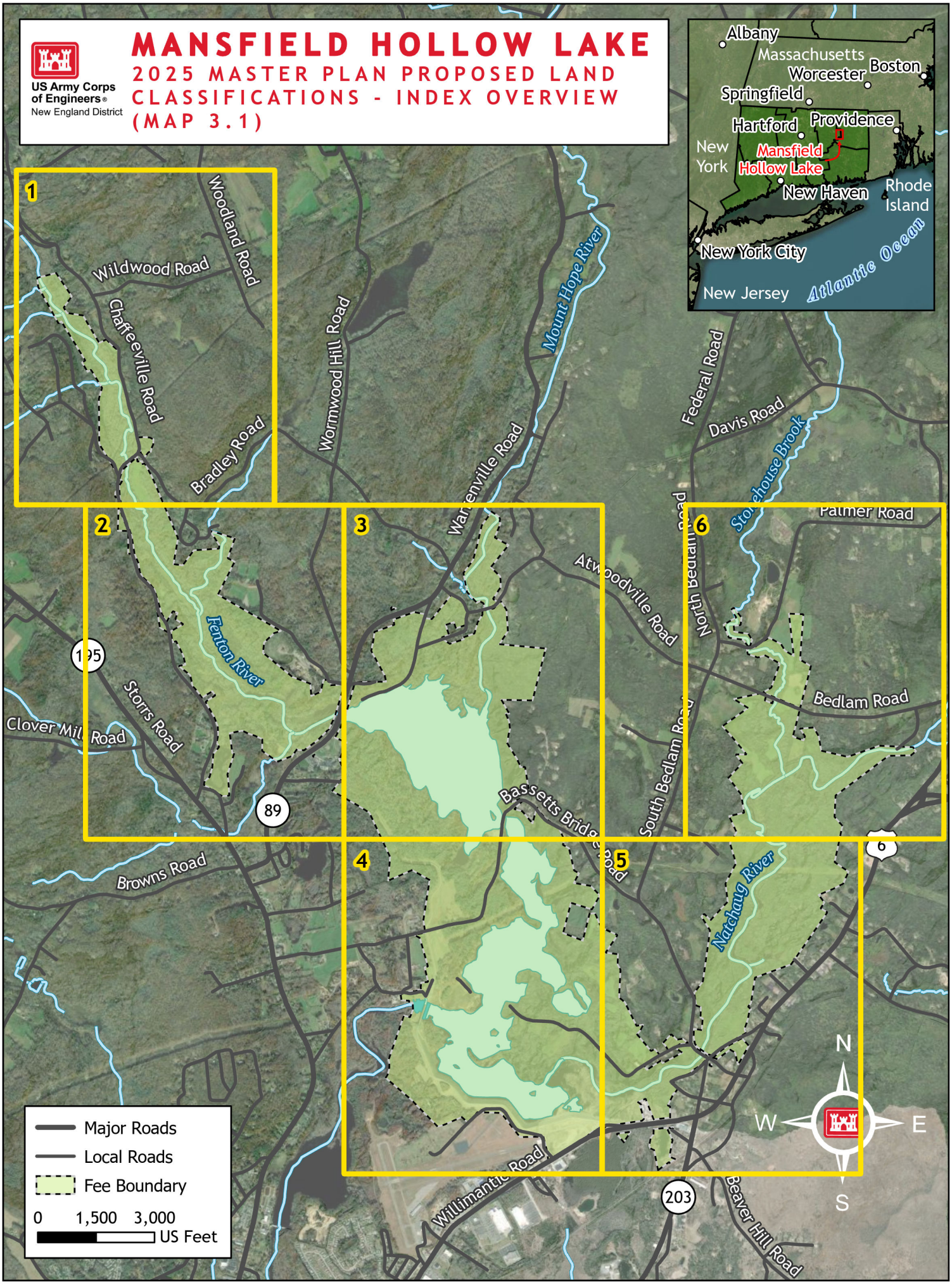
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Boston
Springfield
Hartford
Providence
New York
Mansfield Hollow Lake
New Haven
Rhode Island
New York City
New Jersey
Atlantic Ocean
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2
3
4
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6
Woodland Road
Wildwood Road
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Bradley Road
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Mount Hope River
Federal Road
Davis Road
Stonehouse Brook
Palmer Road
North Bedlam Road
Bedlam Road
Atwoodville Road
South Bedlam Road
Bassetts Bridge Road
Fenton River
Storrs Road
Clover Mill Road
Browns Road
Natchaug River
Willimantic Road
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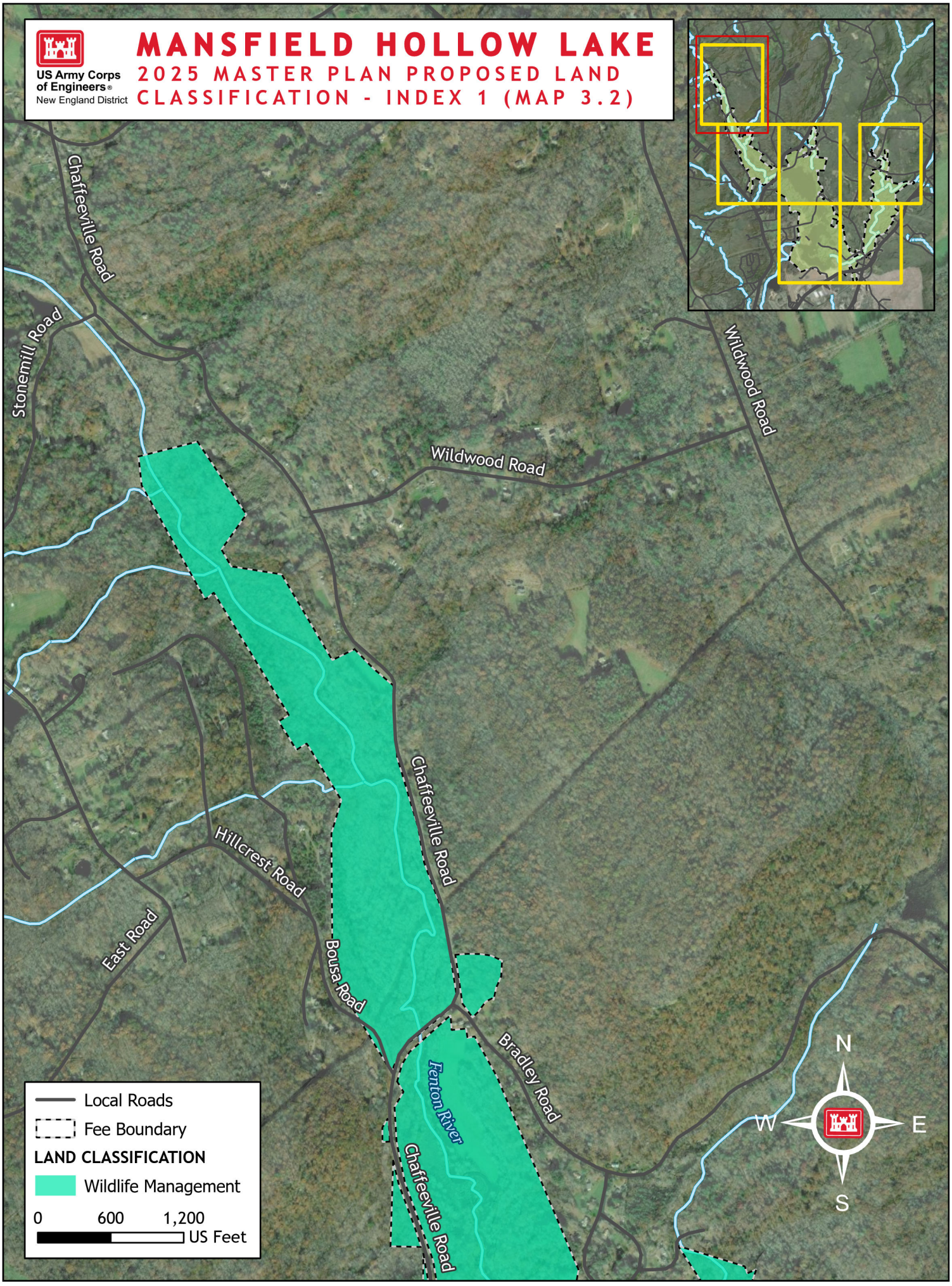
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Wildwood Road
Chaffeeville Road
Hillcrest Road
East Road
Bousa Road
Bradley Road
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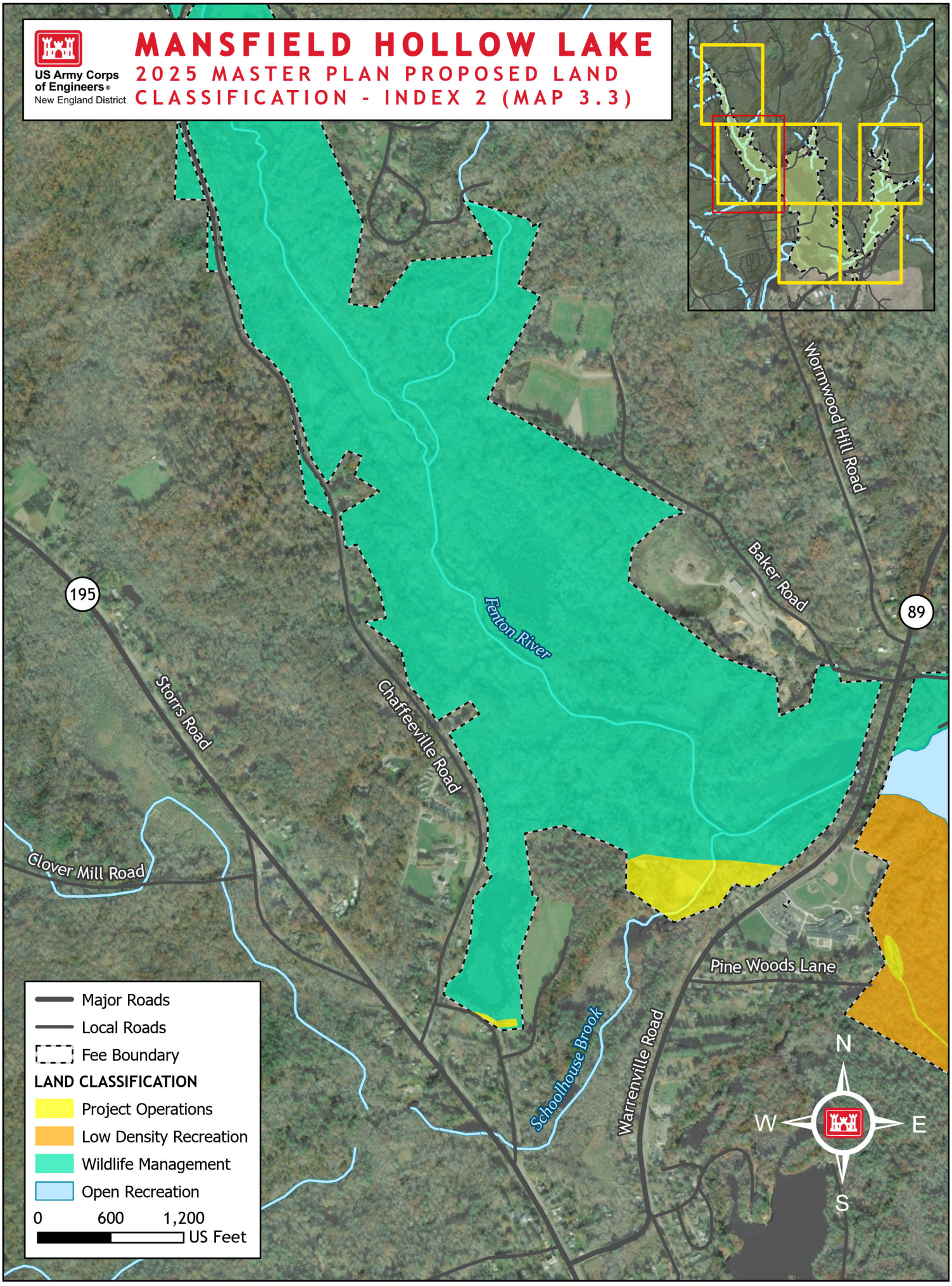
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Local Roads
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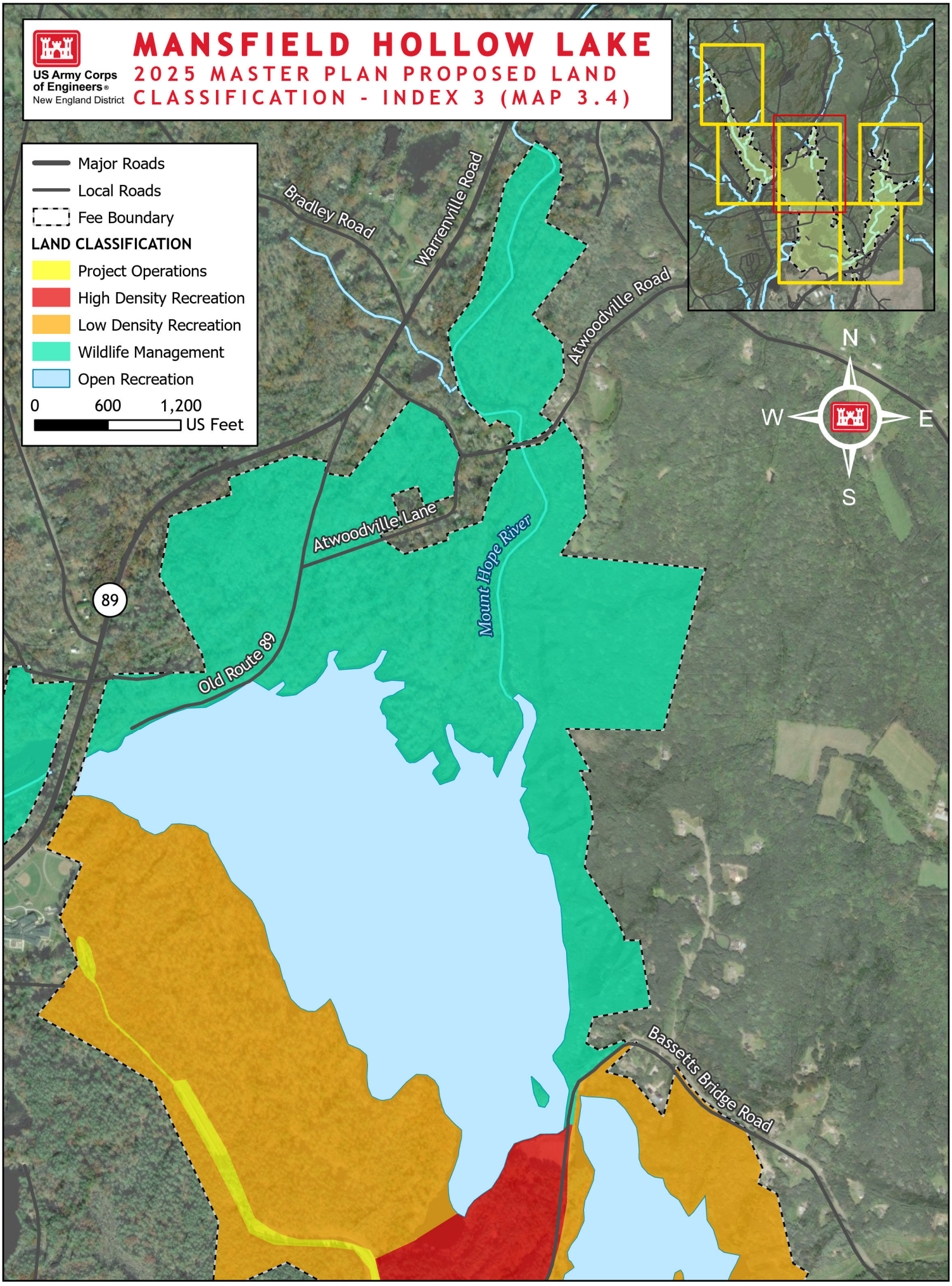
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New England District
MANSFIELD HOLLOW LAKE
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Fee Boundary
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Project Operations
High Density Recreation
Low Density Recreation
Wildlife Management
Open Recreation
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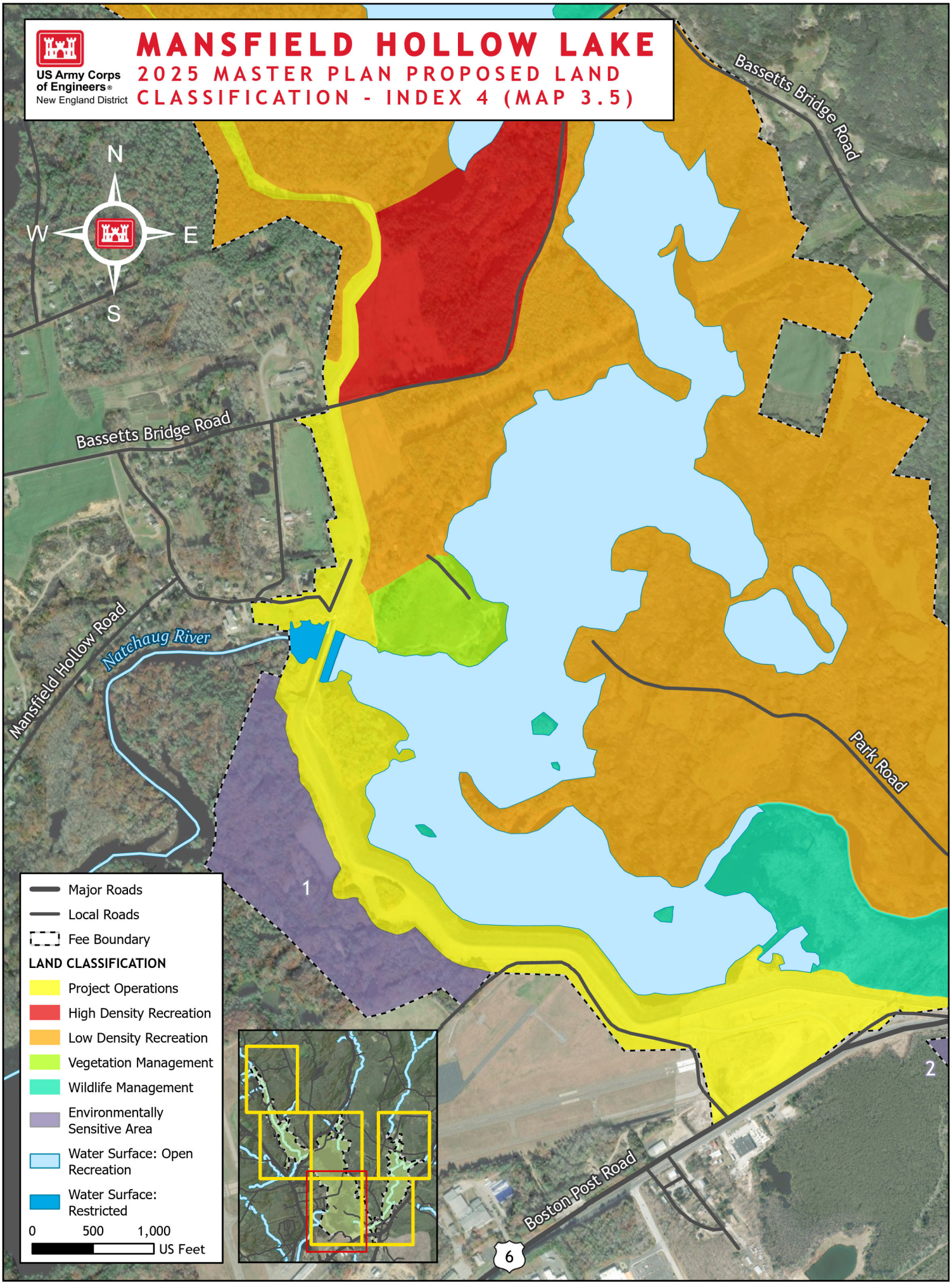
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New England District
MANSFIELD HOLLOW LAKE
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Bassetts Bridge Road
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Park Road
Boston Post Road
6
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2
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Local Roads
Fee Boundary
LAND CLASSIFICATION
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Low Density Recreation
Vegetation Management
Wildlife Management
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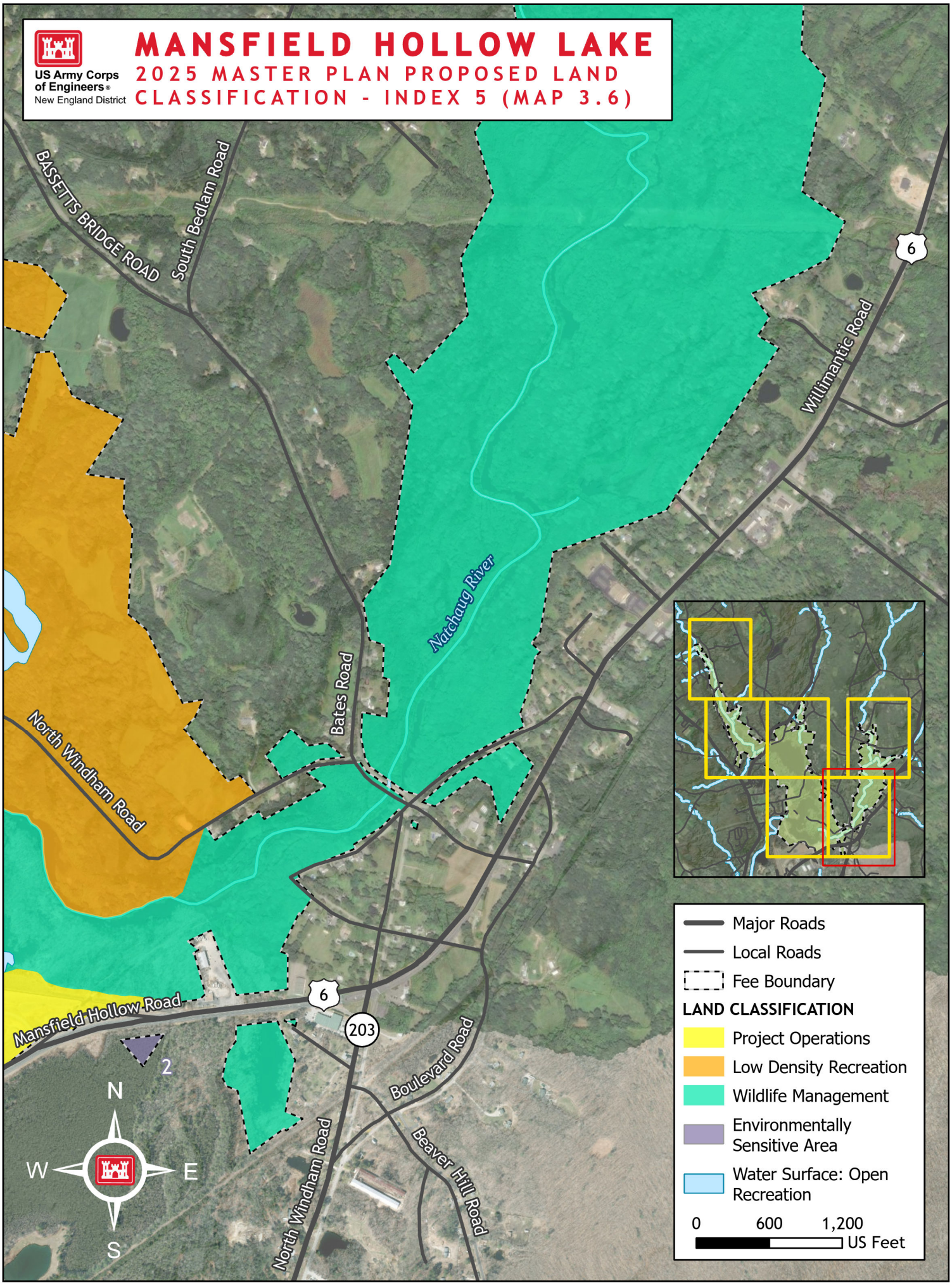
US Army Corps of Engineers®
New England District
MANSFIELD HOLLOW LAKE
2025 MASTER PLAN PROPOSED LAND CLASSIFICATION - INDEX 5 (MAP 3.6)
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Willimantic Road
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Bates Road
North Windham Road
Mansfield Hollow Road
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Beaver Hill Road
North Windham Road
2
N
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Major Roads
Local Roads
Fee Boundary
LAND CLASSIFICATION
Project Operations
Low Density Recreation
Wildlife Management
Environmentally Sensitive Area
Water Surface: Open Recreation
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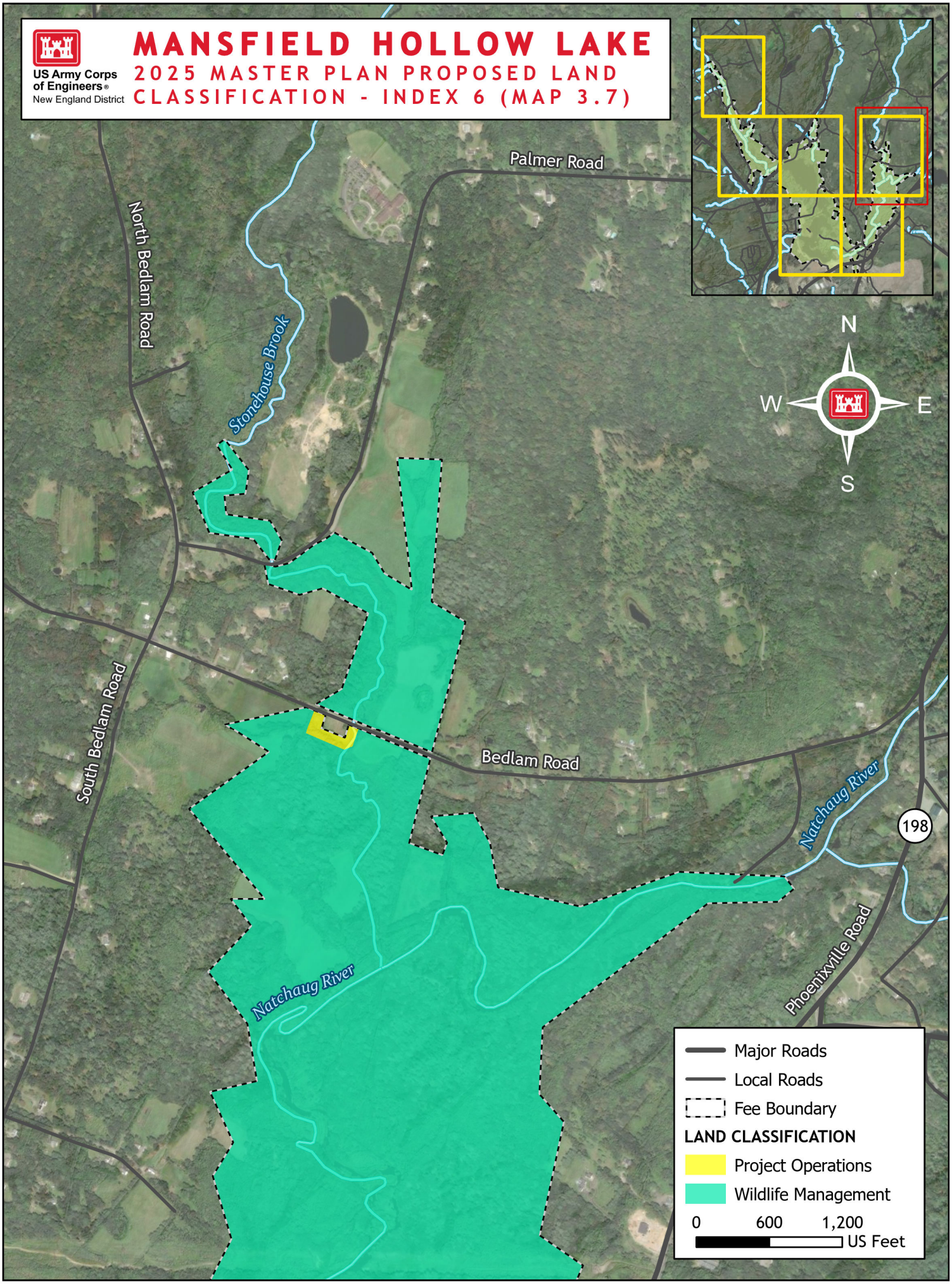
US Feet


