West Thompson Lake

Thompson, Connecticut

Master Plan

November 2021

US Army Corps of Engineers®

New England District

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PREFACE

The recreation opportunities available at West Thompson Lake offer an important addition to public open space in northeastern Connecticut. The project provides needed facilities for recreational activities such as camping, hiking, canoeing, kayaking, fishing, hunting, picnicking, disc golf, mountain biking, horseback riding, cross-country skiing and wildlife viewing. Planning of facilities has been coordinated with state and local governmental agencies as well as interested private groups and individuals.

Recreation facility development outlined in this master plan has been based on careful analysis of regional recreation needs balanced against recreation impact and land use suitability. Preservation and improvement of wildlife, fisheries and forest habitat are no less important goals in the development plans outlined in this Master Plan.

Mission Statement:
The land, water and recreational resources of West Thompson Lake will be managed to protect, conserve, and sustain natural and cultural resources, especially environmentally sensitive resources, and provide outdoor recreation opportunities that complement project resources for the benefit of present and future generations.

Executive Summary

This master plan covers 1,773 acres owned in fee and 63 acres held in flowage easement at West Thompson Lake. The master plan prescribes an overall land and water management plan, resource objectives, and associated design and management concepts which provide the best possible combination of responses to regional needs, resource capabilities and suitability, and expressed public interests and desires consistent with the project's authorized flood control purposes. The master plan covers all project resources, including but not limited to fish and wildlife, vegetation, cultural, aesthetic, interpretive, recreational, out-granted lands, easements and water.

Inputs to the planning process were surveys and management plans for natural, wetland and cultural resources, and an analysis of recreational use, capacity and projected needs for project lands. Natural and man-made resources were located, identified and analyzed, including wetlands, exemplary natural communities, and cultural resources that require management efforts for their protection. These were integrated into a series of project wide objectives to protect and enhance project resources and promote and develop, as appropriate, those resources for public use, education, and access.

Recreational opportunities were identified through an analysis of regional needs, and the public participation process. The planning process identified opportunities for the improvement of existing recreational facilities, enhancement of boat facilities, picnic areas, and multiple resource management to enhance and protect important natural and cultural resources. Enhancing and preserving the resources by careful management of user conflicts were also identified.

The carrying capacity of the project is constrained by the size of the campground, boat launch, restrooms and limitations on the availability of parking. A review of the recreational level of activity and demand did reveal the need for minimal expansion of the recreational facilities that should be addressed by the park manager.

This master plan provides guidance for future development at West Thompson Lake. The natural and man-made resources at the project will continue to be managed to provide the best combination of responses to regional and ecosystem needs, project resources and capabilities. During the implementation phase period of the master plan, the U.S. Army Corps of Engineers, New England District will continue to be responsible for the administration and management of the project.

All specific proposals for recreational or other development at the project must comply with this Master Plan, the Thames River Basin flood control requirements, and the National Environmental Policy Act and other federal requirements.

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CHAPTER 1 - INTRODUCTION

1.1 Project Authorization

The West Thompson Dam flood control project was authorized by the Flood Control Act of July 14, 1960, (Public Law 645-86th Congress) and constructed by the U.S. Army Corps of Engineers (USACE) from 1963 to 1965 as one unit of a comprehensive plan for flood control in the Thames River Basin.

1.2 Project Purpose

The West Thompson Lake Project, a unit in the flood risk management plan for the Thames River Basin, provides flood risk management primarily to Putnam, Connecticut, immediately downstream on the Quinebaug River, and helps protect communities in conjunction with the other projects in the basin to provide protection to the major industrial, residential and commercial centers further downstream on the Quinebaug and Thames River.

Construction of West Thompson Dam began in August 1963 and was completed in October 1965 at a cost of $6,915,000. Through October 2021, the facility has prevented approximately $60,118,703 in flood damages.

When not used for storage of flood waters, the reservoir area is available for public recreation, fish and wildlife management, and forest management.

1.3 Purpose and Scope of the Master Plan

By definition, master plans for USACE reservoirs are land and recreational use management plans that do not address the technical aspects of water management for flood risk management, navigation, or water supply. This master plan presents an inventory of land resources, land classifications for management, modernization of existing park facilities, an analysis of resource use, anticipated influences on project operation and management, and an evaluation of existing and future needs required to provide a balanced management plan to improve outdoor recreation opportunities and sustain natural resources.

The master plan provides direction for project development and use as well as guidance for appropriate uses, development, enhancement, protection, and conservation of the natural, cultural, and man-made resources at West Thompson Lake. It is a vital tool for the responsible stewardship of project resources for the benefit of present and future generations. A master plan is programmatic and identifies conceptual types and levels of activities, not designs, project sites, or estimated costs. All actions by USACE and the agencies and individuals granted leases to USACE lands (out-grantees) must be consistent with the master plan. Therefore, it must be kept current in order to provide

effective guidance in the USACE decision-making.

The master plan is based on responses to regional and local needs, resource capabilities and suitability and expressed public interests consistent with authorized project purposes and pertinent legislation and regulations. It provides a District-level policy consistent with national objectives and state and regional goals and programs. The plan is distinct from the project-level implementation emphasis of the Operational Management Plan (OMP). Policies in the master plan are guidelines implemented through provisions of the OMP, specific Design Memorandums and the Annual Management Plans. This master plan supersedes the previous West Thompson Lake master plan.

This document presents data on existing conditions, anticipated recreational use, types of facilities needed to service the anticipated use, and an estimate of future requirements.

In accordance with Engineering Regulation (ER) 1130-2-550, Change 07, dated Jan. 30, 2013 and Engineering Pamphlet (EP) 1130-2-550 Change 05, dated Jan. 30, 2013, master plans are required for most USACE water resources development projects having a federally-owned land base. This update of the West Thompson Lake master plan is intended to bring the plan up to date to reflect changes in outdoor recreation trends as well as ecological and socio-demographic changes that are currently impacting the lake and those anticipated to occur within the planning period of 2021-2046, a 25-year period. The revised plan focuses on overall goals and objectives and not on details of design, routine management, and administration.

This master plan provides a comprehensive and coordinated guide for the conservation, enhancement, development, management and use of recreation resources of the lands and waters owned by the United States government at West Thompson Lake. These recreation development plans are intended to maximize public use of project resources, within the constraints of land suitability, recreation demand and flood control operations of the project.

This master plan for the management of natural resources and outdoor recreation has been prepared in accordance with the objectives and policies governing the planning, development, and management of these resources at USACE water resources projects. These objectives and policies are outlined in ER 1130-2-540, "Environmental Stewardship Operation and Maintenance Policies"; ER 1130-2-550, "Recreation Operations and Maintenance Policies"; EP 1130-2-550, "Recreation Operations and Maintenance Guidance and Procedures"; ER 1165-2-400, "Recreational Planning, Development, and Management Policies"; and other related or referenced regulations and policies.

ER 1130-2-540 established the following program objectives for management of a project's natural resources:

- Manage natural resources on USACE administered land and water in accordance with ecosystem management principles to ensure their continued availability.

- Provide a safe and healthy environment for project visitors.

Utilizing this general guidance, ER 1130-2-550 and EP 1130-2-550 provide the specific policy for preparation of project master plans. Each master plan must cover all resources, including, but not limited to fish and wildlife, vegetation, cultural, aesthetic, interpretive, recreational, mineral, and commercial and out granted lands, easements, and water. Based on EP 1130-2-550, the primary goals of the West Thompson Lake master plan are to prepare a concept document that prescribes an overall land and water management plan, and establishes resource objectives, and associated design and management concepts, which:

- Provide the best combination of responses to regional needs, resource capabilities and suitability, and expressed public desires consistent with authorized project purposes;

- Contribute towards providing a high degree of recreational diversity within the region;

- Emphasize the particular qualities, characteristics and potentials of the project;

- Exhibit consistency and compatibility with national objectives and other state and regional goals and programs.

ER 1130-2-550 further defines these goals as they relate to recreation management and established the following program objectives:

- Provide a quality outdoor recreation experience which includes an accessible, safe and healthy environment for a diverse population;

- Increase the level of self-sufficiency for the USACE recreation program;

- Provide outdoor recreation opportunities on USACE administered land and water on a sustained basis;

- Optimize the use of leveraged resources to maintain and provide quality public experiences at USACE water resources projects.

1.4 Watershed and Project Description

West Thompson Lake is located on the Quinebaug River in the town of Thompson,

Connecticut. The dam and reservoir are located in West Thompson, 2 miles upstream from the town of Putnam and about 1,000 feet upstream from the confluence of the Quinebaug and French Rivers. It is 3 miles north of Putnam on Route 12. Refer to APPENDIX D – LOCUS PLAN.

West Thompson Lake is a 200-acre conservation pool that has an average depth of 15 feet. The flood storage area of the project, which is normally empty and is only utilized to store floodwaters, totals 1,250 acres and extends 7 miles upstream. The project and associated lands cover 1,773 acres owned in fee, and 63 acres held in flowage easement in Thompson. West Thompson Lake can store up to 8.34 billion gallons of water for flood control purposes. This is equivalent to 6.5 inches of water covering its drainage area of 173.5 square miles.

The main office for West Thompson Lake is located at 449 Reardon Road in North Grosvenordale, Connecticut.

1.5 Prior Design Memorandums

Separate Design Memorandums were prepared from 1962 through 1979 setting forth design criteria 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.

1.6 Pertinent Project Information

West Thompson Dam is a rolled-earth fill structure with a dumped rock blanket for slope protection. The dam is 2,550 feet long with a maximum height of 69.5 feet above the riverbed. The top of the dam, at 361.5 feet National Geodetic Vertical Datum (NGVD), is surfaced with a paved roadway known as West Thompson Road and is a public roadway maintained by the Town of Thompson through a Real Estate License.

The outlet works consist of a 12-foot diameter horseshoe conduit, 254 feet in length, passing under the dam. Flow is controlled from the intake tower by three hydraulic slide gates, each 5 feet by 9 feet. There is a weir on the middle gate which is at an elevation of 15 feet. The conduit empties out as the main channel of the Quinebaug River. Downstream channel capacity of the Quinebaug River is about 2,300 cubic feet per second (cfs).

The chute spillway has a concrete ogee weir, 320 feet long, with a crest elevation of 342.5 feet NGVD (50.5 feet). Discharge is designed to flow under West Thompson Road and back into the main channel of the Quinebaug River. The spillway channel is cut through bedrock and built to contain the spillway discharge. One public roadway West Thompson Road crosses the spillway channel on a bridge.

Table 1.1 – Pertinent Project Statistics

WEST THOMPSON DAM

DRAINAGE AREA: 173.5 square miles (gross); 74 square miles (net)

PERMANENT POOL: 200 Acre Recreation Pool; Stage: 15 feet
(307 feet National Geodetic Vertical Datum (NGVD)

FLOOD CONTROL STORAGE
Capacity: 25,600 acre feet
6.5 inches of runoff (net)
Area at crest: 1,250 Acres

DAM
Type: Rolled Earth Fill
Length: 2,550 feet
Top Elevation: 361.5 feet NGVD (69.5 feet)

CONTROL WORKS
Type: Horseshoe Conduit
Size: 12' diameter
Length: 254 feet
Invert Elevation: 292 feet NGVD
Weir Crest: 307 feet NGVD (15 feet)
Capacity (Full Pool): 5,100 cfs
Gates (Type): Hydraulic Slide
Number: 3
Size: 5' X 9'
Channel Capacity: 2,300 cfs

SPILLWAY
Type: Chute Spillway w/ Concrete Ogee Weir
Length: 320 feet
Elevation: 342.5 feet NGVD (50.5 feet)

TOTAL COST: $6,915,000

PLACED IN OPERATION: 1965

CHAPTER 2 – PROJECT SETTING AND FACTORS INFLUENCING MANAGEMENT AND DEVELOPMENT

2.1 Description of Reservoir

2.1.1 Reservoir Management General

A permanent conservation pool of approximately 200 acres is maintained upstream from the dam.

The surface level of West Thompson Lake is maintained at elevation 307 feet NGVD (15-foot stage) by use of the constructed weir located at gate 2 in order to enhance fisheries and wildlife habitat year round. The lake normally has a maximum depth of 20 feet and a mean depth of approximately 8 feet.