US Army Corps of Engineers
New England District
MANSFIELD HOLLOW LAKE
2025 MASTER PLAN PROPOSED LAND CLASSIFICATION - INDEX 6 (MAP 3.7)
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South Bedlam Road
Bedlam Road
Natchaug River
198
Phoenixville Road
N
W
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S
Major Roads
Local Roads
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Project Operations
Wildlife Management
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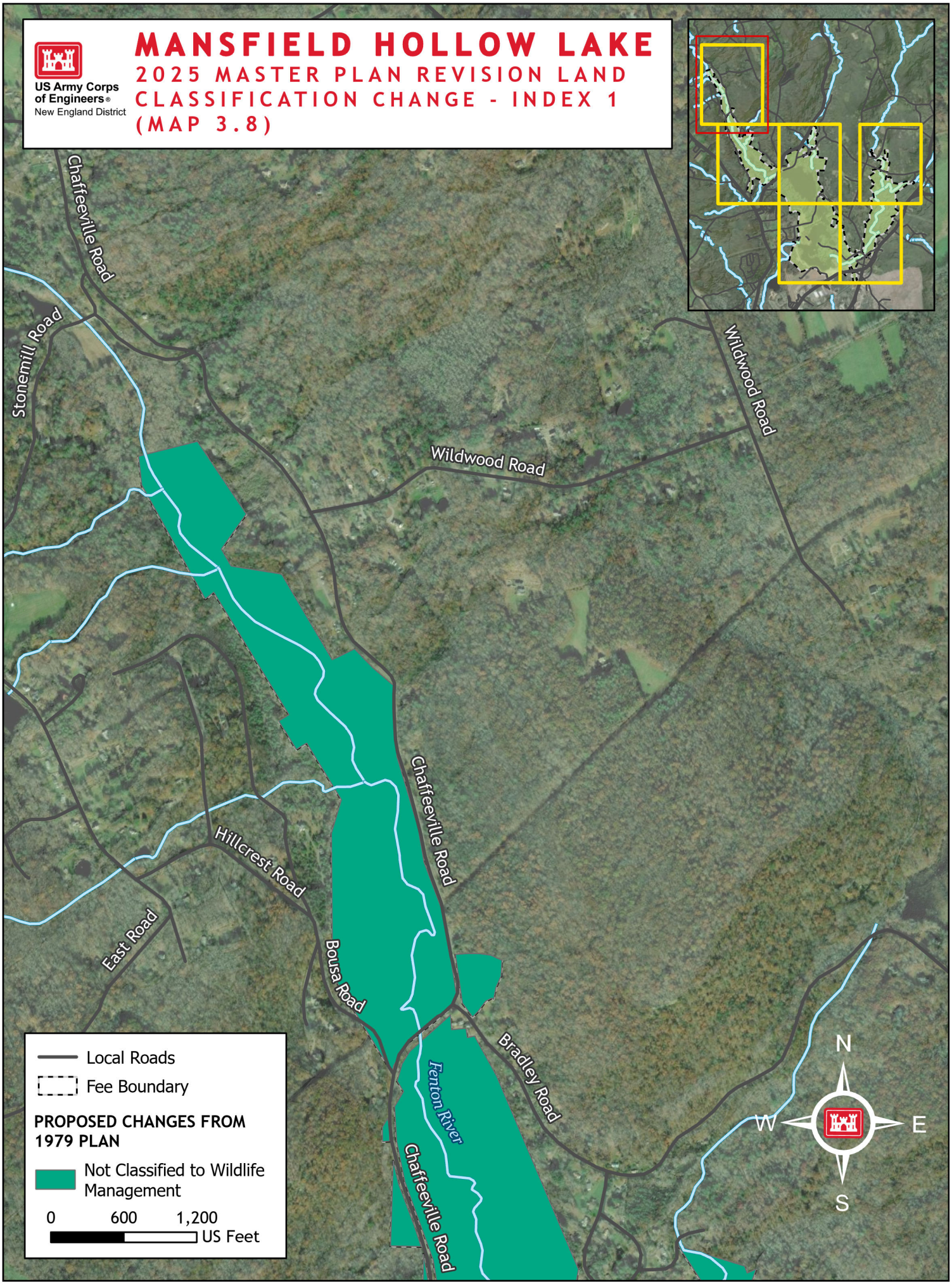
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New England District
MANSFIELD HOLLOW LAKE
2025 MASTER PLAN REVISION LAND CLASSIFICATION CHANGE - INDEX 1 (MAP 3.8)
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Wildwood Road
Wildwood Road
Chaffeeville Road
Hillcrest Road
East Road
Bousa Road
Bradley Road
Fenton River
Chaffeeville Road
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PROPOSED CHANGES FROM 1979 PLAN
Not Classified to Wildlife Management
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US Feet
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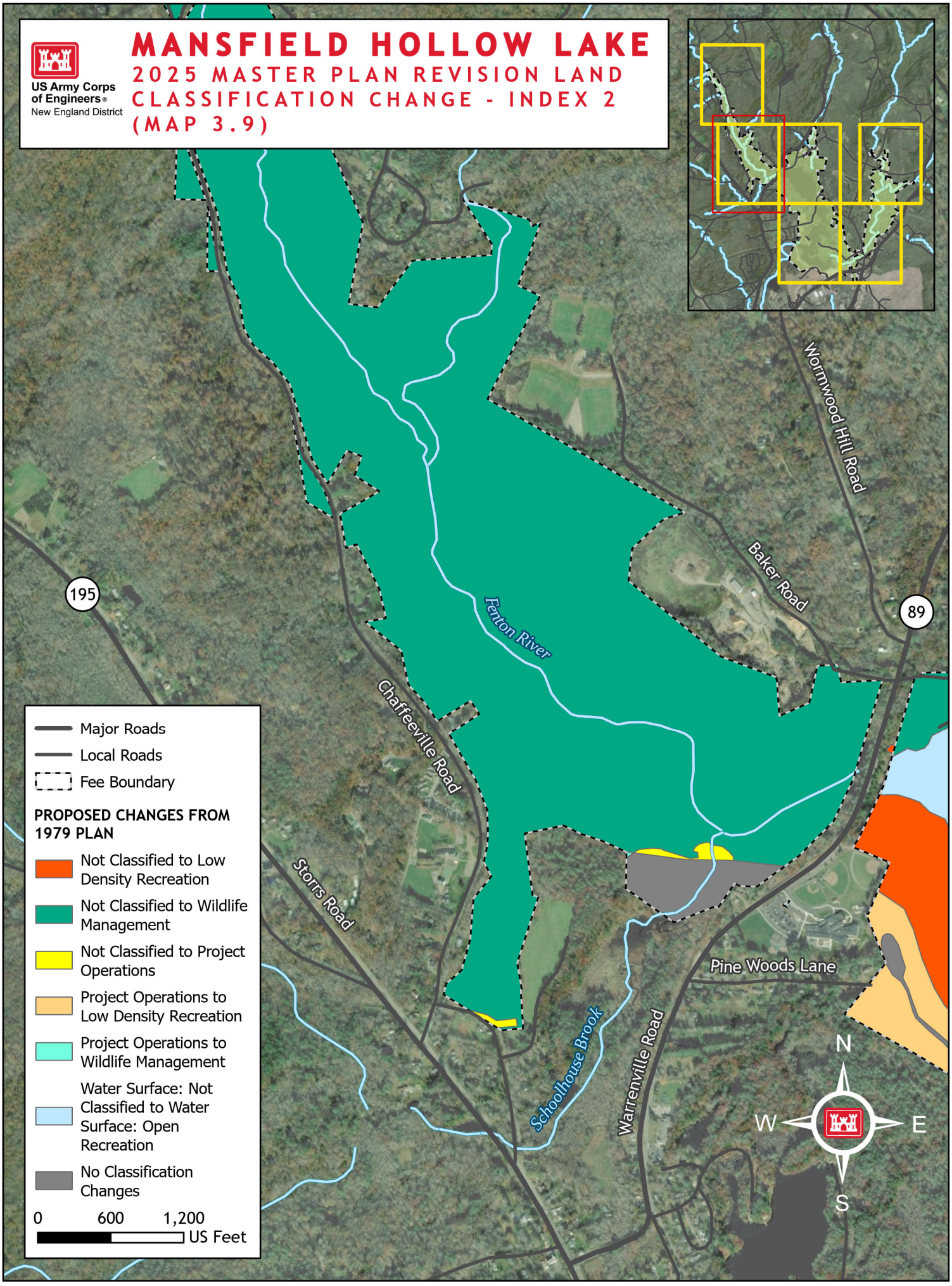
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2025 MASTER PLAN REVISION LAND CLASSIFICATION CHANGE - INDEX 2 (MAP 3.9)
US Army Corps of Engineers®
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Wormwood Hill Road
Baker Road
195
89
Fenton River
Chaffeeville Road
Storrs Road
Schoolhouse Brook
Warrenville Road
Pine Woods Lane
Major Roads
Local Roads
Fee Boundary
PROPOSED CHANGES FROM 1979 PLAN
Not Classified to Low Density Recreation
Not Classified to Wildlife Management
Not Classified to Project Operations
Project Operations to Low Density Recreation
Project Operations to Wildlife Management
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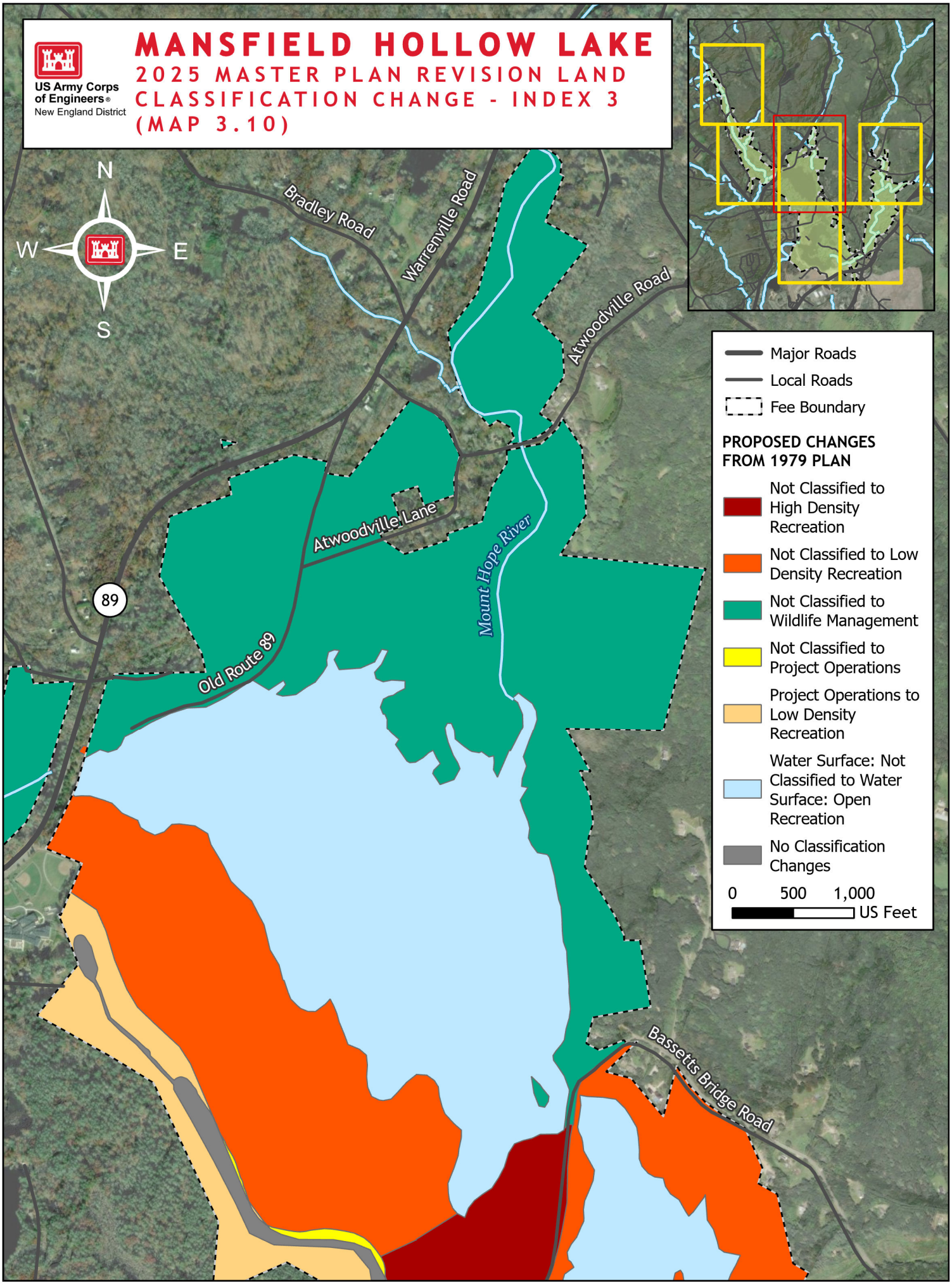
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2025 MASTER PLAN REVISION LAND CLASSIFICATION CHANGE - INDEX 3 (MAP 3.10)
US Army Corps of Engineers®
New England District
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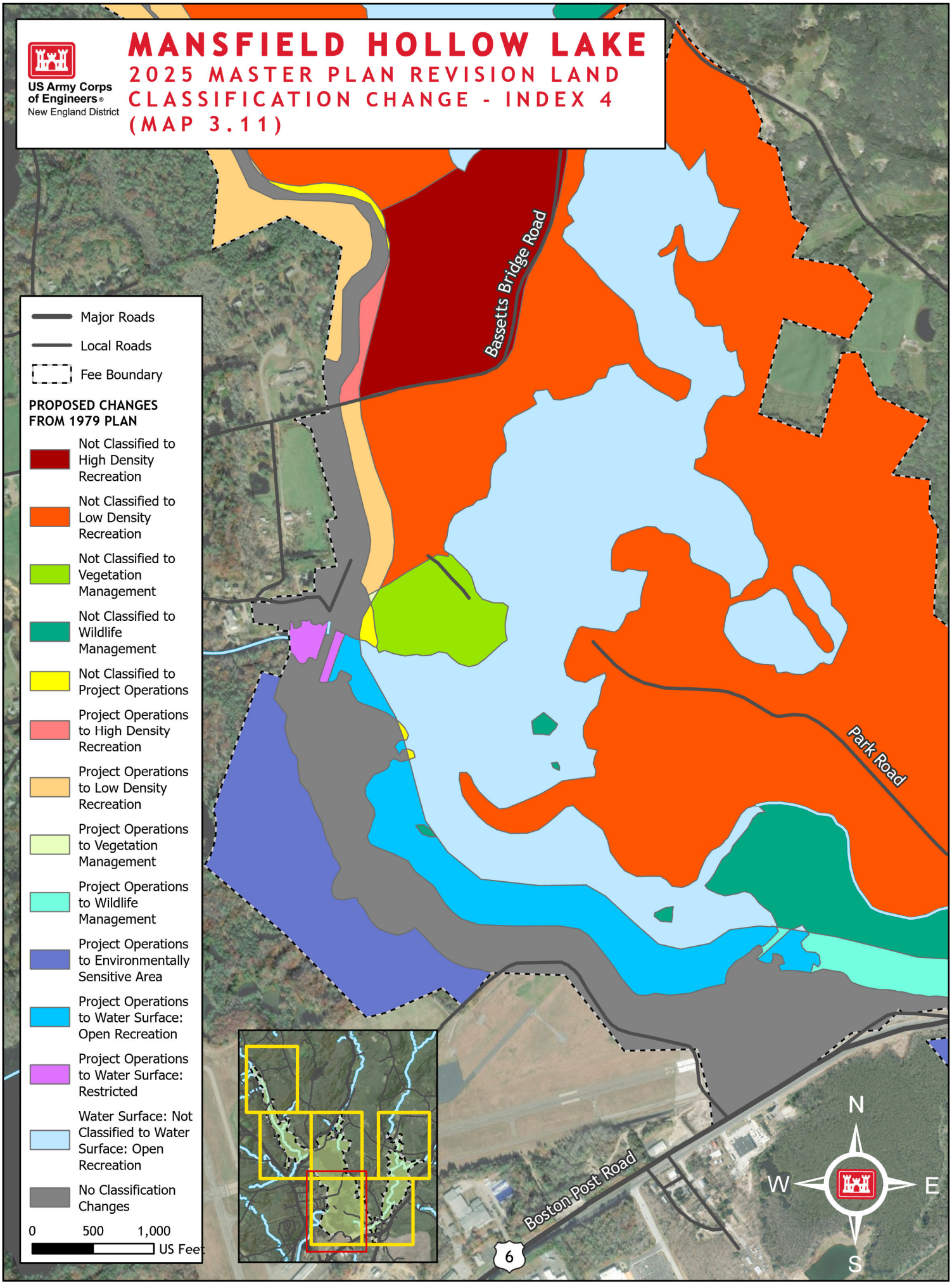
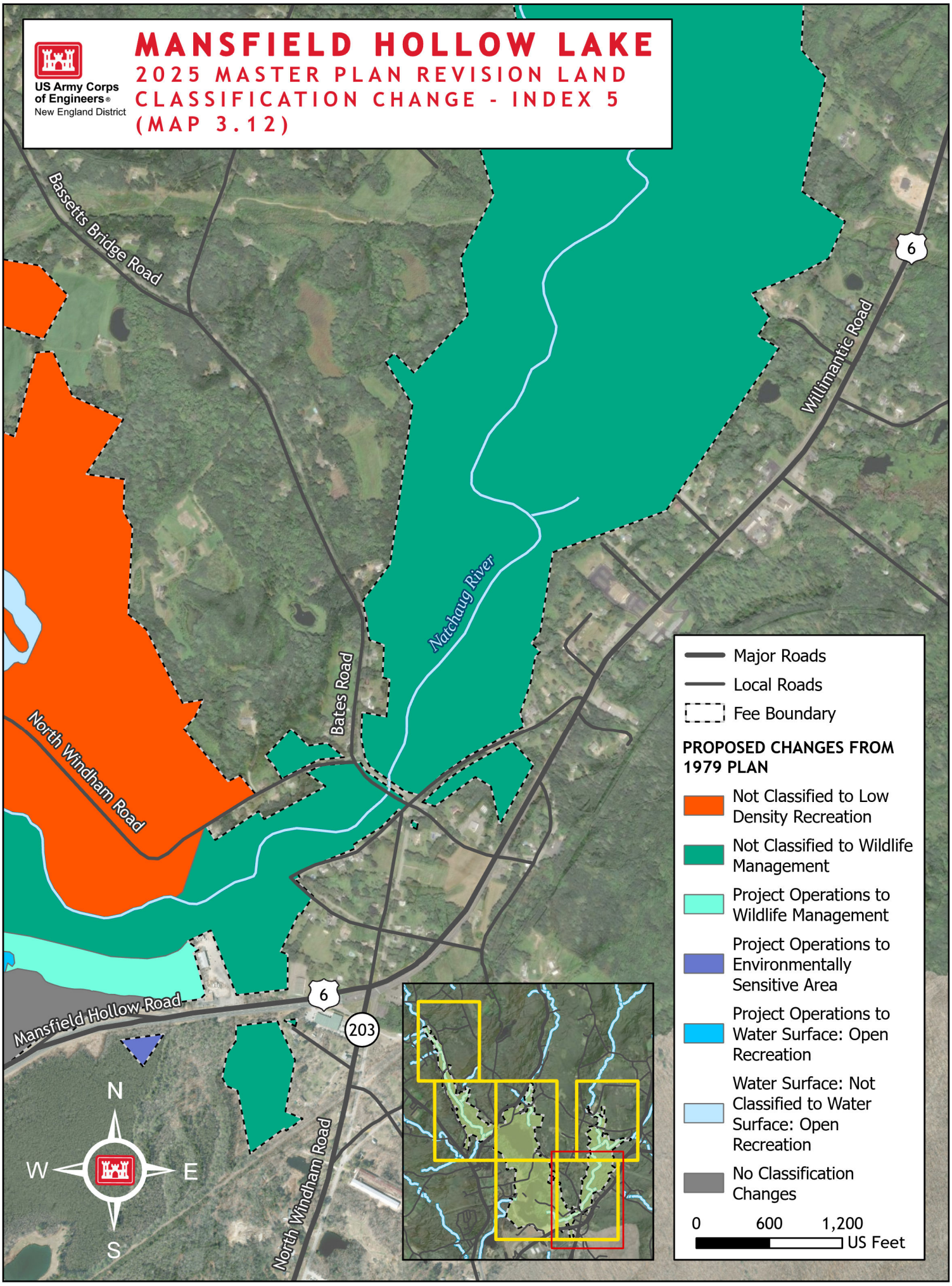
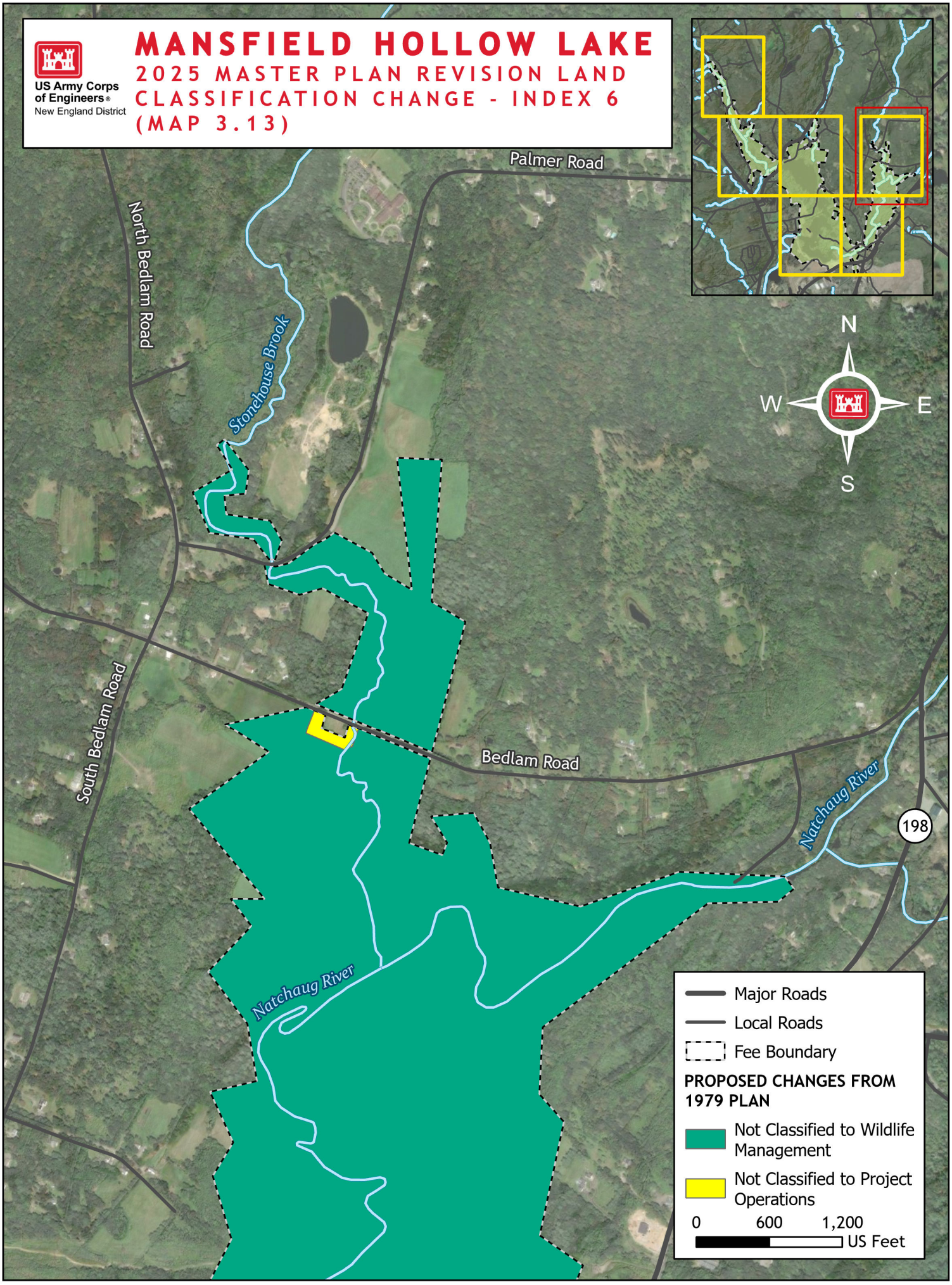
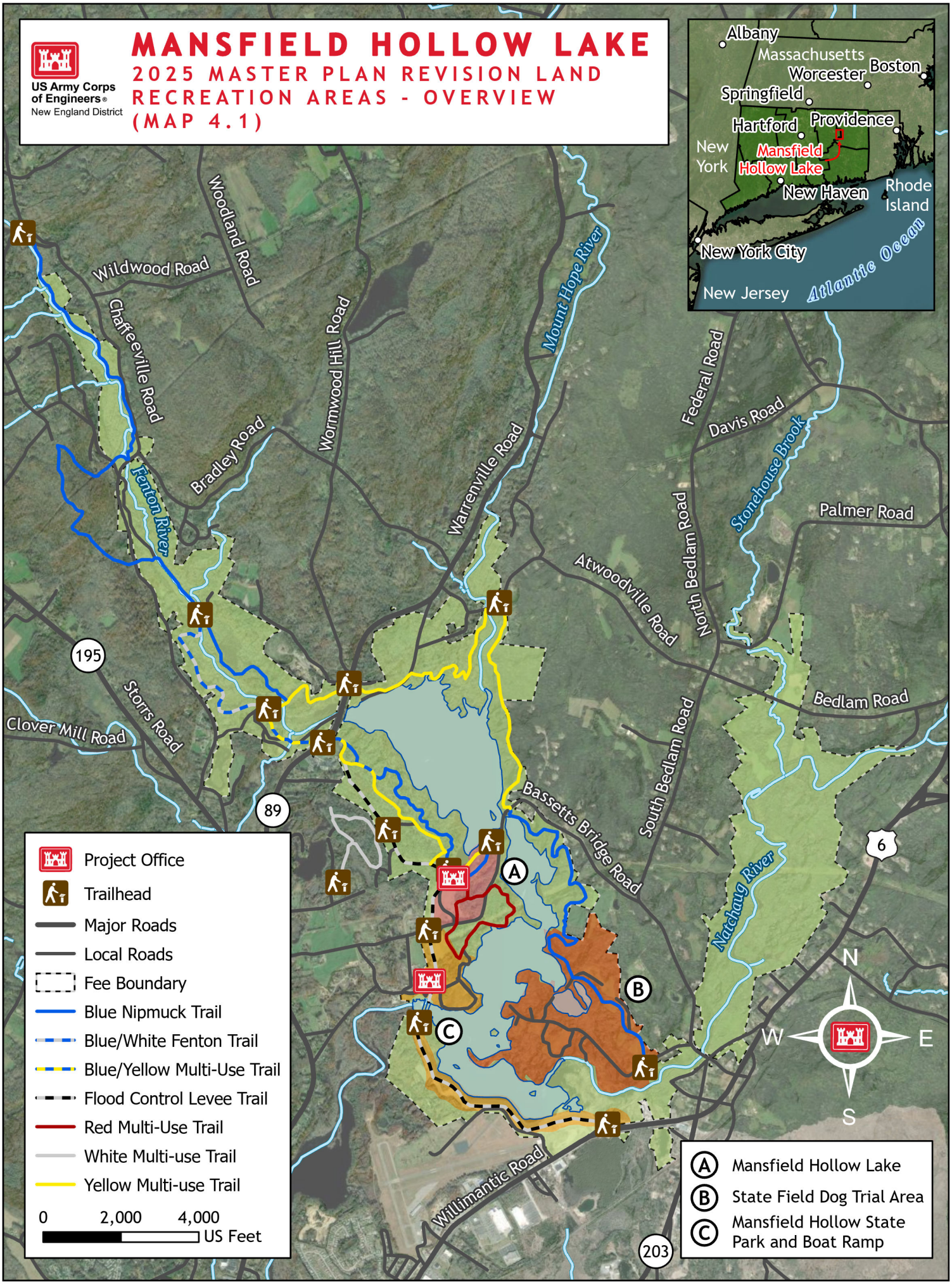
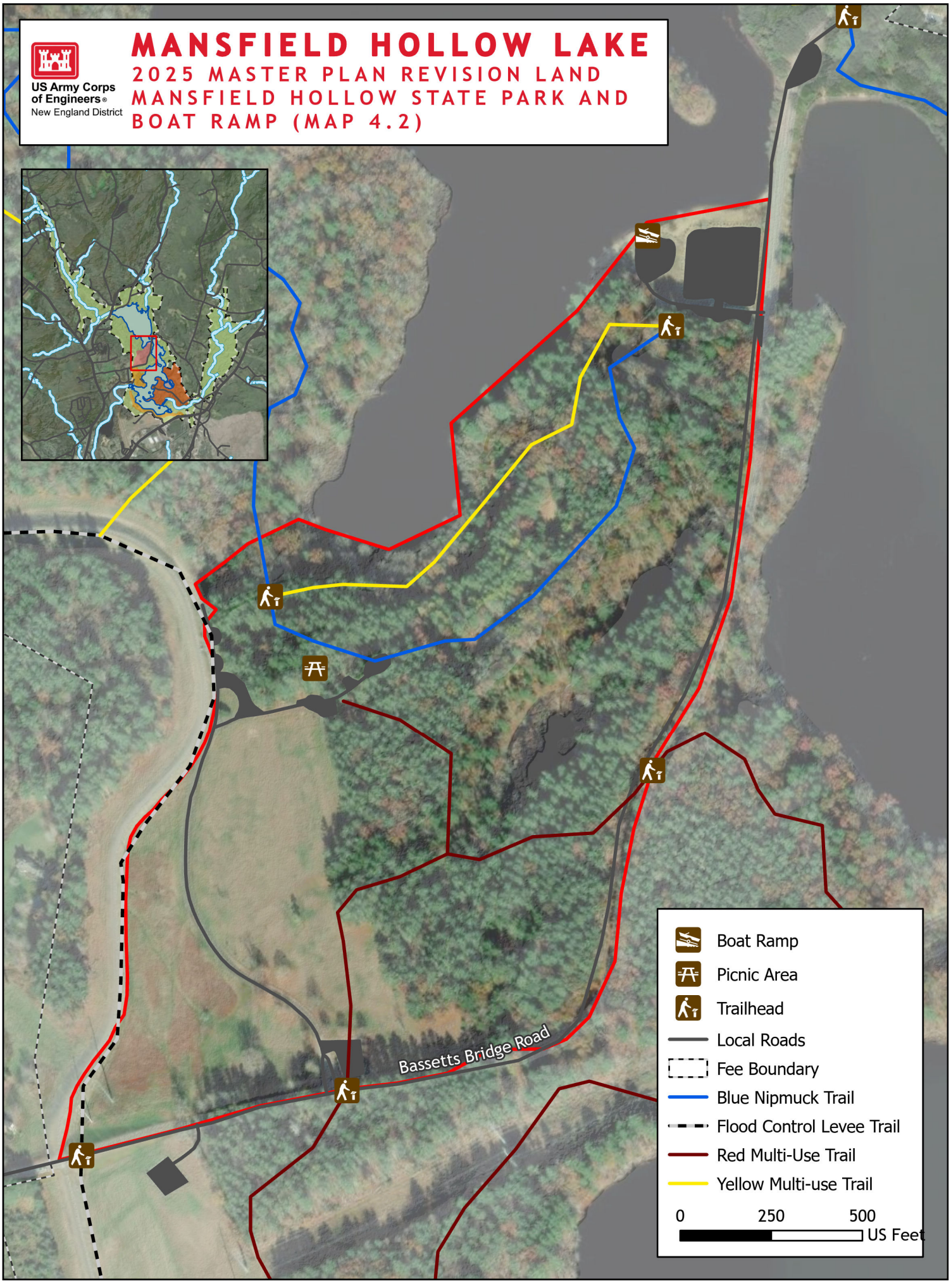
Bradley Road
Warrenville Road
Atwoodville Road
Atwoodville Lane
Mount Hope River
89
Old Route 89
Bassetts Bridge Road
Major Roads
Local Roads
Fee Boundary
PROPOSED CHANGES FROM 1979 PLAN
Not Classified to High Density Recreation
Not Classified to Low Density Recreation
Not Classified to Wildlife Management
Not Classified to Project Operations
Project Operations to Low Density Recreation
Water Surface: Not Classified to Water Surface: Open Recreation
No Classification Changes
0
500
1,000
US Feet