At spillway crest elevation 342.5 feet NGVD (50.5 feet), West Thompson Lake contains 25,600 acre-feet of flood control storage, equivalent to 6.5 inches of runoff from a net drainage area of 74 square miles (total drainage area is 173.5 square miles). When filled to spillway crest, the water surface extends about 7 miles upstream from the dam and covers an area of 1,250 acres with a maximum depth of 40 feet. The normal conservation pool is maintained at elevation 307 feet NGVD (15-foot stage).

At West Thompson Lake, a total of 1,773 acres have been acquired in fee to elevation 347.5 feet NGVD (5 feet above spillway crest) and flowage easements are held on an additional 63 acres. All lands at West Thompson Lake were acquired for flood risk management operations at the project. This included areas for permanent structures, construction, borrow, road relocation and the reservoir.

2.1.2 Operation and Maintenance

The overall operation and maintenance of West Thompson Lake is performed in accordance with the project's Operational Management Plan (OMP) and the project's Operation and Maintenance (O&M) manual. Periodic duties including maintenance, monitoring, inspection, testing, reporting and record keeping requirements are listed in detail in the Operation and Maintenance manual. These duties provide for the operation and maintenance of the dam and appurtenant structures, buildings, bridges, utilities, roads, electrical and mechanical equipment and tools. Motor vehicles are not maintained by project staff. Specific plans for related programs are contained in sections of the OMP and include safety, security, visitor assistance and other activities.

In addition to inspections and reports required by the OMP and O&M manual, periodic inspections are performed by a team of specialists from the Engineering Division of the New England District every five years.
The permanent conservation pool behind West Thompson Dam is maintained at 15-foot

stage by regulation of gates in the outlet works in conjunction with the weir. Additional regulation of flow is initiated when heavy rainfall occurs over the Thames River Basin and also for specific river stages as measured at the U.S. Geological Survey (USGS) gauge on the Quinebaug River in Quinebaug, Connecticut, the USGS gauge on the Quinebaug River in Putnam, Connecticut and the USGS gauge on the Quinebaug River in Jewett City, Connecticut.

2.2 Hydrology

Regulation of West Thompson Lake is performed and directed by the Reservoir Regulation Section at the New England District Regional Headquarters in Concord, Massachusetts. The Reservoir Regulation Section is the “command center” for all USACE-operated dams in New England. They consistently monitor river levels and weather conditions and direct the operation of the dams during high flows.

There are emergency operating procedures available in the event that the park manager is unable to communicate with the Reservoir Regulation Section by normal or emergency methods. West Thompson Lake has an Emergency Action Plan (EAP) updated and in place for such emergencies.

Reservoir pool stage levels, tail water levels, and accumulated rainfall measurements are collected locally at the dams by Sutron data collection stations. At the dam there is a USGS tail water gauging station that is located a short distance downstream to provide continuous records of releases from the project. This data is stored and transmitted to the reservoir regulation team to assist in the regulation of project outflows.

Flood waters are evacuated by operating the outlet gates at West Thompson Dam and releases are coordinated with those from other reservoirs in the Thames River Basin. The release rates from the reservoir are dependent upon river conditions at the downstream gaging centers, but in no case would they exceed the safe channel capacities of the Quinebaug River.

Reservoir regulation is normally conducted in three phases: phase I involves the initial appraisal of storm and river conditions that leads to regulation of flows; phase II concerns regulation during the event as flood flows crest and move downstream; and phase III includes emptying of the reservoir following recession of the flood.

Table 2.1 – Top 5 High Water Events at West Thompson Lake

Rank	Date	Capacity	Pool Level
1	Oct 2005	60%	41.3 feet
2	Apr 1987	60%	40.9 feet
3	Jun 1984	53%	38.9 feet
4	Mar 1968	48%	37.5 feet
5	Apr 2010	46%	37.1 feet

Table 2.2 – Estimated Pool Stage Frequencies

WEST THOMPSON LAKE

Quinebaug River, Connecticut
(1936,1938,1955,1967-2001)
(Drainage Area = 173.5 square miles)

FREQUENCY	POOLSTAGE	STORAGE		
(year)	(feet)	(acre-feet)	(inches)	(percent full)
2	28	5,600	1.4	22
5	34	9,800	2.5	38
10	38.5	13,200	3.4	52
20	43	17,500	4.4	68
50	49	23,800	6	93
100	52	27,800	7	100+
500	55	31,600	8	100+

Permanent Pool = 15 feet
Spillway Crest = 50.5 feet
Gate Invert = 292.0 feet-NGVD

Table 2.3 – Annual Peak Pool Levels

WEST THOMPSON LAKE PEAK POOL LEVELS
WATER-YEARS (OCTOBER 1 - SEPTEMBER 30)
1967- PRESENT

Date	Annual Peak Pool Level (feet)	Storage Utilized		
		Inches	Acre-Feet	Percent
28-May-1967	22.7	0.7	2,921	11
21-Mar-1968	37.5	3.1	12,250	48
27-Mar-1969	23	0.8	3,030	12
12-Feb-1970	35	2.6	10,200	40
17-Mar-1971	17	0.2	960	4
20-Mar-1972	31	1.9	7,500	29
4-Feb-1973	27.1	1.3	5,056	20
22-Dec-1973	23.3	0.8	3,171	12
20-Mar-1975	18.9	0.4	1,564	6
29-Jan-1976	32.7	2.2	8,605	34
15-Mar-1977	27.8	1.4	5,448	21
28-Jan-1978	31.5	2	7,825	31
27-Jan-1979	35.9	2.8	10,920	43
24-Mar-1980	29.3	1.6	6,395	25
26-Feb-1981	30	1.7	6,850	27
8-Jun-1982	36	2.8	11,000	43
22-Apr-1983	29.1	1.6	6,265	24
4-Jun-1984	38.9	3.4	13,510	53
14-Mar-1985	16.3	0.2	792	3
16-Mar-1986	24	0.9	3,500	14
8-Apr-1987	40.9	3.9	15,255	60
25-Jul-1988	18.7	0.4	1,492	6
14-Aug-1989	25.4	1.1	4,200	16
23-Oct-1989	26.5	1.2	4,750	19
21-Aug-1991	19.8	0.5	1,880	7
25-Nov-1991	20.9	0.6	2,265	9
2-Apr-1993	26.8	1.2	4,900	19
12-Mar-1994	20	0.5	1,950	8
10-Mar-1995	17.1	0.3	988	4
19-Apr-1996	32.3	2.1	8,319	32
22-Oct-1996	21.3	0.6	2,402	9

Table 2.3 – Annual Peak Pool Levels
(CONTINUED)

Date	Annual Peak Pool Level (feet)	Storage Utilized		
		Inches	Acre-Feet	Percent
11-Mar-1998	28.7	1.5	6,002	23
25-Jan-1999	20.6	0.5	2,164	8
23-Apr-2000	22.4	0.7	2,800	11
31-Mar-2001	22.8	0.8	2,972	12
8-Jun-2002	19	0.4	1,564	6
23-Mar-2003	20.5	0.5	2,118	8
16-Apr-2004	26	1.2	4,700	18
4-Apr-2005	26.1	1.2	4,700	18
17-Oct-2005	41.3	3.9	15,400	60
18-Apr-2007	30.1	1.8	6,915	27
10-Mar-2008	28.2	1.4	5,688	22
14-Dec-2008	32.1	2.1	8,241	32
1-Apr-2010	37.1	3	11,890	46
9-Mar-2011	34.7	2.5	9,990	39
9-Dec-2011	19.2	0.4	1,653	6
9-Jun-2013	22.6	0.7	2,869	11
1-Apr-2014	27.8	1.4	5,465	22
6-Apr-2015	18.7	0.4	1,492	6
26-Feb-2016	19.9	0.5	1,929	8
8-Apr-2017	18.7	0.4	1,474	6
15-Jan-2018	21.3	0.6	2,401	9
26-Jan-2019	23.7	0.9	3,359	13
16-Dec-2019	19.9	0.5	1,904	7
03-Sep-2021	28.6	1.5	5,981	23

2.3 Sediment and Shoreline Erosion

The Quinebaug River basin occupies about 425 square miles in the northeastern part of the state. The Quinebaug River has a total length of 67.5 miles and a total fall of 612 feet. The Quinebaug River runs for approximately 8 miles over the West Thompson Lake project. Portions of the watershed are fairly steep and conducive to rapid runoff, primarily along the banks of the Quinebaug River. The West Thompson Lake project has approximately 18 miles of shoreline, the majority of it along the banks of the Quinebaug River (13 miles), and the minority of shoreline along the perimeter of the

lake (5 miles).

There are sediment and shoreline erosion concerns at the project depending on exposure to wind, lake fetch and topography. Soil type is another factor governing the rate of shoreline erosion. Sediment accumulation in the reservoir is affected primarily by high water events due to pronounced rainfall occurrences, stream currents transporting sediment, storm water runoff associated with the park activities, and to a much lesser extent by wave-induced erosion along the lake shoreline.

All recreational areas experience erosion problems to varying degrees. Erosion control efforts have been implemented as needed to protect the recreation facilities, sensitive habitats, and other resources by a combination of efforts such as vegetation plantings and structural solutions.

2.4 Water Quality

As of 2020, the Connecticut Department of Energy and Environmental Protection has designated West Thompson Lake as a “Connecticut impaired water” (EPA Category 5), indicating that some designated uses are impaired. Two uses, the habitat for fish, other aquatic life and wildlife and recreation are impaired due to Chlorophyll-a, excess algal growth, and nutrient/eutrophication biological indicators. Potential sources include out-of-state upstream sources, municipal discharges, and storm water. The Quinebaug River upstream of West Thompson Lake has impaired recreation due to Esterichia coli. Water quality is acceptable in that it generally meets state standards and is usable for intended purposes including aquatic habitat and aesthetics.

A notable problem is mercury contamination of fish. There is a statewide advisory recommending limits on the consumption of freshwater fish caught in Connecticut. People are categorized as high risk and low risk groups. The high risk group includes pregnant women, women planning pregnancy within a year, nursing women, and children under age 6, who should not eat more than one meal per month of Connecticut caught freshwater fish. The low risk includes individuals who do not fit into the high risk group and should limit eating most freshwater fish to no more than one meal per week.

Baseline Monitoring

Water quality monitoring activities at West Thompson Lake by the New England District were conducted periodically from 1971 to 2000, including the inflow, lake, and discharge stations. As a Class III project (project containing water quality problems), the District generally conducts baseline monitoring every three years. Parameters analyzed include (dissolved oxygen, pH, temperature, conductivity, turbidity), nutrients (ammonia, nitrate plus nitrate, total and ortho-phosphorus), fecal coliform bacteria, hardness, and mercury. In 2000, *chlorophyll a* analyses were included in baseline sampling as a means of assessing lake trophic condition.

Data and observations show the water quality is a problem but supports most of its intended uses. Mercury contamination of the fish is a concern throughout New England. Water temperatures indicate the project supports a good warm water fishery in the lake.

Beach Monitoring

There are neither formal nor informal beach areas at West Thompson Lake, thus no beach monitoring is performed.

Potable Water Monitoring

West Thompson Lake has four water wells that are monitored by a private water quality management company. The locations of the wells are as follows: two in the campground, one at the Park Office, and one at the utility building. In accordance with requirements of the Environmental Protection Agency's (EPA) "Total Coliform Rule," sampling frequency is based on expected monthly usage as predicted from past records. During the recreation season (which runs from approximately the third Saturday in May to the weekend after Labor Day) three of the wells providing water to water fountains and potable water spigots are monitored monthly. During the remainder of the year, the two wells kept open for project personnel are monitored quarterly.

2.5 Project Access

Main access to the project area is provided via Interstate 395 and Connecticut Routes 131 & 197. The entrance to the West Thompson Lake Park office and the administrative area is located at 449 Reardon Road, off of West Thompson Road in North Grosvenordale, Connecticut.

2.6 Climate

The Thames River Basin has a variable climate characterized by frequent but generally short periods of heavy rainfall in the summer and longer periods of less intense precipitation in the winter. The basin climate is influenced by the prevailing westerly and the cyclonic storms that move across the country from the west or southwest. The area is also exposed to costal storms, locally known as "Northeasters" that travel up the Atlantic seaboard. Tropical hurricanes occur less frequently but have historically caused severe flooding in the Thames River Basin and its tributaries, most notably in August 1955 (Hurricanes Connie and Diane).