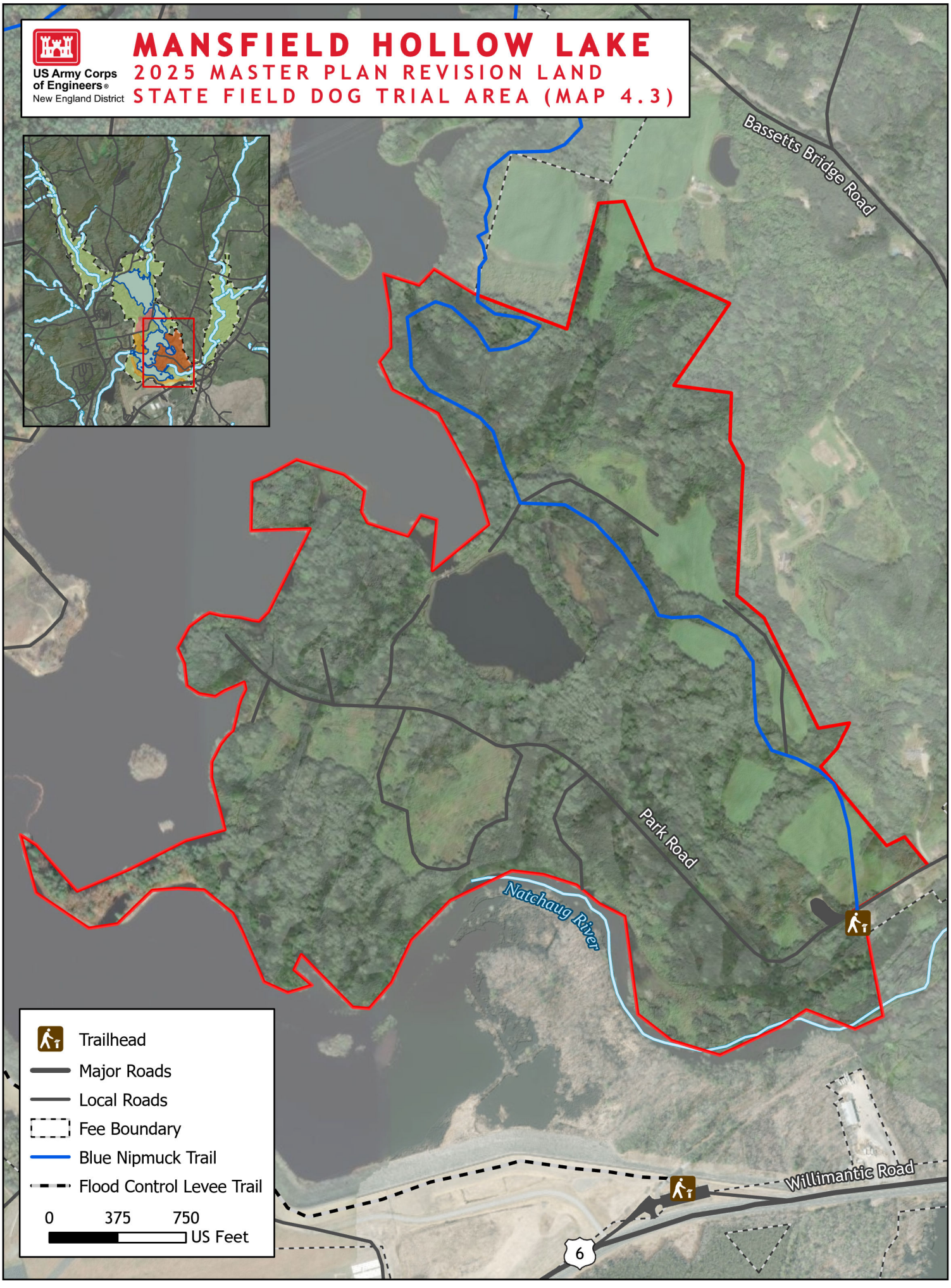

MANSFIELD HOLLOW LAKE
2025 MASTER PLAN REVISION LAND CLASSIFICATION CHANGE - INDEX 4 (MAP 3.11)
US Army Corps of Engineers®
New England District
Major Roads
Local Roads
Fee Boundary
PROPOSED CHANGES FROM 1979 PLAN
Not Classified to High Density Recreation
Not Classified to Low Density Recreation
Not Classified to Vegetation Management
Not Classified to Wildlife Management
Not Classified to Project Operations
Project Operations to High Density Recreation
Project Operations to Low Density Recreation
Project Operations to Vegetation Management
Project Operations to Wildlife Management
Project Operations to Environmentally Sensitive Area
Project Operations to Water Surface: Open Recreation
Project Operations to Water Surface: Restricted
Water Surface: Not Classified to Water Surface: Open Recreation
No Classification Changes
0 500 1,000
US Feet
Bassetts Bridge Road
Park Road
Boston Post Road
6
N
W
E
S