The mean annual precipitation over the Thames River Basin is about 44 inches which is distributed rather uniformly throughout the year. Floods can be expected in any season, resulting from early spring rains combined with melting snow, or heavy rains during the summer and fall. About one-third of the precipitation during the winter months is in the form of snow. Annual snowfall averages from 36 to 40 inches in the southern portion near the coast to about 60 inches at northerly inland points.

The average annual temperature of the basin is 49 degrees Fahrenheit. Average monthly

temperatures range between 15-33 degrees Fahrenheit in January and 59-81 degrees Fahrenheit in July. The frost-free season is approximately 135 days in length, varying somewhat with location in the basin.

2.7 Topography, Geology and Soils

2.7.1 Topography

The West Thompson Lake reservoir area is located in the Northeastern Highlands ecoregion. 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 river valley is steep-sided with terraces flanking the rather broad floodplains in the northern part of the project. The steeper hillsides are forested with a combination of softwood and mixed hardwood cover types. Elevations range from 290 feet NGVD at the base of the dam to 640 feet NGVD at the top of Chandler Hill, northwest of West Thompson Lake. Refer to the map in APPENDIX D – TOPOGRAPHY.

2.7.2 Geology and Soils

Bedrocks of the eastern uplands are metamorphic, principally gneisses and schists of Paleozoic and earlier age which are locally granitized by igneous intrusions, largely along original sedimentary bedding planes. At the project site large boulders and blocks up to 50 cubic yards in size are scattered over the right abutment area which is separated from the main valley by a steep sloped terrace remnant. The left abutment is dissected by an old tail race at valley grade with the abutment presenting a smoothly contoured surface to about elevation 330 feet NGVD where shallow rock is reflected in an irregular ground surface. Bedrock exposed on the right abutment within the area of the embankment and spillway and outlet structures is principally granitized mica schist locally known as Putnam gneiss formation.

The Quinebaug River flows mostly over alluvium composed of silt, sand, and gravel, and flows through narrow valleys and terraces of glacial drift. The unconsolidated materials in the terraces and floodplain are well drained except for the occasional silt/clay deposits. Coarse grained stratified drifts in the terraces beside the floodplain are a potential source of sand and gravel.

The surficial geology of the project area is directly related to the underlying bedrock, glaciations, and subsequent wind and water action. There are primarily two soil associations which occur within the reservoir: the Saco-Rippowam-Pootatuck association, which occurs in the floodplain; and the Charlton-Canton-Leicester association, in the uplands. Terrace soils (Hinckley, Charlton-Hollis) occur above floodplains in the stream valleys on slopes of less than 15 percent. For the most part, they are excessively drained to moderately well drained. They are mostly water-deposited beds of sand and gravel and are often overlain by loamy soil material.

Floodplain soils (Occum, Pootatuck, and Rippowam) occur on floodplains along major streams and tributaries. These soils are generally nearly level and well to poorly drained.

2.8 Resources Analysis

Numerous federal laws and executive orders establish national policy for, and federal interest in, the protection, restoration, conservation, and management of fish and wildlife resources. USACE is responsible directly or indirectly for the maintenance, restoration, and stewardship of natural resources on the flood control projects it owns and manages.

The environmental resources of the West Thompson Lake project provide important and valuable natural resource and recreational opportunities. The project maintains a wide variety of fish and wildlife resources and provides popular recreational facilities for the surrounding areas. Fish and wildlife management are carried out on project lands. Recreational activities include camping, picnicking, hiking, mountain biking, boating, fishing, hunting, and disc golf.

The project area consists of a total of 1,773 acres owned in fee and 63 acres held in flowage easement. All lands at the project are under the jurisdiction of USACE. Of the 1,773 acres, 51 percent (910 acres) are forested, 31 percent (552 acres) are wetlands/open water, 8 percent (140 acres) is non-forested, i.e. open field/meadow, abandoned fields, fine lawn, 8.5 percent (151 acres) are leased out for agriculture, and approximately 1 percent (20 acres) is non-vegetated, i.e. roads and areas covered by the project structures.

2.8.1 Fish and Wildlife Resources

The West Thompson Lake property is comprised of a diversity of natural communities. This community diversity, in part, is responsible for the great diversity of animals which are present on the project. Beaver colonies are scattered throughout the Quinebaug River Watershed. Deer, fox, porcupine, skunk, fisher, raccoon, bobcat, coyote, turkey, muskrat and river otter are also readily found in the vicinity of the project. Pheasants are stocked by the Connecticut Department of Energy and Environmental Protection (CT DEEP) during the fall upland game season. Migratory waterfowl such as geese and ducks visit seasonally and are being encouraged by current wildlife management programs. Continued habitat assessment and planning will ensure habitat diversity. Wildlife species that may be expected to occur within the project (per CT DEEP) are summarized in APPENDIX A – WILDLIFE SPECIES PRESENT IN CONNECTICUT.

West Thompson Lake supports a warm water fishery. Fishing pressure is low, and pan fish are abundant.

Warm water species likely to be present include:

Northern pike – *Esox lucius*
Largemouth bass - *Micropterus salmoides*
Brown bullhead - *Ictalurus mebulosus*
Yellow bullhead - *Ictalurus natalis*
Bluegill - *Lepomis macrochirus*
Pumpkinseed - *Lepomis gibbosus*
White sucker - *Catostomus commersoni*
Yellow perch - *Perca flavescens*
White perch - *Monroe americana*
Chain pickerel - *Esox niger*
Black crappie – *Pomoxis nigromaculatus*
Common carp – *Cyprinus carpio*
Walleye – *Stizostedion vitreum*

CT DEEP stocks the Quinebaug River within the project boundaries with rainbow trout (*Oncorhynchus mykiss*), brook trout (*Salvelinus fontinalis*), and brown trout (*Salmo trutta*) in April and May.

CT DEEP began stocking walleye (*Stizostedion vitreum*) into West Thompson Lake in October 2012.

Water level fluctuations occur periodically due to reservoir regulations for flood risk reduction purposes. These fluctuations can be both beneficial and detrimental to fish species with the extent of the damage depending on many factors including time of year, amount of fluctuation and the direction of fluctuation.

2.8.2 Vegetative Resources

Engineer Regulation 1130-2-550 mission statement states, “The Army Corps Natural Resource Management Mission is to manage and conserve those natural resources, consistent with ecosystem principles while providing quality public outdoor recreation experience to serve the needs of present and future generations.” Ecosystem management implies sustainable forestry which seeks to preserve natural communities and all the elements of a forest as well as benefit the human communities who will utilize the resources.

2.8.2.1 Forest Resources

Approximately 51 percent or 910 acres of the 1,773 acres owned in fee are forested. Much of the forested area is in second growth white pine and white pine-hardwood types. The principal species include Eastern white pine (*Pinus strobus*), red oak (*Quercus rubra*), white oak (*Quercus alba*), white ash (*Fraxinus americana*) red maple (*Acer rubrum*), shagbark hickory (*Carya ovata*), and birch species (*Betula sp.*).
The forest cover is in the 70 - 100 year age class and most stands are even aged. The crown closure averages 100% in pole and saw log size stands. Due to the large amount

of competing undesirable growing stock and cull trees, acceptable growing stock is low to moderate. The overall quality of the forestry growing stock is fair to medium.

Forest cover types are delineated in APPENDIX B – FOREST CLASSIFICATION**.**

2.8.2.2 Open Lands

Open areas make up approximately 291 acres or about 16 percent of the project area. Of those 291 acres, 151 acres are leased agricultural fields planted primarily with corn crops. The remaining open areas are mowed at various intervals during the year to prevent them from gradually reverting to forest. Open grass areas provide a much needed diversity of habitat for wildlife both on the project and the region. Fields should be maintained as open grasslands with limited to no hardwood growth through the mowing regime.

2.8.3 Rare, Threatened and Endangered Species

In 2000, the Connecticut Natural Diversity Database (CTNDDB) through the CT DEEP partnered with USACE to identify and locate rare or protected species, critical habitat for rare or protected species, and any outstanding natural communities occurring at West Thompson Lake. Taxonomic experts from CTNDDB staff and volunteer students carried out the inventory. In 2008, CME Associates, Inc. were contracted to conduct an Ecological Studies Report to resurvey previously reported state listed species and outstanding natural communities.

No species of federally threatened or endangered status were located on the property in either study.

Two state listed species of special concern birds are present at West Thompson Lake. The bobolink, *Dolichonyx oryzivorus*, and the Eastern meadowlark, *Sternella magna*, are seasonal residents at West Thompson Lake from the spring through the fall months.

One state listed species of special concern plant was found at West Thompson Lake during the 2000 survey. CME Associates, Inc. (2008) reported in their Ecological Studies Report that the plant community known as riverweed or threadfoot (*Podostemum ceratophyllum*) was confirmed present at the site in the Quinebaug River previously reported in 2000.

One state listed species of special concern moth was found at West Thompson Lake during the CTNDDB 2000 survey. A noctuid moth, called the waxed sallow, (Chaetoglaea cerata) was collected.

2.8.3.1 Exemplary Natural Communities

In 2000, the CTNDDB conducted a survey of West Thompson Lake for Rare and Protected Species and Outstanding Natural Communities. In that survey, it was noted that one plant listed as a state species of special concern, riverweed or threadfoot (*Podostemum ceratophyllum*) was confirmed present at the site. It was also noted that two natural areas are located on project lands: a pickerelweed (*Pontederia cordata*) marsh and a seepage wetland.

CME Associates, Inc. (2008) reported in their Ecological Studies Report that the plant community known as riverweed or threadfoot (*Podostemum ceratophyllum*) is a Connecticut Special Concern Species and was confirmed present at the site. This plant was found in high abundance in an area of the river approximately 200 feet south of Red Bridge Road in a section of riffles with cobble substrate in the Quinebaug River.

CME Associates, Inc. (2008) confirmed the presence of the pickerelweed marsh north of Blain Road and east of the Quinebaug River which is a deep emergent marsh dominated by pickerelweed (*Pontederia cordata*) and burr reed (*Sparganium americanum*) which form a mosaic of monoclonal patches.

CME Associates, Inc. (2008) confirmed the presence of a seepage wetland complex east of Ravenelle Road and west of Ravenelle Ponds. The forest wetland area is best classified as a Southern New England red maple seepage swamp. The dominant tree species is red maple (*Acer rubrum*) with grey birch (*Betula populifolia*) and white pine *(Pinus strobus*) present. Also present in this swamp is a seasonally flooded mixed graminoid meadow. These wetlands include intermittent streams that flow to the Quinebaug River.

Priority habitat is the mapped geographical extent of known habitat for all state-listed rare plants and animals. These areas are shown on APPENDIX B – RARE SPECIES PRIORITY HABITAT.

2.8.4 Invasive Species

Executive Order 13112 (Invasive Species, 3 February 1999) directs USACE and other federal agencies to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause. Additional guidance includes, “Memorandum, HQUSACE, CECW-ZA, 2 JUN 2009, Subject: US Army Corps of Engineers Invasive Species Policy” and “Memorandum, HQUSACE, CECW-CO, 17 DEC 2009, Subject: Guidance on authorities for project Specific Restoration to Manage the Introduction of Invasive Species.”

West Thompson Lake will adapt management goals, practices and policies used by the National Invasive Species Council (NISC) 2008-2012 National Invasive Species Management Plan and adopt a long-term management plan. The strategic goals include prevention, early detection and rapid response, control and management, restoration,

and organizational collaboration.

In October 2008, contractor CME Associates, Inc. completed an Ecological Studies Report at West Thompson Lake which focused on invasive species. In general, the West Thompson Lake property includes active cultivated fields, abandoned pastureland, small ponds, gravel pits and active and abandoned road edge that provide potential invasive species habitat. Of the alien species recorded, the following are the most notable.