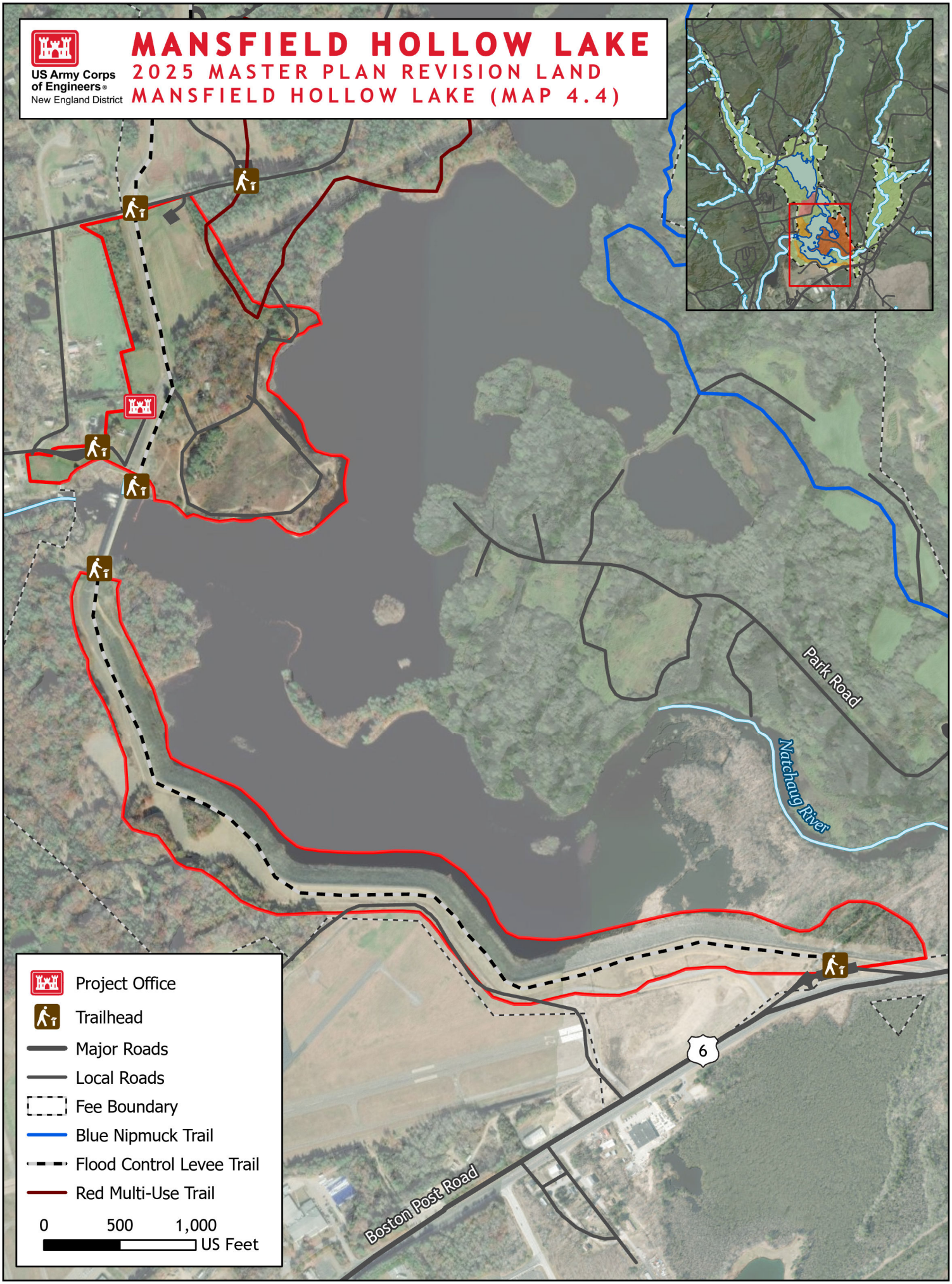

MANSFIELD HOLLOW LAKE
2025 MASTER PLAN REVISION LAND CLASSIFICATION CHANGE - INDEX 5 (MAP 3.12)
US Army Corps of Engineers®
New England District
Bassetts Bridge Road
Willimantic Road
6
Natchaug River
Bates Road
North Windham Road
Mansfield Hollow Road
203
N
W
E
S
Major Roads
Local Roads
Fee Boundary
PROPOSED CHANGES FROM 1979 PLAN
Not Classified to Low Density Recreation
Not Classified to Wildlife Management
Project Operations to Wildlife Management
Project Operations to Environmentally Sensitive Area
Project Operations to Water Surface: Open Recreation
Water Surface: Not Classified to Water Surface: Open Recreation
No Classification Changes
0
600
1,200
US Feet

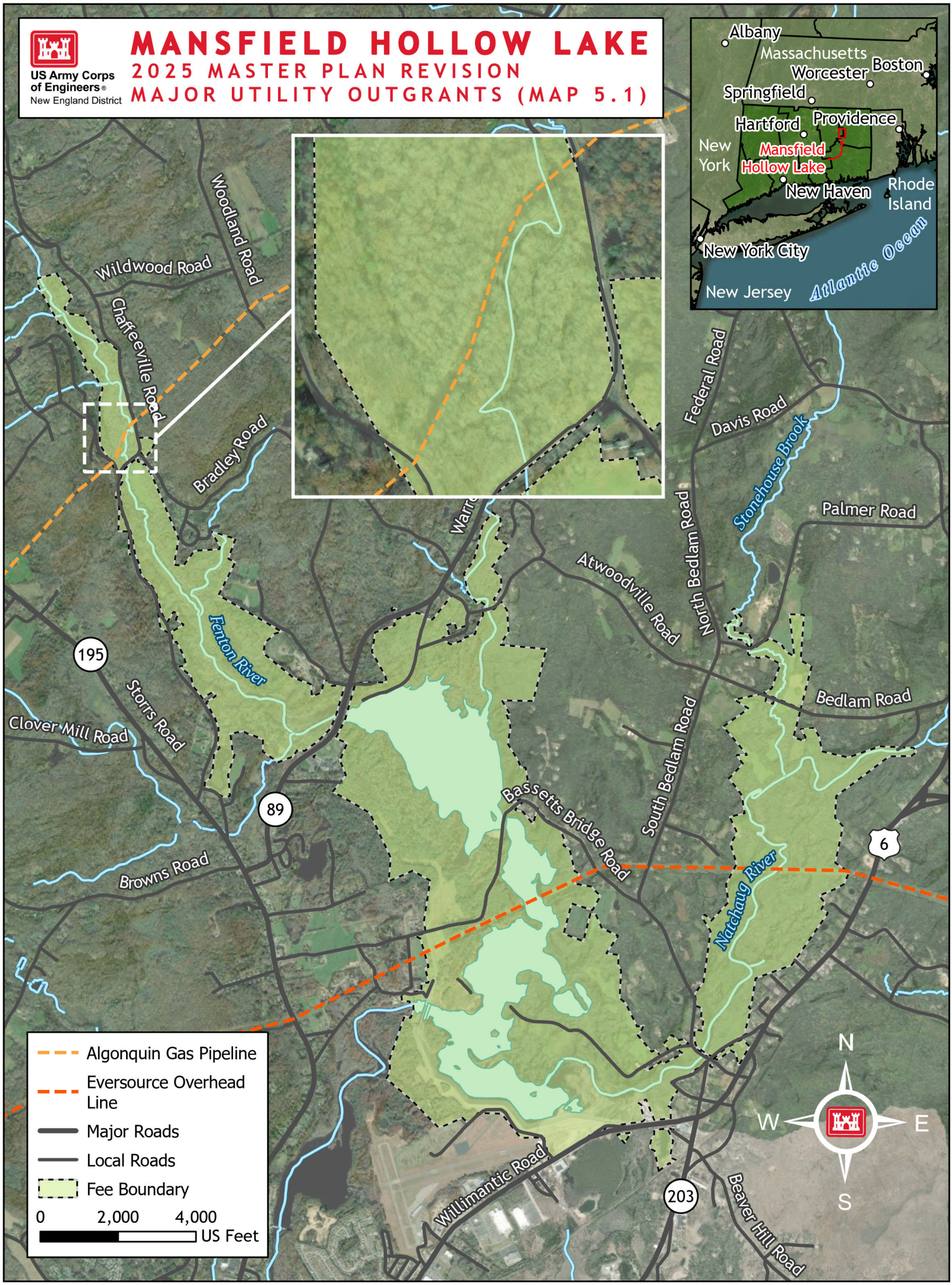

MANSFIELD HOLLOW LAKE
2025 MASTER PLAN REVISION LAND CLASSIFICATION CHANGE - INDEX 6 (MAP 3.13)
US Army Corps of Engineers®
New England District
Palmer Road
North Bedlam Road
Stonehouse Brook
South Bedlam Road
Bedlam Road
Natchaug River
198
N
W
E
S
Major Roads
Local Roads
Fee Boundary
PROPOSED CHANGES FROM 1979 PLAN
Not Classified to Wildlife Management
Not Classified to Project Operations
0
600
1,200
US Feet


MANSFIELD HOLLOW LAKE
2025 MASTER PLAN REVISION LAND RECREATION AREAS - OVERVIEW (MAP 4.1)
US Army Corps of Engineers
New England District
Albany
Massachusetts
Worcester
Boston
Springfield
Hartford
Providence
New York
Mansfield Hollow Lake
New Haven
Rhode Island
New York City
New Jersey
Atlantic Ocean
Wildwood Road
Woodland Road
Chaffeeville Road
Wormwood Hill Road
Mount Hope River
Federal Road
Davis Road
Bradley Road
Fenton River
Warrenville Road
Stonehouse Brook
Palmer Road
Atwoodville Road
North Bedlam Road
195
Storrs Road
Clover Mill Road
Bedlam Road
South Bedlam Road
Bassetts Bridge Road
89
6
Natchaug River
A
B
C
N
W
E
S
Project Office
Trailhead
Major Roads
Local Roads
Fee Boundary
Blue Nipmuck Trail
Blue/White Fenton Trail
Blue/Yellow Multi-Use Trail
Flood Control Levee Trail
Red Multi-Use Trail
White Multi-use Trail
Yellow Multi-use Trail
0
2,000
4,000
US Feet
Willimantic Road
203
A Mansfield Hollow Lake
B State Field Dog Trial Area
C Mansfield Hollow State Park and Boat Ramp


MANSFIELD HOLLOW LAKE
2025 MASTER PLAN REVISION LAND
MANSFIELD HOLLOW STATE PARK AND
BOAT RAMP (MAP 4.2)
US Army Corps
of Engineers
New England District
Bassetts Bridge Road
Boat Ramp
Picnic Area
Trailhead
Local Roads
Fee Boundary
Blue Nipmuck Trail
Flood Control Levee Trail
Red Multi-Use Trail
Yellow Multi-use Trail
0
250
500
US Feet


US Army Corps of Engineers
New England District
MANSFIELD HOLLOW LAKE
2025 MASTER PLAN REVISION LAND
STATE FIELD DOG TRIAL AREA (MAP 4.3)
Bassetts Bridge Road
Park Road
Natchaug River
Willimantic Road
6
Trailhead
Major Roads
Local Roads
Fee Boundary
Blue Nipmuck Trail
Flood Control Levee Trail
0
375
750
US Feet


US Army Corps of Engineers
New England District
MANSFIELD HOLLOW LAKE
2025 MASTER PLAN REVISION LAND
MANSFIELD HOLLOW LAKE (MAP 4.4)
Park Road
Natchaug River
Boston Post Road
6
Project Office
Trailhead
Major Roads
Local Roads
Fee Boundary
Blue Nipmuck Trail
Flood Control Levee Trail
Red Multi-Use Trail
0
500
1,000
US Feet


US Army Corps of Engineers
New England District
MANSFIELD HOLLOW LAKE
2025 MASTER PLAN REVISION
MAJOR UTILITY OUTGRANTS (MAP 5.1)
Albany
Massachusetts
Worcester
Boston
Springfield
Hartford
Providence
New York
Mansfield Hollow Lake
New Haven
Rhode Island
New York City
New Jersey
Atlantic Ocean
Woodland Road
Wildwood Road
Chaffeeville Road
Bradley Road
Federal Road
Davis Road
Stonehouse Brook
Palmer Road
Atwoodville Road
North Bedlam Road
Bedlam Road
South Bedlam Road
Bassetts Bridge Road
Fenton River
Natchaug River
195
Storrs Road
Clover Mill Road
89
Browns Road
6
Willimantic Road
203
Beaver Hill Road
Algonquin Gas Pipeline
Eversource Overhead Line
Major Roads
Local Roads
Fee Boundary
0
2,000
4,000
US Feet
N
W
E
S

APPENDIX B – NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DOCUMENTATION

Draft Environmental Assessment and Finding of No Significant Impact (FONSI)

Mansfield Hollow Lake

Master Plan

Tolland and Windham Counties, Connecticut

E6-O-1741697284

US Army Corps of Engineers ®
New England District

June 2025

DRAFT

ENVIRONMENTAL ASSESSMENT ORGANIZATION

This Environmental Assessment (EA) evaluates the potential environmental and socioeconomic impacts of the 2025 Mansfield Hollow Lake Master Plan Revision.

SECTION 1	*INTRODUCTION* of the Proposed Action summarizes the purpose of and need for the Proposed Action, provides relevant background information, and describes the scope of the EA.
SECTION 2	*PROPOSED ACTION AND ALTERNATIVES* examines alternatives for implementing the Proposed Action and describes the recommended alternative.
SECTION 3	*AFFECTED ENVIRONMENT* describes the existing environmental and socioeconomic setting.
	ENVIRONMENTAL CONSEQUENCES identifies the potential environmental and socioeconomic effects of implementing the Proposed Action and alternatives.
SECTION 4	*COMPLIANCE WITH ENVIRONMENTAL LAWS* provides a listing of environmental protection statutes and other environmental requirements.
SECTION 5	*PUBLIC AND AGENCY COORDINATION* provides a listing of individuals and agencies consulted during preparation of the EA.
SECTION 6	*REFERENCES* provides bibliographical information for cited sources.
APPENDIX A	*COORDINATION* National Environmental Policy Act (NEPA) Coordination and Scoping
APPENDIX B	*WILDLIFE DOCUMENTATION* provides information on USFWS resources (including threatened and endangered species) and Connecticut's NDDB state-listed species.

Table of Contents

List of Tables

List of Acronyms

CFR	Code of Federal Regulations
CT DEEP	Connecticut Department of Energy and Environmental Protection
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Environmental Sensitive Area
FONSI	Finding of No Significant Impact
HDR	High Density Recreation
HTRW	Hazardous, Toxic, and Radioactive Waste
IPaC	Information for Planning and Consultation
LDR	Low Density Recreation
MP	Master Plan
MRML	Multiple Resource Management Lands
NAGPRA	Native American Graves Protection and Repatriation Act
NDDB	Natural Diversity Data Base
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PO	Project Operations
SHPO	State Historic Preservation Office
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VM	Vegetation Management
WM	Wildlife Management

FINDING OF NO SIGNIFICANT IMPACT
2025 Mansfield Hollow Lake Master Plan Revisions
Tolland and Windham Counties, Connecticut

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 Mansfield Hollow Lake Master Plan, as required by Engineering Regulation 1130-2-550 and Engineering Pamphlet 1130-2-550. Mansfield Hollow Dam is a rolled earth fill embankment dam that provides flood risk management to the Thames River Basin. The Rivers and Harbors Act of 1941 (also known as the Flood Control Act of 1941) authorized Mansfield Hollow Lake and Dam (referred to hereafter as "Mansfield Hollow Lake") as a part of the Thames River Basin flood control system. The Flood Control Act of 1944, as amended, authorized the development of Mansfield Hollow Lake for recreation.

The Mansfield Hollow Lake Master Plan is a strategic land use management document that guides the efficient, cost-effective, comprehensive management, development, and use of recreation, natural resources, and cultural resources located at Mansfield Hollow Lake. The Master Plan and supporting documentation provide an inventory and analysis of goals, objectives, and recommendations for USACE lands and waters at Mansfield Hollow Lake, with input from the public, stakeholders, and subject matter experts.

USACE has completed an Environmental Assessment (EA) for this project in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended. USACE is fully revising the 1979 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 proposed action includes updated land classifications, resource goals and objectives. The land classifications include a decrease in Project Operations, large increases in Low Density Recreation and Wildlife Management, and small increases in Environmentally Sensitive Areas and Vegetative Management lands.

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) <u>The degree to which the action may adversely affect public health and safety.</u> The project is expected to have no 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 project will have no potential for adverse impacts to unique characteristics of the geographic area such as Tribal sacred sites, prime farmlands, wild and scenic rivers, or ecologically critical areas. The project will have no potential for adverse impacts 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 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 (NRHP)**.** The project will have no potential for 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 project will have no effect on any federal or state threatened or endangered species or designated critical habitat for such species.

(vii) The degree to which the action may adversely affect rights of Tribal Nations that have been reserved through treaties, statutes, or Executive Orders. The project 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 the implementation and adoption of the 2025 Mansfield Hollow 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.

DRAFT

_____ _____

Date

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

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SECTION 1: INTRODUCTION

The U.S. Army Corp of Engineers (USACE), New England District, has prepared this Environmental Assessment (EA) to analyze the potential environmental effects associated with the adoption and implementation of the Mansfield Hollow Lake Master Plan (MP). This MP is a programmatic document subject to evaluation under the National Environmental Policy Act (NEPA) of 1969, as amended, 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 reservoir. It is a vital tool for responsible stewardship and sustainability of the project's natural, cultural, and recreational resources. The 2025 MP 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 2025 MP.

1.1 PROJECT LOCATION AND SETTING

Mansfield Hollow Lake is a multi-purpose reservoir located approximately 25 miles east of Hartford, CT in Windham and Tolland counties. The Mansfield Hollow Dam is located on the confluence of the Natchaug, Fenton, and Mt. Hope Rivers in the Thames River Basin. Construction of Mansfield Hollow Dam was completed in 1952. The dam is a part of six flood risk management dams within the Thames River Basin. Mansfield Hollow Lake was authorized in 1941 for flood risk management and recreation. Mansfield Hollow Lake's project lands span approximately 2,521 acres total, with a lake surface area of 452 acres. Mansfield Hollow Lake's drainage area is 159 square miles. For more information on Mansfield Hollow Lake, please refer to Chapter 1.5 of the 2025 MP.

1.1 PURPOSE AND NEED

The 2025 MP is intended to serve as a comprehensive land and recreation management plan with an effective life of approximately 25 years. The purpose of the 2025 MP is to ensure that the conservation and sustainability of the land, water, and recreational resources at Mansfield Hollow Lake comply with applicable environmental laws and regulations and to maintain quality lands for future public use. 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.

SECTION 2: PROPOSED ACTION AND ALTERNATIVES

During the alternative development process, different land classifications were evaluated for each parcel of USACE land. Land classifications were determined by primary use alongside the consideration of the multiple Congressionally authorized missions of the Project, public and agency comments, USACE staff knowledge, and potential impacts to the social, cultural, and environmental resources. 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 unique, 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:

- 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.

Resource objectives were developed to support the goals of the Master Plan, USACE Environmental Operating Principles, and applicable national performance measures. Resource objectives are consistent with authorized project purposes, federal laws and directives, regional needs, resource capabilities, and public consideration. Recreational and natural resources carrying capacities were considered alongside state planning documents, including Connecticut's Wildlife Action Plan and the Statewide Comprehensive Outdoor Recreation Plan. Refer to Chapter 3 of the 2025 MP for a description of the resource objectives.

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. 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 solely for the operation of Mansfield Hollow Lake. These lands allow for limited recreational use such as public access to the shoreline for fishing or hiking along the top of the dikes, 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.

- **Environmentally Sensitive Areas (ESA):** Areas where scientific, ecological, cultural, or aesthetic features have been identified and are in need of preservation.

- **Multiple Resource Management 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 supports 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.
    - Vegetation Management (VM): Lands designated for stewardship of vegetative resources.
    - Future or Inactive Recreation (FOIR): Areas with site characteristics compatible with potential future recreational development or recreation

areas that are closed. Until there is an opportunity to develop or reopen these areas, they will be managed for multiple resources.

- **Water Surface:** Allows for surface water zones.
    - Restricted: Water areas restricted for project operations, safety, and security.
    - Designated No-Wake: Water areas to protect environmentally sensitive shoreline areas and recreational water access areas from disturbance and areas to protect public safety.
    - Open Recreation: Water areas available for year-round or seasonal water-based recreational use

2.1 NO ACTION ALTERNATIVE

The No Action Alternative serves as a basis for comparison to the anticipated effects of the action alternatives. Under the No Action Alternative, USACE would not adopt and implement the 2025 MP. USACE would continue to manage Mansfield Hollow Lake's natural resources as set forth in the 1979 MP.

2.2 PROPOSED ACTION ALTERNATIVE

Under the Proposed Action, USACE will adopt and implement the 2025 MP, replacing the 1979 MP. The 2025 MP will classify all federal land at Mansfield Hollow Lake into land management categories. The Proposed Action will meet regional stewardship 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.

Table 1 provides a summary of prior 1979 MP land classifications alongside the proposed 2025 MP classifications. Land classification descriptions are included in Section 2.