- Glossy buckthorn (*Rhamnus frangula)*: approximately 26 acres (varying density) throughout the property, dominating the understory of white pine forested areas
- Common reed/phragmites (*Phragmites australis)*: multiple locations less than 1 acre in the shrub and emergent riparian wetland adjacent to the Quinebaug River and along the downstream toe of the dam
- Purple loostrife (*Lythrum salicaria)*: multiple locations less than 1 acre in riparian wetlands associated with the Quinebaug River
- Reed canary grass (*Phalaris arundinacea)*: observed in wet meadow near seepage swamp
- Japanese barberry (*Berberis thunbergia):* observed near forested edges and under a variety of forest cover types
- Japanese knotweed (*Polygonum cuspidatum)*: found in clearings near (abandoned) roads and north of Red Bridge Road east of the Quinebaug River
- Oriental bittersweet (*Celastrus orbiculatus)*: numerous locations at forest edges near roads, fields, and trails
- Multiflora rose (*Rosa multiflora)*: numerous locations at forest edges near roads and fields

2.8.5 Ecological Settings

The West Thompson Lake reservoir area is located in the Northeastern Highlands ecoregion. 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 river valley is steep-sided with terraces flanking the rather broad floodplains in the northern part of the project. The steeper hillsides are forested with a combination of softwood and mixed hardwood cover types. Elevations range from 290 feet NGVD at the base of the dam to 640 feet NGVD at the top of Chandler Hill, northwest of West Thompson Lake.

The project area consists of a total of 1,773 acres owned in fee and 63 acres held in flowage easement. All lands at the project are under the jurisdiction of the USACE. Of the 1,773 acres, 51 percent (910 acres) are forested, 31 percent (552 acres) are wetlands/open water, 8 percent (140 acres) is non-forested, i.e. open field/meadow, abandoned fields, fine lawn, 8.5 percent (151 acres) are leased out for agriculture, and

approximately 1 percent (20 acres) is non-vegetated, i.e. roads and areas covered by the project structures.

2.8.6 Wetlands

USACE, New England District, conducted a wetlands delineation of the West Thompson Lake in 1995. The study was updated in 2021 using 2021 data from the U.S. Fish and Wildlife Service. The aim of the study was to identify and characterize the surface waters and wetland communities on the project site. The wetlands are classified according to the Cowardin et al. “Classification of wetlands and deep water habitats of the United States”. A detailed report and maps of the wetlands at West Thompson Lake is available at the Park Office. A summary of the wetland types occurring at the project includes:

Table 2.4 – Wetland Types at West Thompson Lake

Wetland Description	Acres
Open Water	299
Emergent Wetland	47
Forested/Shrub Wetland	206
Riverine (included in Open Water total)	74.4 acres (+/- 8 linear miles)

Wetland mapping for the project is shown in APPENDIX B – WETLAND CLASSIFICATION.

2.9 Cultural Resources

2.9.1 Prehistoric Period

Prehistoric settlement and land use patterns are characterized as limited use of upland areas and more intensive use of terraces above navigable streams and rivers for hunting, fishing and foraging. The project area includes both riverine and tributary stream/wetland environmental settings that contain high resource potential.

An Archaeological Reconnaissance of West Thompson Lake was conducted during the summer of 1980, as the initial study in a program of cultural resource identification within the New England District’s properties. Background research and field investigation located 16 prehistoric and 18 historic period sites on the project. An Intensive (Locational) Archaeological Survey was completed in November 2011 by Hardlines Design Co.

Neither the Archaeological Reconnaissance document nor the Intensive (Locational) Archaeological Survey will be made available to the general public without specific approval from the Project Operations Division and in coordination with the New England District Archaeologist.

2.9.2 Historic Period

Prior to the acquisition and construction of the project in 1963, the reservoir area was in a rural setting consisting of houses, agricultural buildings and fields, and wooded hillsides of predominately mixed hardwoods with white pine. Based on an examination of historic maps, several sites classified as domestic, agrarian, industrial and transportation were known to have been located on the property. In general, historic archaeology in New England has centered on individual sites and structures dating back to the Colonial period (17th and 18th Century).

2.9.3 Archaeological Resources

An archaeological reconnaissance survey was completed for West Thompson Lake in 1980 by the Public Archaeology Survey Team (PAST). Additionally, a Historic Properties Management Plan (HPMP) was completed in 1999 by thePAST. The survey report and the HPMP both provide prehistoric and historic contexts within which known cultural resources at the project area could be evaluated. General predictive statements concerning the potential types and distributions of prehistoric and historic archaeological sites within the project area were formulated based on an assessment of the area's archaeological sensitivity.

An intensive (locational) archaeological survey within areas designated as having a high sensitivity for pre-contact and post-contact period archaeological resources within New England District owned land of West Thompson Lake was conducted in 2011 by Hardlines Design Co. based on the recommendations provided during the prior Phase I Archaeological Reconnaissance (PAST 1980).

Areas of high and moderate archaeological sensitivity are depicted in APPENDIX B – ARCHAEOLOGY. Please note that archaeological site locations are confidential information that is exempt from the Freedom of Information Act requirements and cannot be divulged to the general public.

2.9.4 Prehistoric Resources

The original reconnaissance survey (PAST 1980) identified 16 documented pre-contact period (12,500-3,000 Years Before Present) sites within the project boundary. Hardlines Design Co. (2011) did not find any new pre-contact period sites. Their findings suggest that the majority of sites should be small ephemeral encampments and

not large, settled villages. Most identified areas of high and moderate archaeological sensitivity are located in areas that are used primarily for passive recreational pursuits such as fishing, hiking, and bird watching.

2.9.5 Historic Resources

The results of the Intensive Survey by Hardlines Design Co. (2011) indicated that no new post-contact period (1620 A.D. - present) sites have been identified since the original reconnaissance survey (PAST 1980) which documented 18 sites. Verification of the 18 sites confirmed the potential for multiple site types. Due to the location of major waterways and prime agricultural land within the project area, expected resource types include industrial, farmstead/residential, fish weirs, and transportation related resources that date from the eighteenth to the mid-twentieth-century.

2.9.6 National Register of Historic Places

In August 1990, the Hezekiah S. Ramsdell Farm site (located on the western side of West Thompson Lake on Old Ravenelle Road) was placed on the National Register of Historic Places.

In 2003, the Hezekiah S. Ramsdell Farm was nominated to the National Register of Historic Places as architecturally significant under Criterion A as a relatively undisturbed example of a nineteenth century rural farmstead. The farm was also nominated under Criterion D due to its potential to contain archaeological information about agricultural and domestic activities on an eighteenth and nineteenth century farm. USACE razed the farmstead's buildings in 1999 due to their deterioration.

2.10 Demographics

2.10.1 Population

Table 2.5 Population Projections: 2015-2040

	Census	CTSDC Projections					Change
	2015	2020	2025	2030	2035	2040	2015-2040
Connecticut	3,593,268	3,604,591	3,618,755	3,633,982	3,645,390	3,653,954	1%
Windham County	121,222	1244,99	127,546	130,495	132,819	134,874	9%
Thompson	9,556	9,602	9,611	9,593	9,500	9,390	-1%

Source: Connecticut State Data Center (CTSDC), 2021

2.10.2 Economics

Table 2.6 Median Household Incomes: 2000-2015

	Median 2000	Median 2010	Median 2015
Connecticut	$65,521	$67,740	$73,820
Windham County	$52,490	$59,370	$60.689
Thompson	$53,088	$60,951	$62,905

Source: Connecticut Department of Economic and Community Development, 2021

2.11 Recreational Facilities, Activities and Needs

2.11.1 Recreational Facilities

The following is an overview of the facilities located at West Thompson Lake. Recreation facilities are located on both the east and west sides of West Thompson Lake. The recreation areas at West Thompson Lake consist of approximately 140 acres. The natural setting surrounding West Thompson Lake is enjoyed year-round and is open from sunrise to sunset every day. The West Thompson Lake Campground is open from the third Friday in May to the Sunday after Labor Day.

A general description of the recreational activities and facilities that are presently offered for public use are described below and noted on APPENDIX D – RECREATION SITE PLAN.

2.11.1.1 West Thompson Lake Boat Ramp

Free parking is available at the West Thompson Lake Boat Ramp located at 400 Reardon Road. There are about 25 spaces in the gravel lot and the carry from the water's edge is less than 50 feet. Put in and take out areas include a large concrete launch ramp and a grassy slope into the water. There is also a small floating dock and a fishing platform. There are seasonal public restrooms available from April to October. There is a small picnic area located in the boat ramp recreation area, which can be used free of charge. There are approximately six picnic tables and three grills located within the enclosed corral area. There is no electricity or water available at this site.

2.11.1.2 Picnic Shelters

West Thompson Lake has three picnic shelters available for rent. All the shelters come with drive up access, two large charcoal grills, a fire pit, picnic tables and access to a portable toilet.

2.11.1.2.1 Overlook Shelter

The Overlook Shelter is a large shelter located in a field on the southwest side of the lake near the dam spillway and gate house. This shelter can accommodate a party of approximately 100 people. This shelter has both electricity and potable water available for special event use. Access to the shelter is from the gated entrance on West Thompson Road.

2.11.1.2.2 West Side Shelter

The West Side Shelter is a large shelter located in the fields on the west side of the lake. This shelter can accommodate a party of approximately 75 people. Access to the shelter is from the gated entrance on Ravenelle Road. Due to its remote location, there is no electricity or running water available at this shelter.

2.11.1.2.3 East Side Shelter

The East Side Shelter is a smaller shelter located between the entrance road to the campground and the boat ramp. This shelter can accommodate a party of approximately 50 people. Drive up access is through the campground road but the majority of parking for this shelter is located in the boat ramp as is the portable toilet. This shelter has both electricity and potable water available for special event use.

2.11.1.3 Campground

The West Thompson Lake Campground is open from the third Friday in May to the Sunday after Labor Day. The campground consists of 24 campsites (11 basic sites, 11 premium sites with electrical and water hookups, and two lean-to shelters) in a quiet, wooded environment. West Thompson Lake Campground is suited for all types of RV's, from small truck-back pop-ups to 45 foot campers depending on the site. All sites are private and wooded with level gravel surfaces. There is a handicap accessible comfort station with flush toilets and hot showers. A dump station is on-site and there is firewood available for purchase. The entire family will enjoy nature programs, hiking trails, children's play area, basketball court and horseshoe pits. The nearby boat ramp affords boating and fishing enthusiasts access to the 200-acre West Thompson Lake. On-site campground hosts and park rangers are available to assist campers.

2.11.1.4 Disc Golf Course

West Thompson Lake offers a no charge Disc Golf Course with 18 challenging holes known for long drives. There are eight holes under 300 feet, six holes 300 to 400 feet, and four holes over 400 feet. This course is great for players of all skill levels and ages and offers scenic views of West Thompson Lake and the dam. Parking for the course is located off of the Recreation Road at 400 Reardon Road.

2.11.1.5 Hiking Trails

There are three main trail systems at West Thompson Lake. These are signified by the three different colored trail markers and together stretch a total of 17.1 miles.

The trail blazed with **yellow** markers is *The Shoreline Trail*, a 4-mile loop around the lake that takes you through varying habitats from open fields to forested wetlands. The Shoreline Trail has one "side trail", The Woodland Walk Trail. The Woodland Walk is a short 0.4-mile hike near the West Thompson Lake Campground and is designated by yellow markers with black triangles.

The trail blazed with **blue** markers is *The Lost Trail*; this is a figure-8 trail which connects the campground with the Shoreline Trail. It begins at the north end of the campground loop. The Lost Trail is a short 1.2-mile walk.

The trail blazed with **orange** markers begins as the *Ramsdell Woods Trail*; this is a 2.2-mile trail that takes you from the dam north to the Ramsdell Farm. The trail continues on to the northern part of West Thompson Lake where it comes to a junction. Crossing Old Blain Road, the trail becomes the *Ravenelle Ponds Loop*. Crossing Blain Bridge, you will pick up the Shoreline Trail. The Ravenelle Ponds Loop is a 1.2-mile loop which travels through serene old growth pine stands and agricultural fields past the three peaceful ponds and back again to Old Blain Road. If you continue north from the top of The Ravenelle Ponds Loop, you will find the *Quinebaug River Trail* which travels another 4.5 miles north to Fabyan Road. There is also a 1.5 mile section of the *Quinebaug River Trail* located on the east side of the Quinebaug River which links Old Blain Road to Red Bridge Road.

2.11.1.6 Quinebaug River Water Trail

The Thompson section of the Quinebaug River Water Trail is located within the project boundary of West Thompson Lake. It is suitable for canoes and kayaks, but not suitable for motorized boats. This stretch of the water trail is about 6 miles long with moving water (but no rapids), flat water, extensive wildlife habitat, and no portages. It is an excellent three-hour outing for paddlers who are comfortable with moving water. The banks range from steep and forested to flat agricultural fields. Parking is located at the start of the water trail at the Fabyan Dam Canoe/Kayak Launch on Fabyan-Woodstock Road in Thompson. The take-out is at the West Thompson Lake Boat Ramp on Reardon Road.

2.11.1.7 West Thompson Dam Site

A paved parking lot for approximately 10 vehicles is located along West Thompson Road near the top of the dam. Parking is provided primarily for hikers, fisherman, and administration.

2.11.1.8 Other Recreational Activities

Hunting, fishing, and trapping are permitted on project lands in accordance with applicable federal and state laws. No hunting is permitted within 500 feet of the park facilities or in the immediate vicinity of the dam. Pheasants, stocked by the CT DEEP, waterfowl, turkey and white-tailed deer are the principal game species.

Park visitors are active in the winter months with many outdoor activities such as ice fishing, cross-country skiing, and snowshoeing. In the three other seasons, hiking, biking, disc golf, outdoor photography, geocaching, canoeing, kayaking, and wildlife viewing are common activities that attract people to the project.

Presently, lake-staff manage recreation areas using historic visitation data combined with best professional judgment to address recreation areas considered to be overcrowded, overused, underused, or well balanced. Project staff will continue to identify possible causes and effects of overcrowding and overuse and apply appropriate best management practices including site management, regulating visitor behavior, and modifying visitor behavior.

2.11.2 Zones of Influence

West Thompson Lake provides numerous opportunities for recreational pursuits. The natural beauty and scenery provided by the project area continues to attract nearby residents and visitors. The developed recreational facilities include a campground, boat ramp, disc golf course and three picnic shelters. Visitors from nearby urban areas/towns including Webster, Massachusetts and Putnam, Connecticut generally travel about 10 miles to access West Thompson Lake for day use activities. West Thompson Lake Campground draws visitors from urban areas 50-100 miles away from the Hartford, Connecticut and Boston, Massachusetts areas as well as from other areas throughout the United States and beyond.

2.11.2.1 Regional Recreation Facilities

In order to assess the future recreation facilities needs at West Thompson Lake, it is necessary to inventory and compare other recreation facilities available in the region. An inventory of public recreation facilities within 20 miles of West Thompson Lake was compiled and is summarized on the following page.

Table 2.7 Regional Recreation Facilities

Area	Distance (miles)	Boating	Camping	Fishing	Hiking	Hunting	Picnicking	Ski-touring	Snowmobiling	Swimming	Disc Golf
FEDERAL											
East Brimfield Lake	19	X		X	X	X	X	X	X	X	
Hodges Village Dam	15			X	X	X	X	X	X		X
Westville Lake	15	X		X	X	X	X	X	X		
Buffumville Lake	17	X		X	X	X	X	X	X	X	X
STATE											
Quaddick State Park	6	X		X	X	X	X	X		X	
Bigelow Hollow State Park	17	X	X	X	X	X	X	X	X		
Old Furnace State Park	16	X		X	X	X		X			
Wells State Park	20	X	X	X	X		X	X		X	
Killingly Pond State Park	16	X		X	X	X					
Casimir Pulaski Memorial State Park	7			X	X		X	X		X	
Streeter Point Recreation Area	19	X		X	X		X			X	
Mashamoquet Brook State Park	11		X	X	X		X	X		X	
Quinebaug Lake State Park Reserve	17	X		X	X						

In summary, the recreation activities now available at West Thompson Lake are found throughout the 20 mile surrounding area. Recreation use at West Thompson Lake tends to be more localized; however, the campground continues to be a big draw to visitors from all over the country and outside of the United States.

2.11.3 West Thompson Lake Visitation Profile

Table 2.8 Visitation (21 years)

Fiscal Year	Visitors
2021	235,741
2020	188,023
2019	179,794
2018	187,955
2017	197,736
2016	221,911
2015	203,023
2014	164,730
2013	202,311
2012	184,455
2011	110,424
2010	288,311
2009	205,097
2008	201,782
2007	117,921
2006	93,903
2005	123,113
2004	75,765
2003	69,708
2002	84,997
2001	58,585
2000	61,104

The majority of the usage of the West Thompson Lake project area during the recreation season is for camping, hiking, picnicking, kayaking, canoeing, mountain biking and disc golf. From September to April the project experiences a great deal of hiking, hunting, fishing, snowshoeing, cross country skiing and disc golf. The recreation facilities allow for many visitors to be able to enjoy the park at one time. The park experiences spikes in visitation on summer weekends and holidays.

Over the past two decades West Thompson Lake has seen a sharp rise in visitation from around 60,000 visitors in the early 2000's to our current visitation, which is routinely around 200,000 visitors annually. The annual visitation has more than tripled over this time period. Visitation generated by the West Thompson Lake campground is a big pull from around New England, as well as the entire United States and beyond, which contributes to these figures.

2.11.4 Recreational Analysis

West Thompson Lake's recreation areas, trails, and water add to the attractiveness, vitality, and appreciation for the outdoors. These areas provide a sense of place and allow a growing population to enjoy outdoor recreation opportunities in an ever growing suburban landscape. While visitation in recreation areas remains strong, there are indications that there is new demand for upgraded facilities and non-traditional recreation opportunities. Recreation has evolved into a modernized and high-tech activity since the construction of West Thompson Lake's recreation areas. Facilities and recreation demands have become more upscale in recent times, and there are some unmet recreation demands at West Thompson Lake. The most requested recreation upgrades are related to the West Thompson Lake Campground such as 50 watt electrical hookups, sewer hookups, WiFi, and larger, more modern restroom facilities. There is also an increasing demand for water related recreation activities such as swimming. These environmental impacts have the potential to make West Thompson Lake water conditions unsustainable and undesirable for water recreation if not managed properly.

Recreation facilities are provided at West Thompson Lake and at nearby town, state, and private recreation areas. The project recreation utilization has changed from primarily non-intensive recreation activities such as fishing, hunting, hiking, and cross country skiing towards a heavy focus on the developed recreation areas that target camping, picnicking, boating and disc golf.

2.11.4.1 Natural and Scenic Qualities

West Thompson Lake is situated in a portion of New England known as the Last Green Valley, an area rich in history in a surprisingly rural landscape. This area is still 77% forest and farm and is the last swath of dark night sky in the coastal sprawl between Boston and Washington, D.C. It is this quiet, picturesque landscape that has attracted visitors from all over the United States and beyond.

In the immediate area of West Thompson Lake, the occasional storage of floodwaters has had no serious aesthetic effect. In fact, the inundated landscape draws visitors to view the temporary altered terrain and vistas that are not a common occurrence.

Figure 2.1 – Compatibility Matrix

Activities	Hunting	Fishing	Hiking	Snowmobiling	Cross-Country Skiing	Outdoor Games	Swimming	Picnicking	Canoeing/Kayaking	Snowshoeing	Natural Resource Mngt.
Hunting											
Fishing											
Hiking											
Snowmobiling											
Cross- Country Skiing											
Outdoor Games											
Swimming											
Picnicking											
Canoeing/ Kayaking											
Snowshoeing											
Natural Resource Mngt											

Key:

- No Conflict
- Shared Resource/ Potential Conflicts
- Possible Conflicts
- N/A

2.11.6 Recreational Carrying Capacity

2.11.6.1 Projected Use

The recreation carrying capacity of a lake is the amount of development, use, and activity any lake and associated recreational lands can sustain without being permanently adversely impacted. The calculated visitation for West Thompson Lake for 2020 was 188,023 through the Visitation Estimation and Reporting System (VERS). Presently, lake-staff manage recreation areas using historic visitation data combined with best professional judgment to address recreation areas considered to be overcrowded, overused, underused, or well balanced. Project staff will continue to identify possible causes and effects of overcrowding and overuse and apply appropriate

best management practices.

The carrying capacity of the various recreational facilities is summarized below.

Table 2.9 – Carrying Capacity

Facility Potential:		
Parking	117 spaces @ 4.3 people/car	
TOTAL =	503 users	
Maximum Occupancy:		
Picnicking	6 Tables @ 8 people/ table =	48 users
Shelters (3 total)	32 Tables @ 8 people/ table =	256 users
Campground	24 Tables @ 8 people/ table =	192 users
	Total =	999 users

Carrying capacity deficiencies do exist at West Thompson Lake recreation areas, which is limited mostly due to parking. Boat trailer parking at the boat ramp is an issue as there are no clearly defined parking spots for trailers. The boat ramp parking lot is often completely full on summer weekends because various user groups utilize the same parking lot including boaters, hikers, picnickers, fishermen, sightseers, and disc golfers. Parking spaces at the Shoreline Lot and the West Side Lot are often completely full and vehicles park on either side of the public road instead of in designated parking spaces. Although the Overlook Shelter access gate does not include a designated parking lot, multiple vehicles park at the entrance daily causing congestion at the access gate.

It should be noted that the campground has one restroom building that is split in half for men's and women's' separate use. The women's side has 3 toilets and 1 shower. The men's side has 2 toilets, 2 urinals, and 1 shower. There have been requests for additional shower facilities in both the men's and women's sides, as 1 gender specific shower is not adequate for 24 campsites. There have also been requests for additional camping sites.

Since future use of the facilities is expected to remain or increase, continued maintenance and improvements should be done to ensure high quality recreation and adequate visitor access.

2.12 Real Estate and Land Use and Acquisition Policy

All lands at West Thompson Lake were acquired for flood control operations. These include areas for permanent structures, construction zones, borrow areas, street relocation, and the reservoir and spillway.

There are several easements, licenses and land use out grants associated with the

project land. Licenses and leases are generally short term (granted for five-year periods) while easements are long term (50-year terms or held in perpetuity). Easements are summarized below

Table 2.10 – Real Estate Easements

West Thompson Lake Real Estate Easements		
Type of Instrument	**Grantee**	**Contract Number**
Easement	Southern NE Telephone	DACW33-2-95-010
Easement	Town of Thompson	DACW33-2-68-047
Easement	CT DOT	DACW33-2-99-042

2.13 Pertinent Public Laws

The following laws and regulations provide for the development and management of federal projects:

1. The Historic Sites, Buildings and Antiquities Act of 1935 (54 U.S.C. § 320101-320106), commonly known as the Historic Sites Act, declares a national policy to preserve historic sites and objects of national significance including those located on refuges. It provides for designation, acquisition, administration, and protection of such sites. Additionally, National Historic Landmarks are designated under the authority of this Act.

2. West Thompson Dam in the Thames River Basin was authorized by the Flood Control Act of 1938 (Public Law 761, 75th Congress, 3rd Session) as modified by the Flood Control Act of 1941 (Public Law 228, 77th Congress, 1st Session).

3. Public Law 78-534 (The Flood Control Act of 1944) as amended by the Flood Control Acts of 1946, 1954, 1960 and 1962, authorizes USACE to construct, operate and maintain public park and recreation facilities at water resource development projects, and permit local interests to construct, operate, and maintain such facilities.

4. Public Law 85-624 (The Fish and Wildlife Coordination Act of 1958) requires that USACE and any agency impounding, diverting, or controlling water, consult with the United States Department of the Interior, Fish and Wildlife Service. The Department of the Interior would evaluate proposed water resources development measures and determine potential impacts on wildlife resources and measures needed to prevent such impacts.

5. Public Law 86-717 (Forest Cover Act, Sept. 6, 1960) provides a statutory mandate for multiple use forest management, or other vegetative cover management, on project lands and waters.

6. Public Law 89-72 (The Federal Water Project Recreation Act of 1965), accompanied by House Committee Report No. 254, requires that USACE and other federal agencies give full consideration to fish and wildlife enhancement. It also provides for non-federal participation in land acquisition, and in the development and management of recreational facilities and fish and wildlife resources.

7. Watershed Management Partnership Agreement was signed on Nov. 19, 2004 by the EPA and USACE to promote watershed health, economic sustainability and community vitality through effective management of the ations watersheds. This partnership builds on existing EPA and USACE efforts and will employ innovative approaches to support watershed restoration, stewardship and management.