Table 1. Existing and Proposed Land Classifications

Prior Land Classifications (1979)	Acres	Proposed Land Classifications (2025)	Acres	Net Difference
Project Operations	271	Project Operations (PO)	133	(138)
Not Classified	1,832	–		(1832)
–	–	High Density Recreation (HDR)	61	61
–	–	Low Density Recreation (LDR)	504	504
–	–	Vegetative Management (VM)	16	16
–	–	Wildlife Management (WM)	1306	1306
–	–	Environmentally Sensitive Area (ESA)	49	49
LAND TOTAL	**2,103**	**LAND TOTAL**	**2,069**	**(34)**
Prior Water Surface Classifications (1979)	**Acres**	**Proposed Water Surface Classifications (2025)**	**Acres**	**Net Difference**
Water Surface	411	Water Surface	452	41
• Not Classified	411	–	–	(411)
–	–	• Open Recreation	449	449
–	–	• Restricted	3	3
WATER TOTAL	**411**	**WATER TOTAL**	**452**	**41**
TOTAL FEE	**2,514**	**TOTAL FEE**	**2,521**	**7**

* 1979 acres are approximate based on text descriptions of each area since the areas were not originally mapped. Total fee simple title acreage differences from the 1979 total to the 2025 totals are due to improvements in measurement technology, deposition/siltation, and erosion. Totals also differ due to rounding while adding parcels.

SECTION 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section describes the natural, cultural, and social resources found within the Mansfield Hollow Lake fee boundary and the environmental consequences of 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 analyzed in this EA. Impacts are evaluated in terms of type, context, intensity, and duration. The type of impacts can be either beneficial or adverse and can be either directly or indirectly related to the action.

3.1 LAND USE

Please refer to Chapter 4.2 of the 2025 MP for existing land use information in and around Mansfield Hollow Lake.

3.1.1 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 Mansfield Hollow Lake would continue to follow the 1979 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 Proposed Action

The Proposed Action will result in moderate, long-term beneficial impacts to land use. Under the Proposed Action the 2025 MP would be implemented. The objectives for the 2025 MP describe current and foreseeable land uses while considering expressed public opinion, regional goals and trends, and USACE policies that have evolved to meet day-to-day operational needs. The majority of the reclassifications will maintain and improve current land use management.

The 1979 MP land classifications included Project Operations lands and the Water Surface. The Proposed Action includes classification of prior unclassified lands at Mansfield Hollow Lake. Descriptions of the 2025 MP land classifications can be found below, and Table 1 shows the land classification differences expressed as acreages.

<u>Project Operations (PO)</u>

The Proposed Action will result in a net decrease in PO. PO lands are managed and used primarily in support of critical operational requirements related to the primary missions of flood risk management and water conservation. PO lands include lands associated with the dam, spillway, levees, project office, maintenance facilities, and other areas solely for project operations. The decreased PO lands in the 2025 MP is a result of reclassification to align with current management of lands, under the Environmental Sensitive Areas and Low Density Recreation classifications.

<u>MRML – High Density Recreation (HDR)</u>

The Proposed Action will result in a net increase of HDR. The HDR lands were previously unclassified in the 1979 MP. Reclassified HDR lands are primarily from the classification of Mansfield Hollow State Park Area. Small areas previously classified as PO, between the State Park and the dike off Bassetts Bridge Road, were reclassified as HDR due to current use.

MRML – Low Density Recreation (LDR)

The Proposed Action will result in a net increase of LDR. The 1979 MP did not classify LDR. The majority of LDR lands is due to the existing Connecticut Department of Energy and Environmental Protection (CT DEEP)'s lease agreement. The lease agreement allows for passive recreation such as trails and fishing areas. Small trail areas near the main dike were changes from PO to LDR lands to reflect current management strategies.

MRML - Wildlife Management (WM)

The Proposed Action will result in a net increase of WM resulting from land previously unclassified. The proposed reclassification includes areas in the north, northeast, and northwest areas of Mansfield Hollow Lake.

MRML - Vegetation Management (VM)

The Proposed Action will result in a net increase of VM resulting from land previously classified as PO. The proposed reclassification includes areas adjacent to the dam near Mansfield Hollow Road. The proposed reclassification of these lands aligns with current and future management in the area.

Environmental Sensitive Area (ESA)

The Proposed Action will result in a net increase in ESA. The proposed reclassification includes the protection of exemplary natural communities within the southern boundary of the project. The proposed ESA lands include sandplain grassland habitat and pitch pine/scrub oak habitat near the Windham Airport and US Route 6.

Water Surface Areas

The Proposed Action will result in a net increase of Water Surface. This is due to more precise shoreline mapping from current LiDAR data. There were no previous water surface area classifications at Mansfield Hollow Lake. The 2025 MP will result in a net increase of water surface classified as Open Recreation or Restricted areas. The majority of the lake water surface is classified as Open Recreation. Restricted areas are associated with Mansfield Hollow Dam. The areas include the water surface immediately surrounding the outlet structure and downstream areas surrounding the flood control gates.

3.2 WATER RESOURCES

Please refer to Chapters 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.

3.2.1 No Action Alternative

The No Action Alternative will result in no impacts to water resources. Under the No Action Alternative, the 2025 MP would not be implemented. As a result, there would be no changes to existing water resources.

3.2.2 Proposed Action

The Proposed Action will result in minor, beneficial impacts to water resources due to the 2025 MP's updated resource objectives. Implementation of the 2025 MP would result in natural resource management objectives that directly or indirectly impact water resources. Direct impacts include objectives that beneficially impact surface waters or wetlands (e.g. riparian zones, wetlands). Indirect impacts to water resources may occur from increased preservation and management of lands to reduce hydrologic disturbances. The following natural resource management objectives may provide minor, beneficial impacts:

- Give priority to the preservation and improvement of open space in public use planning, design, development, and management activities.
- Manage designated recreation lands/waters in ways that balance visitor use with protection of natural resources.
- Protect and restore important native habitats such as grasslands, pine barrens, riparian zones, and wetlands where they occur or historically occurred on project lands. Special emphasis should be placed on protection and/or restoration of special or rare plant species.

3.3 AIR QUALITY

For more information on existing conditions for air quality at Mansfield Hollow Lake, please refer to Chapter 2.4 in the 2025 MP.

3.3.1 No Action Alternative

The No Action Alternative will result in no changes to existing air quality at Mansfield Hollow Lake. The 1979 MP would remain in compliance with the Clean Air Act as no project activities would result in the contribution of criteria pollutants.

3.3.2 Proposed Action

The Proposed Action will result in no changes to existing air quality at the project and in the region. The 2025 MP would not implement any actions (i.e. ground disturbing activities) that will result in impacts to criteria pollutants and would therefore remain in compliance with the Clean Air Act.

3.4 CLIMATE AND GREENHOUSE GASES

For more information on existing conditions for climate at Mansfield Hollow Lake, please refer to Chapter 2.5 in the 2025 MP.

3.4.1 No Action Alternative

The No Action Alternative would result in no changes or impacts to existing climate or greenhouse gas management at Mansfield Hollow Lake. There would be no impact on existing or future climate conditions from continued management under the 1979 MP.

3.4.2 Proposed Action

The Proposed Action will result in minor, beneficial long-term impacts to existing air quality at the project and in the region. Impacts would result from land management practices and design standards that promote sustainability. The 2025 MP does not include activities which would contribute to a detectable change in emissions, including greenhouse gases, in the region.

3.5 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 Mansfield Hollow Lake.

3.5.1 No Action Alternative

The No Action Alternative will have no impacts to topography, geology, or soils. Under the No Action Alternative, the 1979 MP would remain effective and no benefits to topography, geology, and soils would result from land reclassification. No ground disturbing activities would take place that could potentially affect topography, geology, or soils resources.

3.5.2 Proposed Action

The Proposed Action will have no impacts to topography, geology, or soils. No ground disturbing activities would take place that could potentially affect topography, geology, or soils at Mansfield Hollow Lake.

3.6 NATURAL RESOURCES

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

3.6.1 No Action Alternative

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

3.6.2 Proposed Action

The Proposed Action will result in minor, long-term beneficial impacts to natural resources. Under the Proposed Action, the 2025 MP would be implemented, and land management policies would be updated to reflect current needs and natural resource requirements. The 2025 MP resource goals and objectives aim to further enhance, conserve, and protect natural resources, including Species of Greatest Conservation Need and state and federally Listed species.

The proposed action includes an increase in ESA (+49 acres), VM (+16 acres), and WM (+1306 acres) lands. ESA lands will be managed to support the state exemplary natural community habitat, including sandplain grassland and pitch pine/scrub oak habitat. No agricultural or grazing uses will be permitted, and little or no development will occur unless necessary for a specific resource management benefit, such as habitat restoration and management. VM lands are managed for the stewardship of vegetative resources. WM lands are managed for the stewardship of fish and wildlife resources.

3.7 THREATENED AND ENDANGERED SPECIES

The Endangered Species Act of 1973 provides a means to conserve threatened and endangered species. An endangered species is a species in danger of extinction throughout all or a significant portion of its range. A threatened species is a species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Species may be considered endangered or threatened because of any of the following factors (16 U.S.C 1533(a)(1)):

(1) the present or threatened destruction, modification, or curtailment of its habitat or range;
(2) overutilization for commercial, recreational, scientific, or educational purpose;
(3) disease or predation;
(4) the inadequacy of existing regulatory mechanisms; and
(5) other natural or human-induced factors affecting continued existence.

In addition, the U.S. Fish and Wildlife Service (USFWS) identifies species that are candidates for listing as a result of identified threats to their continued existence. Proposed species are those that have been proposed in the Federal Register to be listed under Section 4 of the Endangered Species Act.

Section 7(a)(2) of the Endangered Species Act requires Federal agencies to ensure that any action authorized, funded, or carried out by such agency is not likely to 1) jeopardize the continued existence of any endangered or threatened species, or 2) result in the destruction or adverse modification of critical habitat. An official species list was obtained from the USFWS's Information for Planning and Consultation tool (IPaC) on November 15, 2024 (Appendix B). Threatened and Endangered species as well as Migratory Bird Treaty Act, and Bald and Golden Eagle Act species are described in Table 2 and Table 3.

Table 2. Federal Threatened and Endangered Species Potentially Occurring at Mansfield Hollow Lake

Common Name	Scientific Name	Federal Listing Status
Northern long-eared bat	*Myotis septentrionalis*	Endangered
Tricolored bat	*Perimyotis subflavus*	Proposed Endangered

Table 3. Federally Listed Migratory Species Potentially Occurring at Mansfield Hollow Lake

Common Name	Scientific Name
Bald eagle[1]	*Haliaeetus leucocephalus*
Black-billed cuckoo	*Coccyzus erythropthalmus*
Blue-winged warbler	*Vermivora cyanoptera*
Bobolink	*Dolichonyx oryzivorus*
Canada warbler	*Cardellina canadensis*
Cerulean warbler	*Setophaga cerulea*
Chimney swift	*Chaetura pelagica*
Grasshopper sparrow	*Ammodramus savannarum perpallidus*
Kentucky warbler	*Geothlypis formosa*
King rail	*Rallus elegans*
Least tern	*Sternula antillarum antillarum*
Lesser yellowlegs	*Tringa flavipes*
Long-eared owl	*Asio otus*
Prairie warbler	*Setophaga discolor*
Prothonotary warbler	*Protonotaria citrea*
Red-headed woodpecker	*Melanerpes erythrocephalus*
Rusty blackbird	*Euphagus carolinus*
Scarlet tanager	*Piranga olivacea*
Semipalmated sandpiper	*Calidris pusilla*
Short-billed dowitcher	*Limnodromus griseus*
Whimbrel	*Numenius phaeopus hudsonicus*
Wood thrush	*Hylocichla mustelina*

[1] *Species protected under the Bald and Golden Eagle Act*

A list of state threatened and endangered species was obtained from CT DEEP through the use of the CT Natural Diversity Data Base (NDDB) (Appendix B). Table 4 provides a summary of state-listed species potentially occurring at Mansfield Hollow Lake.

Resurveying of state rare species and natural communities occurred in 2008 at Mansfield Hollow Lake. Two exemplary natural communities are present within Mansfield Hollow Lake: pitch pine/scrub oak habitat and sandplain grassland habitat (CME Associates Inc., 2008). These ecosystems are fire adapted and require natural or prescribed burns, or timber harvests to sustain. Pitch pine/scrub oak woodlands are dry woodlands found on sand and gravel or bed rock. These woodlands are the most impacted terrestrial habitat within Connecticut, with an estimated 95% of pitch pine/scrub oak woodlands degraded in condition (CT DEEP, 2015).

Bog habitat is present in Chapins Pond, dominated by a *Sphagnum* moss mat and dense leatherleaf (*Chamaedaphne calyculata)* shrub cover (CME Associates Inc., 2008). Bogs are natural peatlands that occur in topographic basins influenced by groundwater. Bogs are one of thirteen of Connecticut's most imperiled communities, providing habitat for imperiled plants, invertebrates, and amphibians (CT DEEP, 2015).

Table 4. State-listed Threatened and Endangered Species

Common Name	Scientific Name	State Listing Status
Undisclosed	Undisclosed	Sensitive[1]
Northern spring salamander	*Gyrinophilus porphyriticus*	Threatened
Eastern hognose snake	*Heterodon platirhinos*	Special Concern
Wood turtle	*Glyptemys insculpta*	Special Concern
Eastern ribbon snake	*Thamnophis sauritus*	Special Concern
Spotted turtle	*Clemmys guttata*	Special Concern
Grasshopper sparrow	*Ammodramus savannarum*	Endangered
Horned lark	*Eremophila alpestris*	Endangered
King rail	*Rallus elegans*	Endangered
Eastern meadowlark	*Sturnella magna*	Threatened
American kestrel	*Falco sparverius*	Special Concern
Savannah sparrow	*Passerculus sandwichensis*	Special Concern
Bobolink	*Dolichonyx oryzivorus*	Special Concern
Brook floater	*Alasmidonta varicosa*	Endangered
Hessel's hairstreak	*Callophrys hesseli*	Endangered
Barrens chytonix	*Chytonix sensilis*	Endangered
Northern flower moth	*Schinia septrentrionalis*	Threatened
Frosted elfin	*Callophrys irus*	Threatened
Sleepy duskywing	*Erynnis brizo*	Threatened
American rubyspot	*Hetaerina americana*	Threatened
Scrub euchlaena	*Euchlaena madusaria*	Threatened
Pine barrens zanclognatha	*Zanclognatha martha*	Threatened
Slender clearwing	*Hemaris gracilis*	Threatened
Disc gyro	*Gyraulus circumstriatus*	Special Concern
Eastern pearlshell	*Margaritifera margaritifera*	Special Concern
Oblique zale	*Zale obliqua*	Special Concern
Spinose flower moth	*Schinia spinosae*	Special Concern
Horace's duskywing	*Erynnis horatius*	Special Concern
Mustached clubtail	*Gomphus adelphus*	Special Concern
Purse web spider	*Sphodros niger*	Special Concern
Henry's elfin	*Callophrys henrici*	Special Concern
Scribbled sallow moth	*Sympistis perscripta*	Special Concern
Waxed sallow	*Chaetaglaea cerata*	Special Concern
Harris' checkerspot	*Chlosyne harrisii*	Special Concern Historical
Capillary pondweed	*Potamogeton gemmiparus*	Threatened
Low frostweed	*Crocanthemum propinquum*	Special Concern
Beck's water-marigold	*Bidens beckii*	Special Concern

[1] Species not disclosed by NDDB due to risk of collection

3.7.1 No Action Alternative

The No Action Alternative will result in no impacts to federal or state-listed NDDB species. The No Action Alternative would have no effect on threatened and endangered species and migratory birds. Federally threatened and endangered species and NDDB species would continue to be managed under the existing 1979 MP and in accordance with federal and state laws including the Endangered Species Act, the Migratory Bird Treaty Act, the Bald and Golden Eagle Act, and Connecticut Endangered Species Act (CGS Section 26-303).

3.7.2 Proposed Action

The Proposed Action will result in no impacts to federal and state-listed species. USACE has made a no effect determination for the Proposed Action for all federally listed or proposed threatened, endangered, or candidate species that may occur within Mansfield Hollow Lake (Project Code No. 2025-0020696). The implementation of the 2025 MP would not result in construction or ground-disturbing activities. No direct or indirect impacts would occur to federal and state-listed species. The proposed action would not affect any species or suitable habitat that may occur within Mansfield Hollow Lake. Any future activities that could potentially result in impacts to Federally listed species will be coordinated with USFWS under Section 7 of the Endangered Species Act.

3.8 INVASIVE SPECIES

Refer to Chapter 2.7.4 for information on the existing condition of invasive species at Mansfield Hollow Lake in the 2025 MP.

3.8.1 No Action Alternative

The No Action Alternative will have a minor, long-term adverse effect on invasive species management. The 2025 MP would not be implemented, and the project would continue to utilize the 1979 MP. As a result, no changes to existing conditions would occur and land management would not be compatible with current invasive species management needs.

3.8.2 Proposed Action

The Proposed Action will result in minor, long-term beneficial impacts to invasive species management. The reclassification of lands and improvement of resource management objectives associated with implementation of the 2025 MP will allow for more effective invasive species management. PO lands will implement invasive species control and management as appropriate. WM lands will pursue various invasive species programs, as available, including: early detection and prevention of introduction and spread of aquatic invasive species; and invasive plant species management. In addition to land reclassification, the 2025 MP includes natural resources management objectives which promote partner collaborations to manage and reduce the spread of invasive, non-native, and aggressively spreading native species.

3.9 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

For information on the existing conditions of Hazardous, Toxic, and Radioactive Waste (HTRW) at Mansfield Hollow Lake, please refer to Chapter 2.8 of the 2025 MP.

3.9.1 No Action Alternative

The No Action Alternative will result in no impacts to HTRW resources. Under the No Action Alternative, the 2025 MP would not be implemented and there would be no changes to the existing 1979 MP. No impacts to HTRW resources would occur as no HTRW resources or facilities are located within or in the immediate vicinity of Mansfield Hollow Lake.

3.9.2 Proposed Action

The Proposed Action will result in no impacts to HTRW resources. Under the Proposed Action, the 2025 MP would be implemented, and no construction or ground-disturbing activities would occur. No impacts to HTRW resources would occur as no HTRW resources or facilities are located within or in the immediate vicinity of Mansfield Hollow Lake.

3.10 HEALTH AND SAFETY

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

3.10.1 No Action Alternative

The No Action Alternative will result in no impacts to health and safety. Under the No Action Alternative, the 2025 MP would not be implemented and there would be no changes to the existing 1979 MP.

3.10.2 Proposed Action

The Proposed Action will result in no impacts to health and safety. The implementation of the 2025 MP will result in no construction or ground-disturbing activities that may impact health and safety.

3.11 AESTHETIC RESOURCES

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

3.11.1 No Action Alternative

The No Action Alternative will result in no impacts on aesthetic resources. No revisions to the 1979 MP would occur, and no changes would occur to existing aesthetic resources.

3.11.2 Proposed Action

The Proposed Action may result in minor, long-term beneficial impacts to aesthetic resources. The proposed action includes an increase in WM (+1306 acres) lands and VM (+16 acres). Benefits to aesthetic resources may occur due to less disturbance of aesthetic natural areas.

3.12 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

The earliest evidence of anthropogenic occupation of Mansfield Hollow Lake dates back to 10,500 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. Chapter 2.11 of the 2025 MP provides prehistoric and historic background discussions for the Mansfield Hollow Lake area as well as a summary regarding previous cultural resources investigations.

3.12.1 No Action Alternative

The No Action Alternative will result in no impacts to existing cultural, historical, or archaeological resources. Mansfield Hollow Lake would continue to be managed according to the 1979 Master Plan and the 1999 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.

3.12.2 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 are not included in the master plan. Since the 2025 MP is primarily administrative, it does not supersede cultural resources compliance under Sections 106 and 110 of the NHPA, NAGPRA, Archaeological Resources Protection Act, or the Mansfield Hollow Lake Historic Properties Management Plan. Furthermore, due to the nature of the Proposed Action, no ground disturbing activities are associated with the 2025 MP; therefore, no direct or indirect impacts are expected to occur to historic properties at Mansfield Hollow Lake. USACE has determined that the Proposed Action has no potential to affect historic properties.

USACE invited the Narragansett Tribe, the Wampanoag Tribe of Gay Head (Aquinnah), the Mohegan Tribe, the Mashantucket Pequot Tribal Nation, and the Massachusetts State Historic Preservation Officer (SHPO) to participate in the initial scoping of the 2025 MP. A copy of the draft EA will be provided to the tribes and SHPO. Any future proposed activities that could potentially result in impacts will be coordinated with Connecticut's State Historic Preservation Officer (SHPO).

3.13 SOCIOECONOMICS AND DEMOGRAPHICS

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

3.13.1 No Action Alternative

The No Action Alternative will result in no impacts to existing socioeconomics or demographics. The 2025 MP would not be implemented, and Mansfield Hollow Lake would continue management under the 1979 MP.

3.13.2 Proposed Action

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

3.14 RECREATION

For information on the existing conditions of recreation and the zone of influence for Mansfield Hollow Lake, please refer to Chapter 2.13 of the 2025 MP.

3.14.1 No Action Alternative

The No Action Alternative would result in 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 Mansfield Hollow Lake.

3.14.2 Proposed Action

The Proposed Action would result in moderate, long-term beneficial impacts to recreation. The 2025 MP would update recreation policies and goals and increase recreation land classifications. The 2025 MP would result in increased HDR (+61 acres) and LDR (+504 acres) lands. These land classification changes reflect current recreation needs and ultimately provide updated and more effective land management in the context of recreation and recreational access to the public. The classification of LDR lands aligns with the existing long term CT DEEP lease agreement.

SECTION 4: COMPLIANCE WITH ENVIRONMENTAL LAWS

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: Prior to any work being done as part of this project, 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 et seq.*

   Compliance: In progress. A copy of the draft EA will be released to the SHPO, Mashantucket Pequot Tribal Nation, Mohegan Tribe, Wampanoag Tribe of Gay Head (Aquinnah), and Narragansett Tribe. Prior to any work being done as part of this project, the area will be surveyed for the presence of any archaeological resources.

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

   Compliance: This project will not impede access by Native Americans to sacred sites, possession of sacred objects, and the freedom to worship through ceremonials and traditional rites. A copy of the draft EA will be released to the following tribes: the Mashantucket Pequot Tribal Nation, Mohegan Tribe, Wampanoag Tribe of Gay Head (Aquinnah), and the Narragansett Tribe.