8. Public Law 91-190 (The National Environmental Policy Act of 1969, as amended), directs USACE and other federal agencies to prepare environmental impact statements or assessments that describe the environmental effects of proposed projects and measures necessary to minimize any adverse effects.

9. Public Law 91-604 (The Clean Air Act, as amended), specifies that any federal activity, which may result in discharge of air pollutants, comply with federal, state, interstate, and local requirements concerning control and abatement of air pollution.

10. Public Law 93-205 (The Endangered Species Act of 1973, as amended) requires federal agencies to utilize their authorities to carry out programs for conservation of endangered and threatened species protected by the Act.

11. Executive Order 11990 (Protection of Wetlands, 24 May 1977) requires that all federal agencies take action to minimize destruction, loss or degradation of wetlands. It stipulates that federal agencies must avoid providing assistance for new construction located in wetlands unless no practicable alternatives exist, and the proposed action includes measures to minimize harm to wetlands.

12. Executive Order 13112 (Invasive Species, 3 February 1999) directs USACE and other federal agencies to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause.

13. Public Law 95-217 (Clean Water Act of 1977, as amended). Section 404 imposes requirements with respect to dredge and fill activities in waterways of the United States, including wetlands. Any fill activities in wetlands must comply with Section 404(b) (1), Guidelines for the Specification of Disposal Sites for Dredge or Fill Material. These guidelines allow fill activities for only the least environmentally damaging practicable alternative.

14. Public Law 96-95 (Archaeological Resources Protection Act of 1979 – RPA, as amended). This statute provides protection for archaeological resources by requiring any interested parties to apply for a permit from the controlling federal agency to excavate, or remove any archaeological resource located on public or Indian lands. The act also provides for civil and criminal penalties for individuals disturbing or looting sites (including military personnel that allow such actions).

15. National Register of Historic Places, Nominations by States and Federal Agencies (36 CFR Part 60). These regulations govern the process whereby state and federal agencies nominate specific resources under their control to the National Register of Historic Places. This is the country's basic inventory of historic resources and it is maintained by the Secretary of the Interior. This inventory includes buildings, structures, objects, sites, districts, and archaeological resources that may be significant at the national, state or local level.

16. Advisory Council on Historic Preservation, Protection of Historic Properties (36 CFR Part 800). These are the implementing regulations which govern the Section 106 review process established by the National Historic Preservation Act of 1966, as amended for federal agencies. These regulations implement procedures for assessing the effects of federally approved, assisted, or funded undertakings on properties which are, or may be eligible for listing on the National Register of Historic Places.

17. Public Law 89-72, (Federal Water Project Recreation Act of 1965, as amended). 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. An OCE/OMB implementation policy made these provisions applicable to projects completed prior to 1965.

18. Public Law 89-80, (Water Resources Planning Act (1965), as amended). 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.

19. Public Law 93-251, Water Resources Development Act of 1974. 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.

2.14 U.S. Army Corps of Engineers Guidance

The master plan has been prepared in accordance with guidance contained in the following USACE regulations, pamphlets, and manual:

1. ER 1130-2-500 Project Operations, Partners and Support, Work Management Policies

2. ER 1130-2-540 Project Operations, Environmental Stewardship, Operations and Maintenance Policies
3. ER 1130-2-550 Project Operations, Recreation, Operations and Maintenance Policies
4. ER 1165-2-400 Water Resources Policies and Authorities, Recreational Planning, Development and Management Policies
5. EP 1130-2-500 Project Operations, Partners and Support, Work Management Guidance and Procedures
6. EP 1130-2-540 Project Operations, Environmental Stewardship, Operations and Maintenance Guidance and Procedures
7. EP 1130-2-550 Project Operations, Recreation, Operations and Maintenance Guidance and Procedures
8. ER 1110-2-400 Engineering and Design, Design of Recreation Sites, Areas, and Facilities

CHAPTER 3 – RESOURCE OBJECTIVES

3.1 Natural Resource Objectives

3.1.1 Introduction

The purpose of a USACE master plan is to establish the guidelines for sustainable stewardship of natural and recreational resources managed directly and indirectly on USACE fee lands. Resource considerations at West Thompson Lake exist primarily due to user demands on the project. Multiple user types have interests in the project lands, recreation facilities, and waters. Such demands occasionally create conflicts. USACE is obligated to manage these resources for the overall interest of the public and not for a select group of individuals.

Providing an environmentally sound balance of these demands is the responsibility of the project and the agency. Impacts on the environment will be assessed during the decision making process prior to any change to management plans or strategies.

The USACE vision for the future management of the land, water and recreational resources of West Thompson Lake will be managed to protect, conserve, and sustain natural and cultural resources, especially environmentally sensitive resources, and

provide quality outdoor recreation opportunities that complement project resources for the benefit of present and future generations.

This chapter sets forth goals and objectives necessary to achieve the USACE vision for the future of West Thompson Lake. The terms “goals” and “objectives” are often defined as synonymous, but in the context of this plan, goals express the overall desired end state of the cumulative land and recreation management programs at West Thompson Lake.

Resource objectives specify task-oriented actions necessary to achieve the master plan goals.

3.1.2 Project-Wide Resource Goals

The following goals are the priorities for consideration when determining management objectives and development activities:

- Manage existing natural resources and recreation facilities in compliance with all pertinent laws, regulations, and policies.
- Protect and preserve existing native wildlife species and improve wildlife habitat for now and in the future.
- Protect and preserve existing government boundary line from encroachment, trespass, and private exclusive use through boundary line surveillance and communication with adjacent landowners.
- Protect and preserve existing government property from erosion and overuse through natural resource management.
- Inform the public through programs and personal contacts about the project and resource management purposes and objectives.
- Integrate fish and wildlife management practices with other natural resource management practices while working closely with state and local natural resource agencies.
- Identify safety hazards or unsafe conditions; correct infractions and implement safety standards in accordance with EM 385-1-1.
- Develop and manage the project lands and water for maximum enjoyment of the recreating public.
- Increase value of all project lands and waters for recreation, fisheries, and wildlife.
- Encourage non-consumptive use of project lands.
- Practice professional environmental stewardship of USACE lands and waters consistent with the primary mission of flood risk management.
- Identify and protect environmentally sensitive species, habitats, and landscapes.
- Identify and protect important cultural resources.
- Improve water quality in the lake.

- Identify outdoor recreation needs and provide those that complement the natural resources.
- Manage public use areas to provide safe and enjoyable opportunities.
- Collaborate with community leaders.
- Maintain open communication with the public at large.
- Create partnerships to leverage fiscal resources.

Implementation of these goals is based upon time, manpower, and budget. The objectives provided in this chapter are established to provide high levels of stewardship to USACE managed lands and resources while still providing a high level of public service. These goals will be pursued through the use of a variety of mechanisms such as: assistance from volunteer efforts, hired labor, contract labor, permit conditions, remediation, and special lease conditions.

3.1.3 General Resource Objectives

The project-wide resource management objectives involve the long-term development and management goals of project resources to guide proposed future actions for the public benefit, consistent with resource capabilities within the framework of the USACE Environmental Operation Principles.

- Strive to achieve environmental sustainability. An environment maintained in a healthy, diverse and sustainable condition is necessary to support life.
- Recognize the interdependence of life and the physical environment. Proactively consider environmental consequences of USACE programs and act accordingly in all appropriate circumstances.
- Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.
- Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.
- Seek ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full life cycle of our processes and work.
- Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and impacts of our work.
- Respect the views of individuals and groups interested in USACE activities; listen to them actively and learn from their perspective in the search to find innovative win-win solutions to the nation's problems that also protect and enhance the environment.

Resource objectives are attainable goals for development, conservation, and management of natural, cultural, and manmade resources at a project. They are guidelines for obtaining maximum public benefits while minimizing adverse impacts to the environment and are developed in accordance with: 1) authorized project purposes, 2) applicable laws and regulations, 3) resource capabilities and suitability's, 4) regional needs, 5) other governmental plans and programs, and 6) expressed public desires.

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 USACE jurisdiction. The objectives stated in this master plan support the plan's goals, USACE Environmental Operating Principles, 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 addressed in the resource objectives.

The objectives in this plan are intended to provide project benefits, meet public needs, and foster environmental sustainability for West Thompson Lake to the greatest extent possible. They include recreational objectives; natural resource management objectives; visitor information; education and outreach objectives; general management objectives; and cultural objectives.

3.1.4 Environmental Stewardship Resource Objectives

The following is a series of natural resources goals and objectives:

- Provide for the management of all natural resources associated with the project to include the protection and preservation of rare, threatened, and endangered species, the protection of water quality, and the implementation of programs to manage invasive and non-native species.
- Maintain the health and biodiversity of the forest ecosystem. Provide a range of species, age classes, and structural diversity intended to enhance and maintain the biological diversity of species, communities, and ecosystems.
- Manage for species well-adapted to site conditions as they are more resistant to insects and diseases.
- Continue to develop partnerships with state and local wildlife officials for the enhancement of wildlife and other natural resources.
- Designate active management areas open to sustainable harvesting of timber to provide young forests habitat and to enhance structural habitat attributes (i.e. snags, den trees, mast trees, woody debris) and passive management areas to include forests reserves that will typically be closed to commercial timber harvesting in order to provide biologically mature forest habitat (generally >150 years old). Forest reserves where commercial harvesting of wood products is excluded will capture elements of biodiversity that can be missing from

sustainably harvested sites. Small reserves will conserve sensitive, localized resources such as steep slopes, fragile soils, wet soils and habitat for certain rare species that benefit from intact forest canopies.

- Enhance and protect fish and wildlife habitat for indigenous species through the use of various woodland, wetland, and open land management activities. Care will be taken to maintain the structural components of the forest that are needed by wildlife.
- Providing for a range of species, age classes, and structural diversity in the forest will ultimately enhance the biological diversity of wildlife species, communities, and ecosystems.
- Protect and conserve wetlands. Wetlands are highly productive sites for a variety of ecological functions, as well as for the enhancement of water quality. All forest management operations in or adjacent to wetlands will be planned and conducted in a manner that protects these functions. Forest management activities in wetlands will take place on frozen ground during the winter to minimize disturbance and rutting.
- Conservation management practices will be coordinated on lands that contain priority habitat or estimated habitat as determined by the CT DEEP.
- Care will be taken to minimize soil impacts by limiting the soil area impacted by infrastructure and by careful consideration of timing, equipment being used, and harvesting methods.
- Promote the public's use of the project for both consumptive and non-consumptive uses.
- Set aside a forest stand within the project lands to be designated as a legacy forest to restore old-growth forest structure and characteristics for future generations.

3.1.5 Cultural Resources Objectives

- Protect known and documented prehistoric and historical archaeological sites.
- Monitor the project area for evidence of unauthorized excavation or collection of cultural resources and damaging sites. Known sites will be maintained and preserved as important project resources.
- Archaeological site and sensitivity maps available at the project office will be examined, and if necessary, the USACE archaeologist will be consulted prior to any development or disturbances on USACE property.
- Support appropriate interpretive programs for historic and archaeological resources where appropriate and in accordance with federal law and directives.

3.1.6 Recreation Resource Objectives

- Maintain the facilities in the recreation areas to ensure high quality recreation experiences, barrier free access, and public health and safety.

- Improve opportunities for passive recreation such as hiking, birding, and nature study by providing and maintaining high quality trails.
- Enhance “ADA” Universal Accessibility for park features such as water access for wheelchairs, ADA accessible fishing platforms, improved handrails, ADA picnic tables, increase handicap parking as needed, interpretive signs in Braille, an interpretive computer kiosk and other visual aids for the deaf.
- Support the state fish and pheasant stocking programs for the use of project lands for these recreation activities.
- Maintain the existing visitor assistance program including interpretation to enhance the public’s understanding and appreciation of the role of the USACE in development and administration of West Thompson Lake.

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

4.1 Land Allocation

Land allocation is identified as the congressionally authorized purpose for which the project lands were purchased. There are three categories of allocation identified as operations, recreation, and natural resource management. The following land use allocation categories are based on those given in Engineering Pamphlet 1130-2-550.

4.1.1 Operations

There were 2,042.65 total acres acquired in fee for construction of West Thompson Dam. There were 270.07 acres disposed of since the construction of the dam. The area designated for operations totals approximately 22 acres.

4.1.2 Recreation

There were no separable lands acquired specifically for the purpose of recreational development at West Thompson Lake. Portions of acquired lands were ultimately classified for recreational purposes as described in Section 4.2 below.

4.1.3 Natural Resource Management

There were no separable lands acquired specifically for the purpose of natural resource management. Portions of lands acquired for project construction and operation were ultimately classified for this purpose as described in Section 4.2 below.

4.2 Land Classification

Land Classification indicates the primary use for which project lands are managed.

There are four land classifications identified as: project operations, recreation, environmentally sensitive areas, and multiple resource managed lands. Maps showing the various land classifications for West Thompson Lake can be found in Appendix D.

4.2.1 Project Operations

This classification includes the lands managed for the dam, dike, spillway, utility building and project office. There are 22 acres being used specifically for these features.

4.2.2 High Density Recreation

These are lands developed for intensive recreational activities for the visiting public including day use areas. There are 57 acres of land classified for high density recreation. High density recreation areas include the campground, boat ramp, three picnic shelters, and the disc golf course.

4.2.3 Environmentally Sensitive Area

These are areas where scientific, archaeological, ecological, cultural, and aesthetic features have been identified. This designation limits and can prohibit any further development within the area. There are 705 acres classified as environmentally sensitive areas due to the presence of exemplary natural communities and high potentials of archaeological activity.

4.2.4 Multiple Resource Managed Lands

This classification is for the predominant use of low density recreation, wildlife or vegetation management, and future/inactive recreation with the understanding that other compatible uses can occur within the area. This classification is divided into three sub-classifications identified as: low density recreation, natural resource management, and future/inactive recreation areas. There are 989 acres of lands that are under this classification. The following identifies the amount contained in each sub-classification:

- **Low Density Recreation.** These are lands with minimal development or infrastructure that support passive public use (e.g., fishing, hunting, wildlife viewing, hiking, etc.). The intention of these classified lands is to assure available lands for low density recreation between areas classified as recreation intensive use and wildlife management.

- **Natural Resource Management.** These lands are designated for the management and stewardship of fish, wildlife, and vegetation resources.

- **Future or Inactive Recreation.** These are lands with site characteristics compatible with potential future recreation development or recreation areas that

are closed or open but no longer maintained. These areas will be managed as multiple resource land until an opportunity to develop or reopen these areas. There are no acres under this classification at West Thompson Lake.

Table 4.1 – Project Land and Water Classification

Land & Water Classification	Acres
Project Operation	22
High Density Recreation	57
Environmentally Sensitive Areas	705
Multiple Resource Managed Lands	989
Low Density Recreation	
Natural Resource Management	
Future or Inactive Recreation	
TOTAL	**1,773**

4.3 Project Easement Lands

These are lands on which easement interests are held but not fee title ownership. These are typically composed of three different classification identified as Operations Easement, Flowage Easement, and Conservation Easement. There are no Operations or Conservation Easements designated at West Thompson Lake. Project easement lands are completely separate from Real Estate easement outgrants which are cited in Section 2.12 Real Estate Agreements.

4.3.1 Flowage Easement

These are easements purchased by USACE giving the right to temporarily flood private land during flood risk management operations. There are 63 acres of flowage easement lands located at West Thompson Lake in the northern section of the project.

CHAPTER 5 – RESOURCE PLAN

5.1 Management by Classification

This chapter describes the management plans for each area of classification within the master plan. The classifications which exist at West Thomson Lake are Project Operations, High Density Recreation, and Multiple Resource Management Lands: Low Density Recreation, Natural Resource Management. The management plans identified are in broad terms of how these project lands will be managed. A more descriptive plan for managing these lands can be found in the West Thompson Lake Operations Management Plan (OMP).

5.1.1 Project Operations

This land is classified for security reasons pertaining to project operations. This is land associated with the dam, spillway, dike, project office, maintenance facilities, and other areas solely for the operation of the project. There are 22 acres of lands under this classification which are managed by USACE. The management plan for this area is to continue providing physical security necessary to ensure continued operation of the dam and related facilities. This means that public access must be restricted in hazardous locations near the dam and spillway. The goal for these classified lands is to continue operating as done historically in order to ensure project operations.

5.1.2 High Density Recreation

West Thompson Lake has 57 acres classified as High Density Recreation. These are lands developed for intensive recreational activities for the visiting public. These specific areas are the campground, boat ramp, overlook picnic shelter, west side picnic shelter, east side picnic shelter, and disc golf course.

5.1.3 Environmentally Sensitive Areas

These are areas where scientific, archaeological, ecological, cultural or aesthetic features have been identified. Designation of these lands is not limited to just lands that are otherwise protected by laws such as the Endangered Species Act, the National Historic Preservation Act or applicable state statutes. These areas must be considered by management to ensure they are not adversely impacted. Typically, limited or no development of public use is allowed on these lands. These areas are typically distinct parcels located within another, and perhaps larger, land classification area. There are 705 acres of land at West Thompson Lake under this classification.

5.1.4 Multiple Resource Management Lands

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

- Low Density Recreation. These are lands with minimal development or infrastructure that support passive public use. There are 989 acres zoned Low Density Recreation under this classification.
- Natural Resource Management. These are lands designated for the stewardship of fish and wildlife resources. This classification includes the 989 acres zoned as Low Density Recreation as these classifications overlap.

- Future/Inactive Recreation Areas. These are areas with site characteristics compatible with potential future recreational development. There are no lands classified under this sub-classification at West Thompson Lake.

CHAPTER 6 - SPECIAL TOPICS/ISSUES/CONSIDERATIONS

To the extent possible within the constraints of the primary mission of flood risk management, USACE will endeavor to balance the needs of all user groups.

6.1 Recreation

West Thompson Lake strives to provide high quality recreational opportunities while balancing all pursuits with natural and cultural resources:

- Maintain and upgrade existing trail systems using best management practices and research options for potential ecologically sustainable expansions.
- Continue to evaluate the carrying capacity of the recreation areas and respond accordingly.
- Adequately address the shoreline erosion and storm water runoff.
- Upgrade and maintain existing infrastructure.
- Continue to correct impacts associated with invasive species.
- Continue with threatened and endangered species research and habitat preservation and creation through the use of studies, monitoring, and management plans.

6.2 Partnerships and Coordination

To sustain healthy and productive public lands and waters with the most efficient approach requires that individuals and organizations recognize their unique ability to contribute to commonly held goals:

- Partnering with the local non-profit organization The Last Green Valley to foster environmental stewardship and provide free quality outdoor recreation and educational and interpretive programs to the public.
- The Interpretive Services and Outreach Program (ISOP) – Moving forward, USACE understands that new technologies must be embraced to connect and communicate with the public to meet their needs.
- Continue to pursue volunteering and partnering opportunities that allow USACE to effectively manage recreation and environmental resources. Volunteer initiatives include tasks such as cleaning lands and waterways, restoring fish and wildlife habitat, and maintaining park trails and facilities.

6.3 Encroachments and Trespasses

Project personnel shall inspect boundaries at intervals sufficient to ensure that boundary lines remain adequately marked and monumented. At a minimum, boundary lines should be inspected every two years. Inspectors shall identify and document unauthorized uses of project lands and encroachments/trespasses. Encroachment and trespasses will be handled by the project staff via written and verbal communications as well as site visits with abutting landowners.

CHAPTER 7 – PUBLIC AND AGENCY COORDINATION

The objectives for a master plan revision were to update the project master plan to comply with new agency requirements for master plan documents in accordance with ER 1130-2-550, Change 7, 30 Jan 13 and EP 1130-2-550, Change 5, Jan. 30, 2013.

Coordination with the general public is important in identifying resources and determining public needs. This master plan is a supplement to the Master Plan for Reservoir Development, dated 1965. Electronic and/or printed copies of the draft document will be provided to local constituents and partner organizations for review and comment in lieu of a full public meeting. A 30-day public comment period will take place.

CHAPTER 8 – SUMMARY OF RECOMMENDATIONS

It is recommended that the West Thompson Lake master plan be approved as a guide to the orderly use and development of natural and man-made resources at the West Thompson Lake flood control project.

This master plan provides guidance for future development at West Thompson Lake. The natural and man-made resources at the project will continue to be managed by the New England District to provide the best combination of responses to regional and ecosystem needs, project resource capabilities and sustainability, and public desires consistent with the project's authorized flood risk management purpose.

Natural and man-made resources have been identified and analyzed. This included wetlands, forest resources, threatened and endangered species, and cultural resources which require specific management efforts for their protection. Recreational opportunities were identified through an analysis of regional needs and expressed public desires.

It is recommended that West Thompson Lake project staff continue to initiate new and updated environmental studies, surveys, and management plans/actions for environmental stewardship subjects including but not limited to wetland delineation,

forest classification, presence and location of rare and protected species and habitats, and invasive species.

Through land use classification, the master plan has designated areas for project operations, recreation, environmental protection, and multiple resource management.

All specific proposals for recreational or other development at the project must comply with this master plan, flood risk management requirements of the Thames River Basin, and the National Environmental Policy Act and other federal requirements.

This master plan conceptually establishes and guides the orderly development, administration, maintenance, preservation, enhancement, and management of all natural, cultural, and recreational resources at West Thompson Lake. The master plan is a land use management document and does not address water management operations, or associated prime facilities (dam, spillway etc.) as those operations are outlined in separate documents. This master plan is stewardship-driven and seeks to balance recreational development and use with protection and conservation of natural and cultural resources.

CHAPTER 9 - BIBLIOGRAPHY

This revised Master Plan was prepared in accordance with the following guidance:

- USACE, Design Memorandum (DM) No. 9B, Master Plan for Reservoir Development, New England District, November 1965.
- Engineer Pamphlet (EP) 1130-2-550, Project Operations - Recreation Operations and Maintenance Guidance and Procedures, Nov. 15, 1996 (with changes Oct. 1, 1999, March 1, 2002, Aug. 15, 2002, 30 Aug. 30, 2008, Jan. 30, 2013).
- Engineer Regulation (ER) 1130-2-550, Project Operations - Recreation Operations and Maintenance Guidance and Procedures, Nov. 15, 1996 (with changes Oct. 1, 1999, March 1, 2002, Aug. 15, 2002, Aug. 30, 2008, March 30, 2009, Jan. 30, 2013, and Sept. 30, 2013).
- Engineer Manual (EM) 1110-1-400, Engineering and Design - Recreation Facility and Customer Service Standards, Nov. 1, 2004.
- Engineer Regulation (ER) 200-1-5, Environmental Quality - Policy for Implementation and Integrated Application of the USACE Environmental Operating Principles and Doctrine, Oct. 30, 2003.

- Engineer Regulation (ER) 200-2-2, Environmental Quality - Procedures for Implementing the National Environmental Policy Act, March 4, 1988.
- USACE, Operations Maintenance Plan (OMP), New England District, 1994.
- USACE, Historic Properties Management Plan, New England District, 2000.
- Engineer Regulation (ER) 1105-2-100, Planning Guidance, April 22, 2000.

Other New England Division reports that were reviewed and evaluated as part of this recreational master planning effort include the following:

- "Thames River Basin - Master Water Control Manual", dated October 2001.
- "Environmental Assessment of the Operation and Maintenance of West Thompson Lake", dated 1977.
- "Environmental Assessment of Water Resources Development Project", dated 2000.
- "Operational Management Plan, West Thompson Lake", dated 1992.
- “Flood Emergency Plan (FEP), West Thompson Lake”, dated 2013.
- “Emergency Action Plan (EAP), West Thompson Lake”, dated 2020.

In addition, the following reports provided information on recreation, archaeological, and natural resources in the project area.

- "Archaeological Reconnaissance Survey of the West Thompson Dam In Thompson, Connecticut", 1980, prepared by The Public Archaeology Laboratory, Inc., Providence, Rhode Island, under contract to the New England Division, U.S. Army Corps of Engineers.
- “Intensive (Locational) Archaeological Survey of West Thompson Lake”, 2011, prepared by Hardlines Design Co., under contract to the New England District, U.S. Army Corps of Engineers.
- “Historic Properties Management Plan, West Thompson Lake”, 1999, prepared by the New England District, U.S. Army Corps of Engineers.