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

   Compliance: Existing reservoir operation and maintenance 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 at best 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: A state water quality certification pursuant to Section 401 of the Clean Water Act is not required for the 2025 MP. There will be no change in the existing management of the reservoir that will impact

water quality, but 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 IPaC. USACE made a no effect determination for the tri-colored bat and northern long-eared bat, and a determination letter was obtained through IPaC.

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

   Compliance: In-progress. USACE initiated public involvement and agency scoping activities to solicit input on the 2025 MP EA, and to identify significant issues related to the Proposed Action. Information provided on fish and wildlife resources has been utilized in the development of the 2025 MP. Coordination with USFWS and CT DEEP is ongoing and the draft EA will be provided to them.

8. *Migratory Bird Treaty Act of 1918, as amended, 16 U.S.C. 703 et seq.*

   Compliance: The timing of resource management activities at Mansfield Hollow Lake will be coordinated to avoid impacts on migratory and nesting birds.

9. *National Historic Preservation Act of 1966, as amended, 54 U.S.C. 300101 et seq.*

   Compliance: USACE has determined that the Proposed Action is primarily administrative and does not have the potential to impact historic properties directly or indirectly at Mansfield Hollow 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. USACE remains in compliance with Section 106 of the NHPA.

10. *Native American Graves Protection & 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 project.

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

    Compliance: In-progress. Preparation of an EA signifies partial compliance with NEPA. Full compliance shall be noted at the time the

FONSI is issued.

12. *Bald and Golden Eagle Protection Act, 16 U.S.C. 668 et seq.*

    Compliance: The project does not involve take, sale, purchase, or transport of any Bald or Golden Eagles.

13. *National Invasive Species Act (NISA), as amended, 16 U.S.C. 4701 et seq.*

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

Executive Orders (EO)

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

   Compliance: In-progress. A copy of the draft EA will be released to the Connecticut's SHPO.

2. *EO 11988, Floodplain Management, 24 May 1977 amended by EO 12148, 20 July 1979.*

   Compliance: The proposed action will have no impacts to existing floodplains at Mansfield Hollow Lake.

3. *EO 11990, Protection of Wetlands, 24 May 1977*

   Compliance: This project does not propose construction or future activities in wetlands.

4. *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.

5. *EO 13045, Protection of Children from Environmental Health Risks and Safety Risks. 21 April 1997*

   Compliance: The project will not create a disproportionate environmental health or safety risk for children.

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: In-progress. 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 Memoranda

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

   Not applicable. The project does not impact Prime Farmland present on Mansfield Hollow Lake project lands.

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: In-progress. Consultation with Federally Recognized Indian Tribes signifies compliance.

SECTION 5: PUBLIC AND AGENCY COORDINATION

In accordance with NEPA of 1969, as amended, the USACE initiated public involvement and agency scoping activities to solicit input on the proposed revision of the 1979 MP, as well as identifying any issues related to the Proposed Action.

A public open house was held for the Mansfield Hollow Lake Master Plan revision at the Mansfield Public Library Programming Room, 54 Warrenville Rd, Mansfield Center, CT 06250 on May 2, 2024 from 4:00-6:00 p.m. The purpose of this open house was to provide attendees with information regarding the proposed MP revision as well as to provide them with the opportunity to provide comments on the proposed 2025 MP Draft, EA, and FONSI. 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; and
- Instructions for submitting comments.

The public input period remained open for 30 days from May 2, 2024, to June 1, 2024. During the 30-day comment period, USACE received 11 comments. These comments and the USACE response can be found in Appendix E of the 2025 MP.

Appendix A to this EA includes the news release, agency coordination letters, and the distribution list for all coordination letters. The EA has been coordinated with the following agencies and stakeholders:

<u>Federal</u>

U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service

<u>State</u>

Connecticut Department of Energy and Environmental Protection (CT DEEP)
Connecticut Department of Economic and Community Development, State Historic Preservation Officer (SHPO)

<u>Tribes</u>

Mashantucket Pequot Tribal Nation
Mohegan Tribe
Wampanoag Tribe of Gay Head (Aquinnah)
Narragansett Indian Tribe

SECTION 6: REFERENCES

CME Associates, Inc. 2008. Ecological Studies Final Report: West Thompson Lake and Mansfield Hollow Lake.

Connecticut Department of Energy and Environmental Protection (CT DEEP). 2015. Connecticut Wildlife Action Plan.

U.S. Army Corps of Engineers (USACE). 1979. Mansfield Hollow Lake Master Plan for Recreation Resources Development.

U.S. Army Corps of Engineers (USACE). 2024. Mansfield Hollow Lake and Dam Master Plan.

ATTATCHMENT A - COORDINATION

U.S. ARMY CORPS OF ENGINEERS

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News Release

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USACE to host open house for Mansfield Hollow Lake Master

NEW ENGLAND – The U.S. Army Corps of Engineers (USACE) will host an open house on Thursday, May 2, 2024, to kick off a process to revise the 1979 Mansfield Hollow Lake Master Plan. The open house will be held from 4:00-6:00 p.m. at the Mansfield Library (Programming Room) at 54 Warrenville Road, Mansfield Center, CT 06250.

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 Mansfield Hollow Lake Master Plan, last approved in 1979, 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 May 2, 2024, and end June 1, 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/Mansfield-Hollow-Lake/Mansfield-Hollow-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 Mansfield Hollow Lake

Mansfield Hollow Dam lies on the confluence of the Natchaug, Fenton, and Mt. Hope Rivers, in Mansfield, Connecticut. The dam is part of a network of six flood risk management dams in the Thames River Basin constructed and maintained by the U.S. Army Corps of Engineers New England District. This network helps to reduce flooding in communities within the Thames River Basin by regulating water levels on upstream tributaries in Connecticut and Massachusetts. The project provides substantial flood protection for the Shetucket River communities of Norwich, South Windham, Baltic, Occum, Taftville, and Willimantic. The lake lies within the boundaries of Mansfield and Windham, 25 miles east of Hartford.

Construction of the dam began in 1949 and was completed in May 1952. The cost of the project was $6.5 million. The dam consists of earthfill with stone slope protection. It has a length of 14,050 feet and a height of 68 feet. The project also consists of six earthfill dikes with stone slope protection that total 2,656 feet in length and have a maximum height of 53 feet. The project offers recreational opportunities compatible with the primary function of flood risk management.

While the main purpose of Mansfield Hollow Lake was to provide flood risk management to the Thames River Basin, over the years the lake has become a recreational draw due to its location and beautiful natural surroundings. With over 15 miles of trails, 2,472 acres of land, 450 acres of water, picnic areas, and a boat launch, the lake can accommodate all kinds of outdoor enthusiasts.

The U.S. Army Corps of Engineers owns 2,472 acres, of which the State of Connecticut Department of Energy and Environmental Protection leases approximately 2,300 acres for recreation and natural resource management. On a graceful, pine-covered bluff overlooking the broad expanse of water, a picnic shelter and individual picnic sites for both families and large groups are available at the Mansfield Hollow State Park. Many acres of open field lie adjacent to the bluff and may be used for softball, touch football, volleyball, and other team sports and group activities. Mansfield Hollow Lake receives approximately 435,000 visitors per year.

-End-

US Army Corps of Engineers®

Comment Form Instructions
Public Open House May 2, 2024

Master Plan Revision
Mansfield Hollow Lake

The U.S. Army Corps of Engineers is in the process of revising the Mansfield Hollow 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/Mansfield-Hollow-Lake/Mansfield-Hollow-Lake-Master-Plan/
- Provide comments in an email message or use the comment form and send to: mansfieldhollowmasterplan@usace.army.mil

- Provide comments in a letter or use comment form and send via mail to:

  USACE Mansfield Hollow Lake Office
  Attn: Project Manager
  449 Reardon Rd
  North Grosvenordale, CT 06255

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

The **30-day comment period is May 2 through June 1, 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 June 1, 2024**. Thank you for your participation!

Comment Form
Public Open House May 2, 2024
Comments due by June 1, 2024

Questions, comments, or suggestions?

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:** _____

Scan QR Code

AGENCY AND TRIBAL COORDINATION

Federal

The U.S. Environmental Protection Agency (EPA)

The U.S. Fish and Wildlife Service (USFWS)

The U.S. Geological Survey (USGS)

The National Oceanic and Atmospheric Administration (NOAA)

State

The Connecticut Department of Energy and Environmental Protection (CT DEEP)

The Connecticut Department of Economic & Community Development (CT DECD), State Historic Preservation Officer (SHPO)

The Connecticut Division of Emergency Management and Homeland Security (DEMHS)

Congressional

U.S. Senate

U.S. House of Representatives

The Governor of Connecticut

Town

Town of Mansfield

Town of Chaplin

Town of Windham

Local

Thames River Basin Commission, Connecticut and Massachusetts

Thames River Basin Partnership

The Last Green Valley

Columbia Canoe Club

Mansfield Historical Society

Windham Water Works

The University of Connecticut (UCONN)

The Eastern Connecticut State University (ECSU)

Tribal

Mashantucket Pequot Tribal National

Mohegan Tribe

Wampanoag Tribe of Gay Head (Aquinnah)

Narragansett Tribe

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

[redacted]

Dear [redacted]:

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 the 1979 Mansfield Hollow Lake Master Plan. The open house will be held from 5:00 pm-7:00 p.m. at the 54 Warrenville Road, Mansfield, MA 06250. The public open house will cover the proposed changes to the current Mansfield Hollow Lake Master Plan.

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 Mansfield Hollow Lake Master Plan, was last updated in 1979, needs 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 10, 2025, and end July 10, 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 Mansfield Hollow Lake Master Plan Revision web page:

- Mansfield Hollow - https://www.nae.usace.army.mil/Missions/Recreation/Mansfield-Hollow-Lake/Mansfield-Hollow-Lake-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,

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

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: 05/01/2025 13:17:47 UTC
Project code: 2025-0020696
Project Name: Mansfield Hollow Lake 2024 Master Plan Revisions

Federal Nexus: yes
Federal Action Agency (if applicable): Army Corps of Engineers

Subject: Record of project representative's no effect determination for 'Mansfield Hollow Lake 2024 Master Plan Revisions'

Dear Kelsie Dakessian:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on May 01, 2025, for 'Mansfield Hollow Lake 2024 Master Plan Revisions' (here forward, Project). This project has been assigned Project Code 2025-0020696 and all future correspondence should clearly reference this number. **Please carefully review this letter.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the **Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (Dkey)**, invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

Determination for the Northern Long-Eared Bat and/or Tricolored Bat

Based upon your IPaC submission and a standing analysis, your project has reached the following effect determinations:

Species	Listing Status	Determination
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	No effect

Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	No effect

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. Tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can *confer* under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if and when the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a NE or NLAA determination from the key to confirm that the determination is still accurate.

To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17).

Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no consultation with the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13].

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Proposed Threatened

You may coordinate with our Office to determine whether the Action may affect the animal species listed above and, if so, how they may be affected.

Next Steps

If there are no updates on listed species, no further consultation/coordination for this project is required with respect to the species covered by this key. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions

occurs, additional coordination with the Service should take place to ensure compliance with the Act.

If you have any questions regarding this letter or need further assistance, please contact the New England Ecological Services Field Office and reference Project Code 2025-0020696 associated with this Project.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Mansfield Hollow Lake 2024 Master Plan Revisions

2. Description

The following description was provided for the project 'Mansfield Hollow Lake 2024 Master Plan Revisions':

> The proposed action includes updated land classifications, resource goals and objectives. The land classifications include a decrease in Project Operations, large increases in Low Density Recreation and Wildlife Management, and small increases in Environmentally Sensitive Areas and Vegetative Management lands.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.76516615,-72.1743929082908,14z

DETERMINATION KEY RESULT

Based on the information you provided, you have determined that the Proposed Action will have no effect on the species covered by this determination key. Therefore, no consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat. 884, as amended 16 U.S.C. 1531 *et seq.*) is required for those species.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   Yes

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   No

9. Is the lead federal action agency the Federal Energy Regulatory Commission (FERC)?

   No

10. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

11. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

    No

12. Does the action area contain (1) talus or (2) anthropogenic or naturally formed rock shelters or crevices in rocky outcrops, rock faces or cliffs?

    No

13. Will the action cause effects to a bridge?

    Note: Covered bridges should be considered as bridges in this question.

    No

14. Will the action result in effects to a culvert or tunnel at any time of year?

    No

15. Are trees present within 1000 feet of the action area?

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

16. Does the action area intersect the northern long-eared bat species list area?

    Automatically answered
    Yes

17. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Automatically answered
    No

18. [Semantic] Is the action area located within 150 feet of a documented northern long-eared bat roost site?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

19. Does the action area intersect the tricolored bat species list area?

    Automatically answered
    Yes

20. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats?

    Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

21. Do you have any documents that you want to include with this submission?

    No

PROJECT QUESTIONNAIRE

IPAC USER CONTACT INFORMATION

Agency: Army Corps of Engineers
Name: Kelsie Dakessian
Address: 696 Virginia Road
City: Concord
State: MA
Zip: 01742
Email kelsie.dakessian@usace.army.mil
Phone: 9783188685

APPENDIX C – WILDLIFE DOCUMENTS

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Tolland and Windham counties, Connecticut

Local office

New England Ecological Services Field Office

(603) 223-2541
(603) 223-0104

70 Commercial Street, Suite 300
Concord, NH 03301-5094

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. 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.

The following species are potentially affected by activities in this location:

Mammals

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

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read

"Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

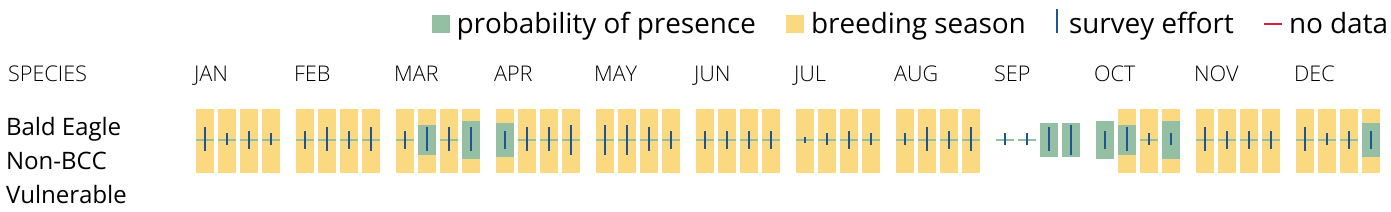
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON

Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Blue-winged Warbler *Vermivora cyanoptera* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 1 to Jun 30
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Canada Warbler *Cardellina canadensis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 10
Cerulean Warbler *Setophaga cerulea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 29 to Jul 20
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Grasshopper Sparrow *Ammodramus savannarum perpallidus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8329	Breeds Jun 1 to Aug 20
Kentucky Warbler *Geothlypis formosa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20

King Rail Rallus elegans — Breeds May 1 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8936

Least Tern Sternula antillarum antillarum — Breeds Apr 25 to Sep 5
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Long-eared Owl asio otus — Breeds Mar 1 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3631

Pectoral Sandpiper Calidris melanotos — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prairie Warbler Setophaga discolor — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Prothonotary Warbler Protonotaria citrea — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Rusty Blackbird Euphagus carolinus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Scarlet Tanager Piranga olivacea — Breeds May 10 to Aug 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Semipalmated Sandpiper Calidris pusilla This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Whimbrel Numenius phaeopus hudsonicus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▬)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence

in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

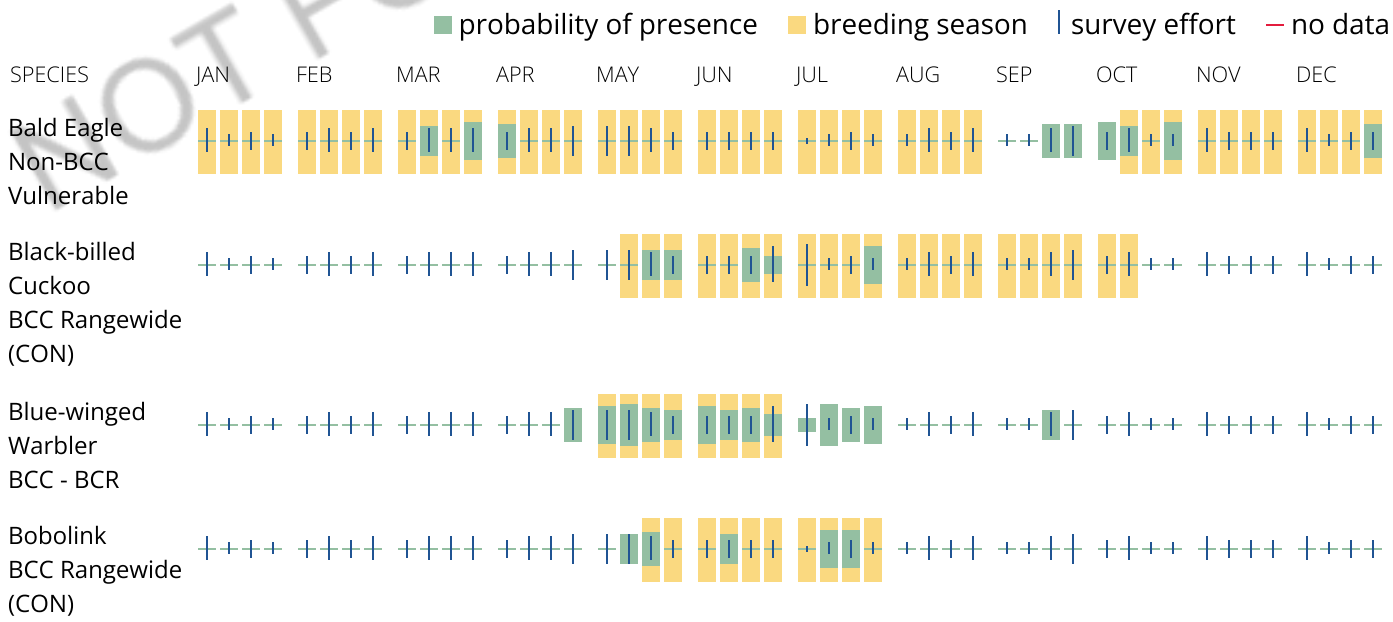
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

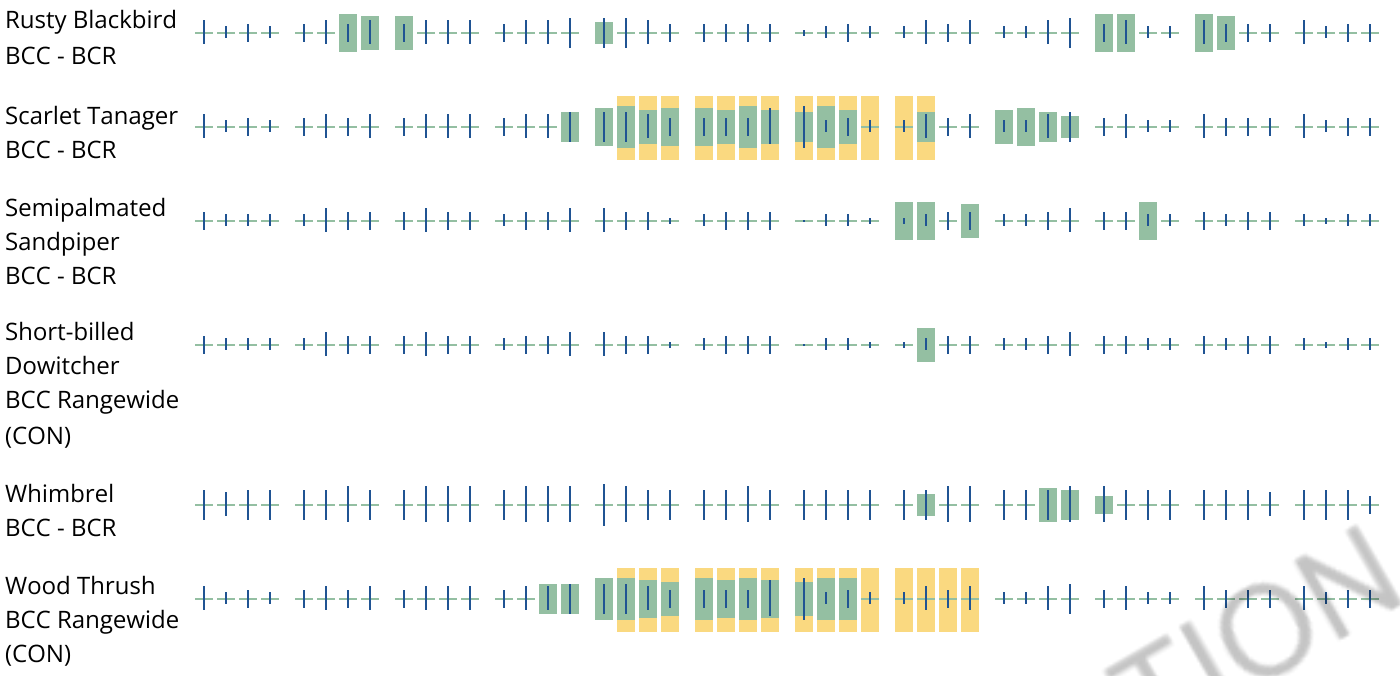
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1E
- PEM1Eh
- PEM1C
- PEM1/SS1E
- PEM1F
- PEM1/SS1Ch

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1E
- PFO1C
- PFO4E
- PSS1E
- PSS1C
- PFO1A
- PSS1Ch
- PFO1Ch
- PFO1/4E
- PFO1F
- PFO4C
- PSS1/EM1C
- PSS1/FO1E

FRESHWATER POND

- PABHh
- PUBHh
- PABHx
- PUBHx

LAKE

- L1UBHh

RIVERINE

- R3UBHh
- R5UBH
- R4SBC
- R2UBHh
- R3UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies.

Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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: 11/18/2024 14:19:22 UTC
Project Code: 2025-0020696
Project Name: Mansfield Hollow Lake 2024 Master Plan Revisions

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: 2025-0020696
Project Name: Mansfield Hollow Lake 2024 Master Plan Revisions
Project Type: Land Management Plans - NWR
Project Description: Master plan revisions to include updated land classifications and resource objectives and goals

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@41.7650668,-72.17430763562294,14z

Counties: Tolland and Windham counties, Connecticut

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 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 Fisheries[1], 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.

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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 *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* 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 *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

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: Kelsie Dakessian
Address: 696 Virginia Road
City: Concord
State: MA
Zip: 01742
Email kelsie.dakessian@usace.army.mil
Phone: 9783188685

Generated by eNDDB on:
7/22/2024

Kelsie Dakessian
Towns: Chaplin,Windham,Mansfield
Automated Site Assessment: 541270764

Subject: MansfieldHollow

This is an automated site assessment and not a Natural Diversity Data Base determination. The information provided represents a snapshot that can be used for general planning purposes. **This letter cannot be used to fulfill Endangered Species Act compliance requirements.** Please see information below as well as our FAQs describing the appropriate use and limitations of the automated Site Assessment tool.

Current data maintained by the Natural Diversity Data Base (NDDB) and housed in the DEEP ezFile portal, indicates that populations of the following State Endangered, Threatened, or Special Concern species (RCA Sec. 26-306) have been documented within or in close proximity to the area delineated. **Please see the attached table for detailed species information.**

HOW SITE ASSESSMENT SPECIES LISTS ARE COMPILED
Site assessment species lists include all information regarding listed species available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, landowners, private conservation groups and the scientific community. New and updated information is incorporated into the Data Base and accessed through the ezFile portal as it becomes available. The species list provided is not necessarily the result of comprehensive or site-specific field investigations.

WHAT PURPOSE DOES THIS SITE ASSESSMENT SERVE?
A site assessment is intended to provide a snapshot of the species that may be in the vicinity of your drawn area. It may be useful in project planning or to gain an understanding of the potential for listed species to utilize the site. The list is computer generated; it was not prepared or reviewed by program staff. Biologist review of your location may result in the addition of species not provided by the automated site assessment.

I'VE REVIEWED MY SITE ASSESSMENT, WHAT DO I DO NEXT?
If you are undertaking an activity that requires a state permit, utilizes state funding, or involves state agency action, you must demonstrate compliance with the CT Endangered Species Act. This is done through the full Natural Diversity Data Base review process. Please return to the DEEP's ezFile Portal and select Natural Diversity Data Base Review to begin this review process. Keep in mind that these detailed reviews may include additional species not identified in the automated site assessment. Program staff consider factors such as habitat characteristics, species life history and other

information to determine appropriate species of concern.

SURVEY WORK MAY BE NECESSARY

Suitable and potentially occupied habitat may extend beyond mapped NDDB areas and unmapped areas may represent potential habitat that has not been adequately surveyed for all taxa. If you are undertaking activities that involve significant ground disturbance, converting natural lands to development, or otherwise fragmenting or disturbing large areas, we recommend conducting comprehensive biological surveys and a full site habitat characterization for areas that have not been assessed through prior biological inventories. Survey work may be required as part of the NDDB review process; completing some or all of this work up front will allow the process to proceed more efficiently.

This survey and habitat characterization should be comprehensive and not strictly limited to species included in the site assessment. Field surveys should be performed by a qualified taxonomic expert with the appropriate scientific collecting permits. Surveys should be conducted at seasonally appropriate times.

A report summarizing the results of such surveys should include:

1. Survey date(s) and duration.
2. Site descriptions and photographs.
3. List of component vascular plant and animal species within the survey area (including scientific binomials).
4. Data regarding population numbers and/or area occupied by State-listed species.
5. Detailed maps of the area surveyed including the survey route and locations of State listed species.
6. Recommendations for management and protection of State-listed species with reference to project activities.
7. Statement/résumé indicating the taxonomic expert's qualifications.

Site survey reports should be sent to the CT DEEP-NDDB Program (deep.nddbrequest@ct.gov) for further review by program biologists.

SENSITIVE SPECIES

Please note that, for purposes of automated site assessments, certain sensitive species are not identified beyond their taxa. Additional information will be provided for those projects that will be conducting survey work in preparation for permitting ground disturbing activities or for other activities that might necessitate survey work. For these projects, please submit a Natural Diversity Data Base Review Request and we will provide information to your taxonomic expert.

ADDITIONAL RESOURCES

The following resources may be helpful when planning survey work

- State Listed plant species and Natural Communities documented within each CT town
- Thirteen of Connecticut's Most Imperiled Ecosystems (1998) - Metzler and Wagner
- The Vegetation of Connecticut - Metzler and Barrett
- Nature's Network identifies opportunities for conserving and connecting intact habitats and ecosystems and supporting imperiled species.
- Connecticut's Critical Habitat map. The Critical Habitat map project contains a subset of

known important natural community types and sites in CT. Refer to Resource Guide for a complete description and limitations of this product.

Additional sites of Critical Habitats and important natural communities exist, some of which are documented by NDDB and some of which have not been identified, or fully mapped or field verified. You may contact NDDB prior to conducting field reviews for more comprehensive information.

This letter is computer generated from our existing records and carries no signature. If however, any clarification/error is noted, or, if you have further questions, please contact the following:

CT DEEP Bureau of Natural Resources
Wildlife Division
Natural Diversity Data Base
79 Elm Street
Hartford, CT 06106-5127
(860) 424-3011
deep.nddbrequest@ct.gov

Please include a snapshot of the map, your last name, and the subject area town when you e-mail or write. Thank you for consulting the Natural Diversity Data Base.

Common Name	A Sensitive Species
Scientific Name	*Not Applicable*
Listing Status[1]	Not Applicable
Taxa	Sensitive
General Ecology	Sphagnum bogs, forested swamps (often but not always growing in moss), wetland borders, moist or dry rich rocky woods, dry traprock ridge summits, wet acidic sandy substrates (e.g. borrow pits), moist shrub thickets, dry shrubby pastures. Blooming time: June-Sep
Common Name	Northern spring salamander
Scientific Name	*Gyrinophilus porphyriticus*
Listing Status[1]	T
Taxa	amphibian
General Ecology	This species requires cold, clean, well-oxygenated springs, brooks or seepage areas. Their favored habitat is heavily forested steep rocky ravines. Any activities that decreased the forest canopy would increase the water temperature, and impact this species. To protect these species protect waterways and their upland buffers on the property. Apply the following recommendations from Mitchell et al. 2006. Habitat Management for Amphibians and Reptiles of the Northeastern United States. PARC, Technical Publication HMG-3, Montgomery, Alabama. 108pp.: • Avoid clearing or replacing natural vegetation along stream edges. Maintenance of canopy

	vegetation in stream riparian zones will help keep water temperatures cool and amphibian diversity high. • Maintain stream floodplains in natural vegetation and avoid alteration. Natural vegetation in floodplains will slow flood rates, increase the nutrient content of floodplains, and replenish small pools. Complexity of habitats in such zones ensures that amphibians and reptiles will use these areas extensively. • Provide upland forested buffer habitat along the stream's riparian zone. Buffers should be as wide as possible. A minimum of two tree heights (100-150 meters) is important for water quality, organic inputs, and riparian habitat for stream amphibians. • Leave snags, other woody debris, and rocks in streams to provide microhabitat. All these structures provide refugia for amphibians and reptiles. Juvenile and larval amphibians use these structures extensively to avoid predation by adults. • Retain natural stream channel undulations, back- water areas, and floodplains. Do not channelize streams. Such alteration of stream courses removes habitat diversity that is important to amphibians and reptiles and the food web on which they rely • Avoid storing chemicals, salt, manure, and other possible contaminants near streams. Control placement of such chemicals to prevent leakage and inadvertent input into streams. • Do not alter spring flows and do not disturb the associated seepage areas. These small habitats are critical to several species of salamanders. Alteration of any kind will cause population decline and potential extirpation. • Remove exotic vegetation. Non-native vegetation tends to overtake small streams and seepages, rendering them uninhabitable by the amphibians that need intact systems. • Restrict activities upstream that could introduce contaminants downstream (e.g., water treatment plants, mining). Think at the landscape level. Remember that whatever is introduced upstream will likely make its way all the way downstream. Contaminants can affect a large area. • Meet or exceed forestry and agricultural Best Management Practices and Streamside Management Zones standards for stream health.
Common Name	Eastern hognose snake
Scientific Name	*Heterodon platirhinos*
Listing Status[1]	SC
Taxa	reptile
General Ecology	In Connecticut, these snakes are found in well-drained forest bottomlands and a matrix of open deciduous forests and early successional habitat, including powerlines. Within the early successional habitat, they preferentially use habitat that consists of sandy soils with medium to high vegetation cover and coarse woody debris. They tend to avoid dense forest, wetlands and developed areas. Paved roads may present a barrier to dispersal and connectivity within populations. Snakes are dormant between November 1 and April 1. They will overwinter in a variety of habitats, preferably at the edges of forest and within open habitats if available. They have been observed to overwinter under areas of tree roots, rodent burrows, rock crevices, or excavate their own dens in sandy soils. Many of these harmless snakes are killed by people who are convinced that they are venomous and dangerous. When confronted, the hognose snake will suck in air, spread the skin around

	its head and neck like a cobra, hiss, and lunge as if to strike. Take the time to learn about, understand, and respect this reptile, and share your knowledge with others. Being able to identify and educate others about the eastern hog-nosed snake can help conserve this species. The more people that are aware of the physical and behavioral identification of this unique snake, the more individuals that can be spared from unnecessary killing. If you encounter a hog-nosed snake, observe it from a distance and allow it to go on its way. All snakes will retreat from humans if given a chance.
Common Name	Wood turtle
Scientific Name	*Glyptemys insculpta*
Listing Status[1]	SC
Taxa	reptile
General Ecology	Individuals of this species are riverine and riparian obligates, overwintering and mating in clear, cold, primarily sand-gravel and rock bottomed streams and foraging in riparian zones, fields and upland forests during the late spring and summer. They hibernate in the banks of the river in submerged tree roots between November 1 and March 31. Their summer habitat focuses within 90m (300ft of rivers) and they regularly travel 300m (0.2 mile) from rivers during this time. During summer they seek out early successional habitat: pastures, old fields, woodlands, powerline cuts and railroad beds bordering or adjacent to streams and rivers. Their habitat in Connecticut is already severely threatened by fragmentation of riverine, instream, riparian, and upland habitats, but is exacerbated by heavy adult mortality from machinery, cars, and collection. This is compounded by the species late maturity, low reproductive potential, and high nest and hatchling depredation rates.
Common Name	Eastern ribbon snake
Scientific Name	*Thamnophis sauritus*
Listing Status[1]	SC
Taxa	reptile
General Ecology	Eastern ribbon snakes inhabit areas with shallow water, grassy or shrubby areas bordering streams and wooded swamps. They also prefer sunny areas with low dense vegetation near shallow water areas. Their diet consists of insects, fish, frogs, salamanders and toads. They are dormant between Oct 15- March 31.
Common Name	Spotted turtle
Scientific Name	*Clemmys guttata*
Listing Status[1]	SC
Taxa	reptile
General Ecology	Individuals of this species are associated with wetlands and vernal pools. Over the course of a season and lifetime, individuals will travel large distances (up to 1km) over upland forest and fields between multiple wetlands. They overwinter burrowed into the mud in wetlands between Nov 1- March 15. They do not begin to reproduce until 7-10 years old and adults can live at least 30

	years. This species is threatened most by any activities that reduce adult survivorship including road kills, commercial and casual collection, increased predation in areas around commercial and residential development, mortality and injury from agricultural equipment or other mechanical equipment.
Common Name	Grasshopper sparrow
Scientific Name	*Ammodramus savannarum*
Listing Status[1]	E
Taxa	bird
General Ecology	In Connecticut, grasslands are among the most threatened and rare habitats. There are seven species of breeding grassland birds and that require grasslands as their primary habitat that are state listed in Connecticut. Most of Connecticut's grasslands would revert to forest without active management. Increasing development pressures on Connecticut's most important grassland habitats, exacerbates this loss of habitat through natural succession. The Grasshopper sparrow is most sensitive to disturbance between May 1- August 30. Traffic and construction in suitable habitat should be avoided during this timeframe.This species will benefit from protection and management of large patches of grassland of 30 acres or more.
Common Name	Horned lark
Scientific Name	*Eremophila alpestris*
Listing Status[1]	E
Taxa	bird
General Ecology	In Connecticut, grasslands are among the most threatened and rare habitats. There are seven species of breeding grassland birds and that require grasslands as their primary habitat that are state listed in Connecticut. Most of Connecticut's grasslands would revert to forest without active management. Increasing development pressures on Connecticut's most important grassland habitats, exacerbates this loss of habitat through natural succession. The Horned lark is most sensitive to disturbance between April 1- August 30. Traffic and construction in suitable habitat should be avoided during this timeframe. This species will benefit from protection and management of large patches of grassland of 10 acres or more.
Common Name	King rail
Scientific Name	*Rallus elegans*
Listing Status[1]	E
Taxa	bird
General Ecology	This secretive wetland bird inhabits both freshwater and brackish marshes and are susceptible to habitat loss. They breed between May-August and are susceptible to disturbance at this time. Reducing wetland disturbance and enhancing wetland function will benefit this bird.
Common Name	Eastern meadowlark
Scientific Name	*Sturnella magna*

Listing Status[1]	T
Taxa	bird
General Ecology	In Connecticut, grasslands are among the most threatened and rare habitats. There are seven species of breeding grassland birds and that require grasslands as their primary habitat that are state listed in Connecticut. Most of Connecticut's grasslands would revert to forest without active management. Increasing development pressures on Connecticut's most important grassland habitats, exacerbates this loss of habitat through natural succession. The Eastern meadowlark is most sensitive to disturbance between May 1- August 15. Traffic and construction in suitable habitat should be avoided during this timeframe. This species will benefit from protection and management of large patches of grassland of 15 acres or more.
Common Name	American kestrel
Scientific Name	*Falco sparverius*
Listing Status[1]	SC
Taxa	bird
General Ecology	Habitat for this bird consists of open grassy or shrubby areas with short vegetation and natural tree cavities or nest boxes for nesting. This bird returns to breed in March - July. This bird is limited by habitat in Connecticut. It can benefit from active nest box monitoring and management to decrease competition by starlings. Availability of early successional habitat benefits this species during the post fledgeling period and during migration.
Common Name	Savannah sparrow
Scientific Name	*Passerculus sandwichensis*
Listing Status[1]	SC
Taxa	bird
General Ecology	In Connecticut, grasslands are among the most threatened and rare habitats. There are seven species of breeding grassland birds and that require grasslands as their primary habitat that are state listed in Connecticut. Most of Connecticut's grasslands would revert to forest without active management. Increasing development pressures on Connecticut's most important grassland habitats, exacerbates this loss of habitat through natural succession. The Savannah sparrow is most sensitive to disturbance between April 1- August 30. Traffic and construction in suitable habitat should be avoided during this timeframe. This species will benefit from protection and management of large patches of grassland of 10 acres or more.
Common Name	Bobolink
Scientific Name	*Dolichonyx oryzivorus*
Listing Status[1]	SC
Taxa	bird
General Ecology	In Connecticut, grasslands are among the most threatened and rare habitats. There are seven species of breeding grassland birds and that require grasslands as their primary habitat that are state listed in Connecticut. Most of

	Connecticut's grasslands would revert to forest without active management. Increasing development pressures on Connecticut's most important grassland habitats, exacerbates this loss of habitat through natural succession. The Bobolink is most sensitive to disturbance between May 1- August 30. Traffic and construction in suitable habitat should be avoided during this timeframe.This species will benefit from protection and management of large patches of grassland of 5 acres or more.
Common Name	Brook floater
Scientific Name	*Alasmidonta varicosa*
Listing Status[1]	E
Taxa	invertebrate
General Ecology	Habitat: Small to medium-sized rivers, usually in gravel and cobble substrates in swift current. Host fish include longnose dace (Rhinichthys cataractae), blacknose dace (Rhinichthys atratulus), slimy sculpin (Cottus cognatus), golden shiner (Notemigonus crysoleucas), pumpkinseed sunfish (Lepomis gibbosus), yellow perch (Perca flavescens), and tessellated darter (Etheostoma olmstedi). The brook floater is critically imperiled throughout most of New England, including Connecticut. Remaining populations of brook floaters are found in undisturbed sections of streams in the upper reaches of watersheds that have relatively in-tact upland forest. DEEP Wildlife Division considers all streams with populations of brook floaters to be conservation priorities. Protected riparian buffers should be increased from the standard 100ft to 300ft of streams within 1km upriver of brook floater habitat. Percent forest cover throughout the watershed as well as adjacent to the rivers and streams has been highly correlated with Brook floater persistence, and this buffer will help maintain local habitat characteristics for this sensitive species.
Common Name	Hessel's hairstreak
Scientific Name	*Callophrys hesseli*
Listing Status[1]	E
Taxa	invertebrate
General Ecology	Habitat: Atlantic white cedar stands in swamps, bogs, along the floodplains of blackwater streams and rivers, and along spring runs. Hostplant is Atlantic white cedar (Chamaecyparis thyoides), though larvae have been raised on highbush blueberry (Vaccinium corymbosum) and chokeberry (Aronia spp.)
Common Name	Barrens Chytonix
Scientific Name	*Chytonix sensilis*
Listing Status[1]	E
Taxa	invertebrate
General Ecology	Habitat: Barrens, especially with a history of burns. Balds with scrub oak and pitch pine.
Common Name	Northern flower moth
Scientific Name	*Schinia septentrionalis*

Listing Status[1]	T
Taxa	invertebrate
General Ecology	Habitat: Grasslands and other open, sunny communities with low structure. Host plants are asters, including Ionactis linariifolius in Connecticut.
Common Name	Frosted elfin
Scientific Name	*Callophrys irus*
Listing Status[1]	T
Taxa	invertebrate
General Ecology	Populations of frosted elfin (Callophrys irus) are declining nationally. The frosted elfin holds the distinction of being the non-federally listed butterfly with the greatest number of state level listings. Its major threats are urban development or agricultural development, vegetation management that results in declines in hostplant populations, and pesticide use. This butterfly in Connecticut is primarily associated with the plant species wild indigo (Baptisia tinctoria), and secondarily, wild blue lupine (Lupinus perennis). The host plant, Baptisa tinctoria, prefers at least 6 hours of direct sun, and well-drained soil. The butterfly lays a single egg on the hostplant, and the caterpillars eat the leaves of the host plant. The butterfly hibernates in a loose cocoon in litter beneath the plant. It is important to retain areas of leaf litter around host plants for overwintering and provide other flowering plants to provide nectar nearby. • Do not use pesticides directed at gypsy moth in your project area. • Maintaining and creating connectivity of colonies is important and is likely to be critical for long term persistence of populations. If suitable habitat exists on your site, you should manage for host plants. • If supplementing habitat, do not supplement with nursery stocks. Instead, gather seed and spread on soil.
Common Name	Sleepy duskywing
Scientific Name	*Erynnis brizo*
Listing Status[1]	T
Taxa	invertebrate
General Ecology	The sleepy duskywing's (Erynnis brizo) preferred habitat is oak or pitch pine-scrub oak barrens on well-drained sandy soils or trap rock ridges and balds. The documented host plant in Connecticut is scrub oak (Quercus ilicifolia), though scientific literature includes black oak (Quercus velutina), and scarlet oak (Quercus coccinea). Flight times for adults are late April through June.
Common Name	American rubyspot
Scientific Name	*Hetaerina americana*
Listing Status[1]	T
Taxa	invertebrate
General Ecology	The American rubyspot damselfly utilizes sunny riverbanks with plants or grasses along the banks or on emergent rocks in the river. Alteration or manipulation of riverine and associated wetland habitats may affect this species. The emergence and flight period for this species is primarily between

	August 23- September 18.
Common Name	Scrub euchlaena
Scientific Name	*Euchlaena madusaria*
Listing Status[1]	T
Taxa	invertebrate
General Ecology	Habitat: Sandplain pitch pine-scrub oak barrens, heathlands and grasslands. Host plant is lowbush blueberry (Vaccinnium angustifolium).
Common Name	Pine barrens zanclognatha
Scientific Name	*Zanclognatha martha*
Listing Status[1]	T
Taxa	invertebrate
General Ecology	Habitat: Inland pitch pine–scrub oak barrens, especially late-successional barrens. Larvae have been rared on dead Prunus spp. and dead Quercus spp.
Common Name	Slender clearwing
Scientific Name	*Hemaris gracilis*
Listing Status[1]	T
Taxa	invertebrate
General Ecology	Habitat: Acidic oak or oak-pine forest with an ericaceous understory (blueberry), rock outcrops and ridgetops. Larval host plant: lowbush blueberry (Vaccinium angustifolium)
Common Name	Disc gyro
Scientific Name	*Gyraulus circumstriatus*
Listing Status[1]	SC
Taxa	invertebrate
General Ecology	Habitat: Lentic and intermittent systems, including streams, ponds, lakes, reservoirs, and marshes with areas of rooted aquatic vegetation. These are gill breathing snails which are very susceptible to siltation from dredging and other soil disrupting activities. Also, these individuals occur in shallow water less than three meters deep. Activities that cause a rapid fluctuation in water depth may affect this species. Avoid, mimimize, and mitigate runoff in the form of siltation or pollution. Avoid fluctuations in water depth.
Common Name	Eastern pearlshell
Scientific Name	*Margaritifera margaritifera*
Listing Status[1]	SC
Taxa	invertebrate
General Ecology	This freshwater mussel species lives buried in clean, stable, mixed substrate in fast-flowing unpolluted streams and rivers. Its host fish include Atlantic salmon (Salmo salar), brook trout (Salvelinus fontinalis), brown trout (Salmo trutta), rainbow trout (Onchorhynchus mykiss). Best habitats are good trout streams that are heavily shaded by a riparian canopy, possess clean cold

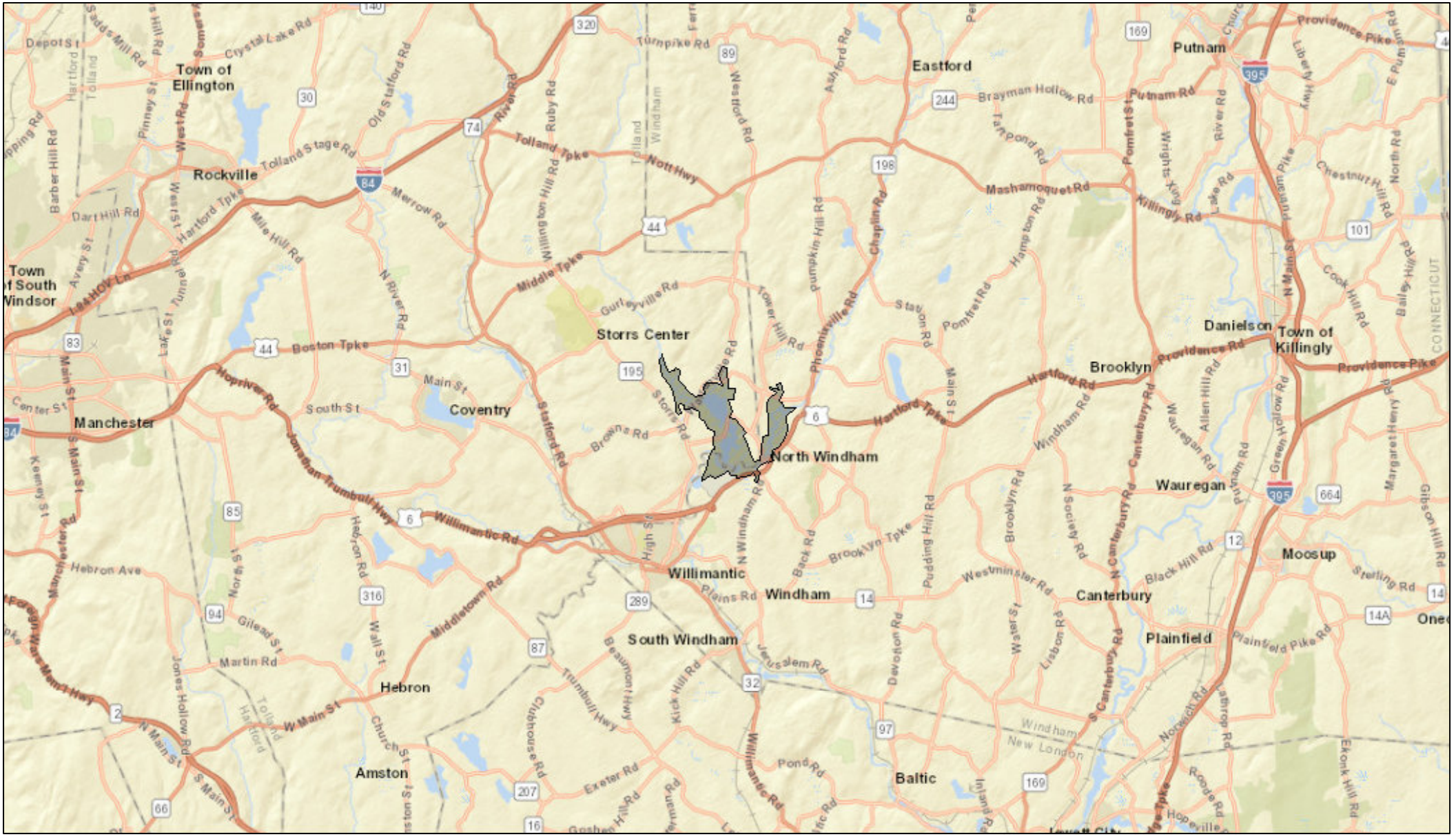
	water with high dissolved oxygen, and have stable channels with substrates of coarse sand, gravel, and cobble. Factors that limit the eastern pearlshell are changes to water quality, including eutrophication, acidification, sedimentation, and increases in water temperature.
Common Name	Oblique zale
Scientific Name	*Zale obliqua*
Listing Status[1]	SC
Taxa	invertebrate
General Ecology	Habitat: Barrens, plantations, pinelands, and mixed-pine woodlands. Host plants include pitch pine (Pinus rigida), jack pine (Pinus banksiana), and red pine (Pinus resinosa).
Common Name	Spinose flower moth
Scientific Name	*Schinia spinosae*
Listing Status[1]	SC
Taxa	invertebrate
General Ecology	Habitat: sandy pine barrens and openings, sometimes coastal. Host plants are Polygonella spp. (jointweed/wireweed)
Common Name	Horace's duskywing
Scientific Name	*Erynnis horatius*
Listing Status[1]	SC
Taxa	invertebrate
General Ecology	Habitat: Open oak woodlands and edges, brushy fields, barrens, balds, powerline rights-of-way. Host plants are oaks (Quercus spp.) including scrub oak (Quercus ilicifolia). The caterpillars feed on young leaves and rest in leaf nests. They can produce two broods per year and the caterpillars of the last brood hibernate. The host plants include both the red and white oak and scrub oak. The adults will feed on dogbane, buttonbush, goldenrod, peppermint and winter cress.
Common Name	Mustached clubtail
Scientific Name	*Gomphus adelphus*
Listing Status[1]	SC
Taxa	invertebrate
General Ecology	This species inhabits clear, rocky, swiftly-flowing streams. Adults are often observed in June perching on rocks in streams or on vegetation along river banks . The emergence and flight period for this species is primarily between May 23- July 11.
Common Name	Purse web spider
Scientific Name	*Sphodros niger*
Listing Status[1]	SC
Taxa	invertebrate

General Ecology	This small spider inhabits the leaf litter on the ground or attaches under fern fronds on steep slopes. This species remains hidden in burrows unless emerging to find a mate.
Common Name	Henry's elfin
Scientific Name	*Callophrys henrici*
Listing Status[1]	SC
Taxa	invertebrate
General Ecology	Habitat: Open woodlands, shrub swamps with highbush blueberry. Host plants include introduced buckthorns (Rhamnus spp.), holly (Ilex spp.), particularly the American holly (I. opaca), and redbud (Cercis canadensis). Winterberry (Ilex verticillata) is also a suspected host plant. This species has been negatively impacted by the loss of their associated plant species and habitats.
Common Name	Scribbled sallow moth
Scientific Name	*Sympistis perscripta*
Listing Status[1]	SC
Taxa	invertebrate
General Ecology	Habitat: open, disturbed, sandy areas Larval host plant: Canada toadflax (Nuttallanthus canadensis)
Common Name	Waxed sallow
Scientific Name	*Chaetaglaea cerata*
Listing Status[1]	SC
Taxa	invertebrate
General Ecology	Habitat: Pitch pine-scrub oak barrens and heathlands on sandplains. Larvae have been raised on Prunus spp., scrub oak (Quercus ilicifolia), and blueberry (Vaccinium Cyanococcus spp.).
Common Name	Harris' checkerspot
Scientific Name	*Chlosyne harrisii*
Listing Status[1]	SCH
Taxa	invertebrate
General Ecology	The Harris’ checkerspot butterfly is found in moist areas like marshes, bog edges, pastures and meadows. The host plant is flat-topped white aster (Aster umbellatus). The adult females lay eggs in clusters under host plant leaves. The caterpillars feed on leaves communally in a web and partially-grown caterpillars hibernate at the base of the host plant.
Common Name	Capillary pondweed
Scientific Name	*Potamogeton gemmiparus*
Listing Status[1]	T
Taxa	plant
General Ecology	Habitat: quiet waters of ponds & streams (D&C). Blooming time: Jul-Aug.
Common Name	Low frostweed

Scientific Name	*Crocanthemum propinquum*
Listing Status[1]	SC
Taxa	plant
General Ecology	Habitat: dry,open to semi-open sandy soils of sand plains and glaciofluvial terraces and ridges; habitats include sand barrens, dry sandy roadsides, pitch pine-scrub oak communites,and incvlude utility ROWs. Blooming time: late Jun, Jul, Aug, Sep.
Common Name	Beck's water-marigold
Scientific Name	*Bidens beckii*
Listing Status[1]	SC
Taxa	plant
General Ecology	Habitat: Lakes, ponds, slow rivers and streams, fresh tidal coves. Blooms Aug – Sep. Identifiable in leaf from about June till late fall.

[1]E = State Endangered, T = State Threatened, SC = State Special Concern, FE = Federally Endangered, FT = Federally Threatened, NA = Not applicable.

MansfieldHollow Map



July 22, 2024

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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 Law106-147: This act promotes the conservation of habitat for neo-tropical migratory birds.

APPENDIX E – PUBLIC COMMENT

INITIAL PUBLIC SCOPING (MAY 1 – June 2, 2024)

COMMENT	RESPONSE
The 1979 Master Plan refers to a fire protection annex. I was unable to locate that document. I would be able to provide current contact information to the updated Master Plan/annex.	Noted. Updated USACE Master Plan guidance does not require a fire protection annex. A copy of the referenced 1979 document was emailed to the commentor.
One suggestion is that the guard rails on the top of the pedestrian walk which starts aft the parking lot on Rt 6 need to be replaced. Many have rotted and fallen over and the wires that prevent accidents are no longer doing what they were meant to do. This is frequently used by walkers, joggers, roller bladders, and families on bikes; it is a valuable resource to the community.	Concur. Mansfield Hollow Lake staff currently has plans to repair the noted damage.
The revised Mansfield Hollow Master Plan should have a section thoroughly defining how Bassetts Bridge Road shall be maintained through the managed park area. This road is heavily traveled regularly by UConn related commuters. It is a convenient cut across connecting Rt-195 in Mansfield Center to the Rt-6 Highway in North Windham. Paving has been allowed to lapse. For safety purposes, overhead aging tree cover on Bassetts Bridge Road needs pruning which hasn't been done on a regular basis. The responsibilities for road work and tree maintenance should be well defined between the U.S. Army Corps of Engineers, The Town of Mansfield and the State of Connecticut.	Non-concur. USACE Master Plan policy does not require routine operations and maintenance within the scope of the Master Plan document. Additionally, the area referenced is not managed by USACE. USACE will share the comment with town officials.
We would like to see Hunting continued in the Master plan. We would like to see Bow Hunting for deer be allowed on All the property excluding the park recreational areas. Specifically, we would like to see the property to the southwest of the Lake opened for Bow Hunting Deer. We would like to see Deer Hunting opened for Muzzleloaders in the areas that are already open for Bow Hunting deer. We would like the plan to include a plan to handle all the dead Oak trees, that we killed as a result of gypsy moths 3+ years ago. At a minimum, we would like to see a plan to handle "Widow Maker" trees that go over the walking paths & at the boundaries. We don't want to see the Park opened to over-night camping. We've enjoyed using the	Noted. Hunting regulations are set by the CT and are not covered in the Master Plan. USACE will share the comment with CT DEEP. Tree maintenance is not a topic covered by the Master Plan.

COMMENT	RESPONSE
property for more then 30 years & look forward to using it in the future.	
I use the Mansfield Hollow Lake Field Trial area for retriever and upland hunting training. The fields and water work well for this purpose although sometimes the brush and invasive vines are a problem when they have not been trimmed. I wish to see this area remain available for deer, small game, waterfowl, and upland bird hunting. Although signs are posted when these training sessions occur the general public does not pay good enough attention to them. They are also not good about respecting the area during hunting season. They do not wear blaze orange. Connecticut should require hikers and passive recreation users to wear blaze orange during hunting season. Fishermen in boats are often unaware when permitted field trials and training sessions are occurring and often boat into areas where live fire is occurring requiring us to stop our trial until they drift away. Sometimes they are nice enough to respond to our request to leave the area. Perhaps better signage at the boat ramp is needed. A list of field trial dates such as are posted at Nod Brook. All the trails leading in to the hunting areas should have signs indicating hunting is permitted and that wearing blaze orange is required during hunting season. It would be great if day permits for dog training could be purchased by small groups who are not necessarily associated with a hunting dog club who wish to access the property to train during the week or on weekends when there is not an event.	Noted. Vegetation management is not a topic covered by the Master Plan. Posted signage is managed by CT DEEP to reduce user conflict. Additionally, CT DEEP manages the hunting program at Mansfield Hollow Lake. Field dog trial areas and activity is managed by CT DEEP; they will be notified of these comments for their awareness and consideration
Please consider adding the following to your plan: (1) To alignment with US Army Corps of Engineering rules and guidelines allow medal detecting in disturbed areas like the boat launch and parking lot. See regulation 327.14 Public property. d) The use of metal detectors is permitted on designated beaches or other previously disturbed areas unless prohibited by the District Commander for reasons of protection of archaeological, historical or paleontological resources. (2) To support hikers, designate a location on the blue trail to allow for overnight backpack camping. A leave no trace location would not require additional resources to maintain. (3) To minimize the spread of invasive plants,	(1) Non-concur. Metal detecting is not a topic covered in the Master Plan. Title 36 of the Code of Federal Regulations permits the use of metal detectors on designated beaches, which are not present at Mansfield Hollow Lake. (2) Noted. CT DEEP handles trails management and maintenance. (3) Noted. Invasive species will be addressed in invasive species management goals.

COMMENT	RESPONSE
eradicate barberry located along edges of property that adjoin local property owners. I'd be happy to speak in person if that would be helpful.	
Thank you for providing me a chance to look at the plan. It is very interesting reading. I would like to provide a few suggestions for the updated version. Under 5.0.0 SUPPRESSION: 5.1.0 (Include a provision that all fires are reported via 911 for local fire authority to a) respond and manage, and b) documentation as part of local data management and fire prevention efforts) 5.2.0 Small Fires: Notify the local fire department via 911 5.3.0 Large Fires: Notify the local fire department via 911 for a suppression response. Include all pertinent information including but not limited to: location, best access point, size, and type of fire. The Ranking Officer of the responding Fire Department(s) will coordinate suppression efforts utilizing appropriate NIMS command structure.	Non-concur. Fire management is no longer a topic addressed in the Master Plan.
Hi Folks, First, despite following the information sheet I was given at the meeting in the Library, I can get into the site. I run the Canoe Club at Hollow. Our greatest concern is the shooting/hunting done on the far side of the property. I would like to see if the plan addresses that use. Please send me the link to the plan so I can review it. I appreciate everything you folks do. Thank you.	Noted. Staff at Mansfield Hollow responded to the commentor and provided the link via email. Hunting regulations are set by CT DEEP and not covered in the Master Plan. USACE will share the comment with CT DEEP.
I am wondering if the plans include any actual work on the trails throughout the park area, particularly the heavily-used trail that includes the blacktop-paved dikes and goes between the Dam and the new elementary school and playing fields. Over the years of heavy foot traffic and natural forces, some sections have become a bit hazardous, with loose rocks, protruding rock and roots, and uneven surfaces. I know that natural forces might be the cause, and maybe the USACE doesn't maintain the trails, but I worry about the possibility of someone taking a bad fall sometime. Thank you for the opportunity to send this comment.	Noted. CT DEEP partners with a volunteer friends group to maintain trails at Mansfield Hollow Lake. Routine maintenance including trail maintenance is not a topic covered in the Master Plan. Comments will be passed onto CT DEEP.

COMMENT	RESPONSE
To the ACE Master Plan Developers: There are two things I would like to see included in any new Master Plan for the Mansfield Hollow Lake Reservoir. One is a couple of Bocce Courts. There does not seem to be any Bocce facility in the area and it is an engaging sport that I believe would captivate the community, in particular seniors or those with limited physical ability for more strenuous sports. With the large Italian community that settled this section of Connecticut, it would seem that it could potentially be a very popular pastime. The second thing I would like to see included in the Master Plan is some sort of walking or biking path along Route 89 (Warrenville Road) between the Elementary School playground and sports fields and the Transfer Station. That section of road is very narrow and there are guardrails on both sides which make it difficult to stay out of the roadway. This poses a danger to folks either biking or walking. It would also improve connections for the trails near Atwoodville to the Nipmuck and other trail systems and the School as well as the Library. I have included some photos of the current undeveloped and informal pathway that is currently in use along the eastern side of the road. Thank you very much for this opportunity to comment.	Noted. Bocce courts would be considered if funding allows. The area along Route 89 is not owned or maintained by USACE. USACE will send this suggestion to CT DOT for consideration of the installation of a bike/walk path along the road.
Comments regarding scoping for update to Mansfield Hollow Lake Master Plan. I am a member of the Mansfield Town Parks and Natural Resources Advisory Committee but submit this as a private citizen. 1.) I encourage you to consult with the Town Parks and Natural Resources Committee as you synthesize the scoping comments and formulate your outline for the draft revised plan, prior to the publication of the draft for public comment. Much of the project area should be designated as suitable for low-density recreation such as cross-country skiing, hiking, horseback riding, and mountain biking. Note there is an area used for hunting dog trials. 2.) Consideration should be given to identifying specific trails that are appropriate for horses, and identifying a parking area for horse riders to bring in trailers to load and unload. 3.) Consideration should be given to making provisions for motorized ATVs to have an area to	1.) Noted. 2.) Trails are managed by CT DEEP. All trails are multi-use with no plans to close trails to certain user groups. 3.) Recreation facilities are managed by CT DEEP. There are no current plans to create an ATV specific area. 4.) CT DEEP Trail maps do not include the dikes as part of the trail system. Walking on the dikes is permissible, however the land classification in this area is defined as Project Operations and this area can close for various reasons due to USACE operations. 5.) Noted. 6.) Noted. 7.) Noted. The State of Connecticut prohibits swimming in Mansfield Hollow Lake because

COMMENT	RESPONSE
use, since there are limited locations in the vicinity that are available to serve ATV owners. 4.) The dikes should be considered in developing a trail network: even though they are appropriately identified as the operational area, people will inevitably use them for trails, and management in the plan needs to identify how this use can occur and still ensure it will not affect operational functions. 5.) Any use designations should perhaps separately consider land areas above and below the reservoir high water level, as this affects year-round nature of the recreation. 6.) Recreational potential uses should be identified based on the nature of the land, regardless of the potential for funding any improvements to enable their implementation or maintenance. Without calling out a worthwhile improvement, the potential for future Corps funding or a partnership to achieve it is reduced. 7.) It is noted in the earlier plan that swimming was not included as an option because the reservoir is tributary to a public water supply reservoir. This should be revisited as noted in the earlier plan. On a related consideration, motorized boating with typical outboard motors can contribute pollution to lake waters, and this impact on water quality may also be undesirable in a water supply watershed. This may need to be included even if the overall plan is not intended to address water quality. 8.) The plan should include how the presence of invasive aquatic species will be managed, especially given the water supply nature of the watershed, with potential herbicide limitations. The upstream watershed has significant water chestnut occurrence, and fanwort and other species are problems in area lakes. 9.) The plan should review trails, preserved habitats, and land uses in conjunction with abutting lands owned by the Town of Mansfield and Joshua's Trust (land conservation NGO). There are significant conservation lands and trail networks abutting the Corps managed land, especially to the southwest, and the plan should treat the area wholistically in its recreational and ecological analysis. The land also is near UConn owned land being managed as	the lake is used as a secondary public water supply. 8.) Noted. USACE will coordinate with CT DEEP regarding best management practices. 9.) Noted. 10.) Concur. USACE will continue to work with the local schools to provide educational opportunities such as nature hikes, dam tours, interpretive programs, water safety, etc. 11.) Noted. Consideration will be given for developing future partnerships. 12.) Noted.

COMMENT	RESPONSE
a large forest block. Another adjacent asset is the Nipmuck Trail. 10.) The land near the Mansfield Elementary School should be specifically evaluated in coordination with the School Administration to identify how it may support the school's educational mission. 11.) The potential to enter formal partnerships with the Town of Mansfield, Joshua's Trust, Connecticut Park and Forest Association, or Connecticut Department of Energy and Environmental Protection (in addition to the park lease) should be noted to enable realizing potential enhanced land uses even absent Corps funds. 12.) Page 2 of the press release has an erroneous reference to Buffumville Lake.	

APPENDIX F – ACRONYMS

ac-ft	Acre Feet
AQI	Air Quality Index
BMP	Best Management Practices
CAP	Climate Action Plan
CRMP	Cultural Resources Management Plan
CWA	Clean Water Act
DC	District Commander
DEEP	State of Connecticut Department of Energy and Environmental Protection
DF	Deciduous Forest
DQC	District Quality Control
DQCB	District Quality Control Board
DM	Design Memorandum
EA	Environmental Assessment, NEPA Document
EMS	Ecological Mapping System
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
FPPA	Farmland Protection Policy Act
FWCA	Fish and Wildlife Coordination act of 1958
GIS	Geographical Information Systems
HDR	High Density Recreation
HPMP	Historic Properties Management Plan
HUC	USGS Hydrological Unit Code
HQUSACE	USACE Headquarters
IH	Interstate Highway
IPaC	Information for Planning and Consultation
LDR	Low Density Recreation
LEED	Leadership in Energy and Environmental Design
MP	Master Plan or Master Planning
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
NVCS	National Vegetation Classification System
NWI	National Wetland Inventory

OMB	Office of Management and Budget
OMBIL	Operations and Maintenance Business Information
OMP	Operations Management Plan for a specific lake Project
OPM	Operations Project Manager
PDT	Project Development Team
PL	Public Law
PM	Project Management or Project Manager
PMP	Project Management Plan
PO	Project Operations
RBLH	Riparian Bottomland Hardwoods
RBS	Recreational Boating Survey
REMIS	Real Estate Management Information System
RPEC	Regional Planning and Environmental Center
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SGCN	Species of Greatest Conservation Need
SH	State Highway
SHPO	State Historical Preservation Office
SMPS	Shoreline Management Policy Statement
SIP	State Implementation Plan
SWA	State Wildlife Area
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
WM	Wildlife Management