- “Ecological Studies Final Report, West Thompson Lake”, 2008, prepared by CME Associates, under contract to the New England District, U.S. Army Corps of Engineers.

- “West Thompson Lake Forest Management Plan”, 1982, prepared by New England District. U.S. Army Corps of Engineers.

- “West Thompson Lake Wetlands Delineation”, 1995, prepared by New England District, U.S. Army Corps of Engineers.

- “Survey of Mansfield Hollow Dam and West Thompson Lake Dam for Rare and Protected Species and Outstanding Natural Communities”, 2000, prepared by Connecticut Natural Diversity Database, Department of Environmental Protection, under contract to the New England District, U.S. Army Corps of Engineers.

APPENDIX A – PROJECT TABLES

TABLE 1 – OUTFLOW GUIDANCE

OUTFLOW GUIDANCE for WEST THOMPSON DAM
QUINEBAUG RIVER, CONNECTICUT

		Maximum Outflow (cfs)	Minimum Outflow and Aquatic Base Flow (ABF) (cfs)			**Maximum change in Outflow** (cfs/hr)	
			Oct. – Mar. ABF=175 cfs	Apr. – May ABF=700 cfs	Jun. – Sep. ABF=90 cfs	Increase	Decrease
WEST THOMPSON DAM (DA = 173.5 square miles)	FLOOD CONTROL	2,300	90 cfs			500 cfs/hr to 1,600 cfs then 200 cfs/hr	800 cfs/hr
	NORMAL OPERATION	NA	175 cfs or inflow whichever is less	700 cfs or inflow whichever is less	90 cfs or inflow whichever is less	Weir controls normal pool; However, if needed incremental gate changes to closely mimic run-of-river flow conditions	
	MAINTENANCE	NA				175 cfs/hr above 700 cfs and 90 cfs/hr below 700 cfs	

NOTES:

1. When storing water to raise the pool to a target level, and inflow is less than the seasonal ABF, maintain outflow to greater than or equal to 70% of inflow, therefore, storing only 30% of inflow.
2. Normal Pool Level: December through April: 14 Feet; May through November: 15 Feet

TABLE 2 – AREA CAPACITY OF WEST THOMPSON LAKE

Area Capacity of West Thompson Lake

Pool Stage	Number of Acres Flooded	
14	**215**	**Permanent Pool**
15	230	
16	250	
17	270	
18	290	
19	310	
20	330	
21	350	
22	390	
23	430	
24	460	
25	490	
26	520	
27	550	
28	**580**	**On average, an event will produce this pool stage every 2 years.**
29	600	**There is a 50% chance it will occur every year.**
30	625	
31	650	
32	675	
33	710	
34	**730**	**On average, an event will produce this pool stage every 5 years.**
35	750	**There is a 20% chance it will occur every year.**
36	780	
37	810	
38	830	
38.5	**845**	**On average, an event will produce this pool stage every 10 years.**
39	860	**There is a 10% chance it will occur every year.**
40	890	
41	920	
42	960	
43	**1000**	**On average, an event will produce this pool stage every 20 years.**
44	1030	**There is a 5% chance it will occur every year.**
45	1060	
46	1090	
47	1120	
48	1150	
49	**1180**	**On average, an event will produce this pool stage every 50 years.**
50	1210	**There is a 2% chance it will occur every year.**
51	1250	
52	**1400**	**On average, an event will produce this pool stage every 100 years.**
53	1500	**There is a 1% chance it will occur every year**
54	1600	
55	**1700**	**On average, an event will produce this pool stage every 500 years.**

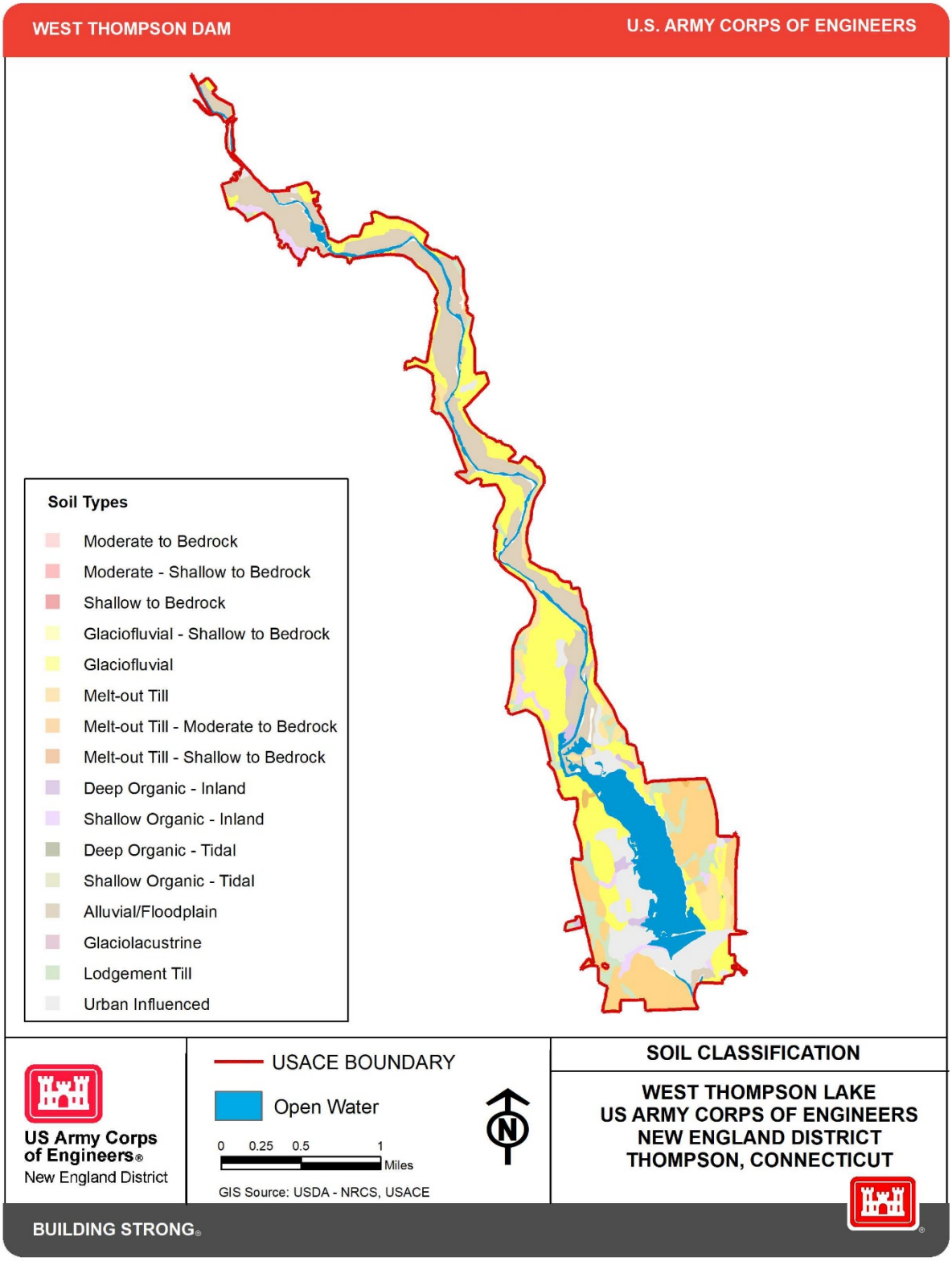
TABLE 3 – WILDLIFE SPECIES PRESENT IN CONNECTICUT NOTING THREATENED/ENDANGERED SPECIES

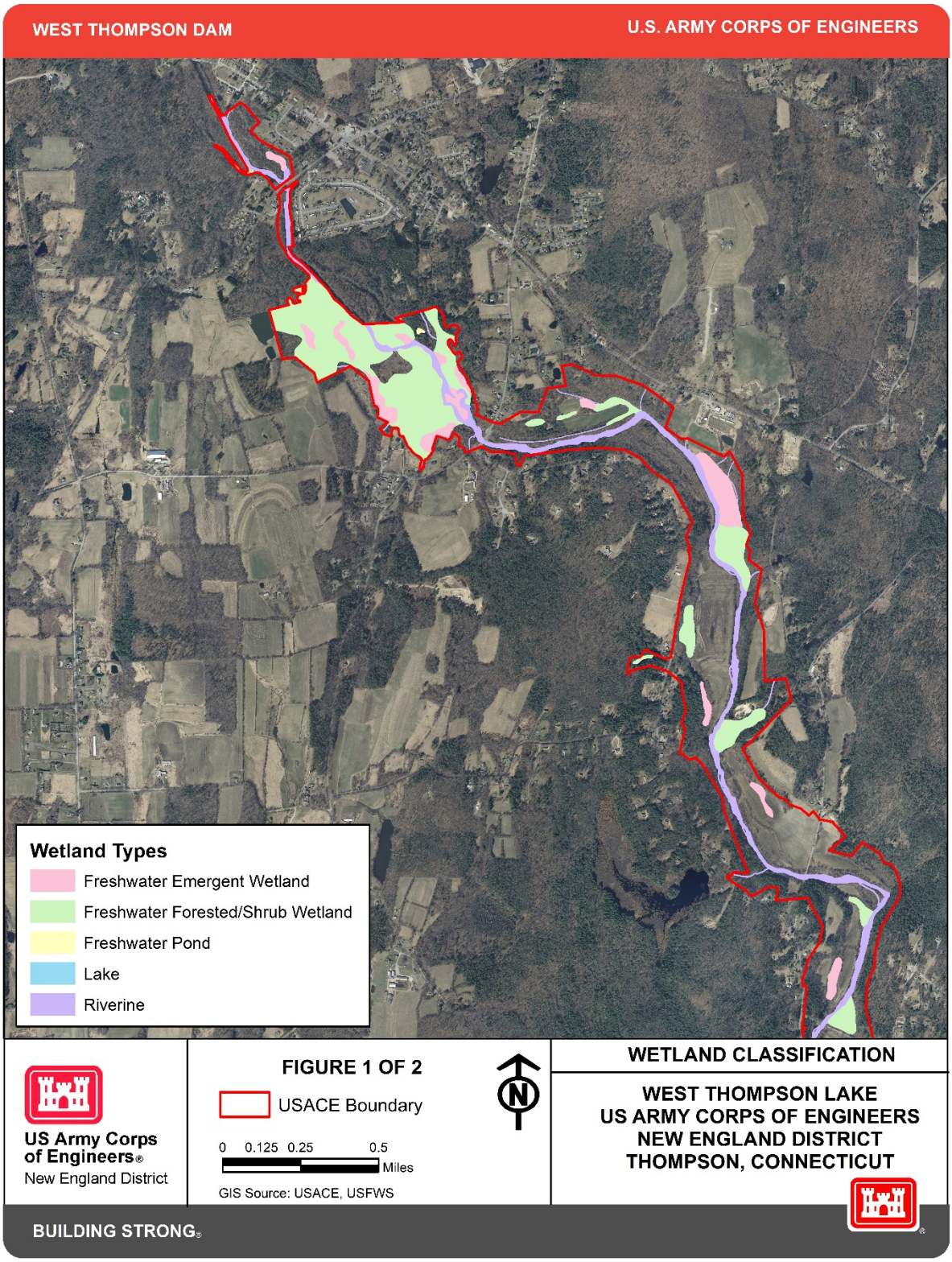
Virginia opossum	*Didelphis virginiana*
Masked shrew	*Sorex cinereus*
Smoky shrew	*Sorex fumeus*
Northern short-tailed shrew	*Blarina brevicauda*
Hairy-tailed mole	*Parascalops breweri*
Star-nosed mole	*Condylura cristata*
Little brown bat*E	***Myotis lucifugus***
Northern long-eared bat	*Myotis septentrionalis*
Red bat*SC	***Lasiurus borealis***
Hoary bat*SC	***Lasiurus cinereus***
Silver-haired bat*SC	***Lasionycteris noctivagans***
Eastern pipistrelle	*Pipistrellus subflavus*
Big brown bat	*Eptesicus fuscus*
Eastern cottontail	*Sylvilagus floridanus*
New England cottontail	*Sylvilagus transitionalis*
Snowshoe hare	*Lepus americanus*
Eastern chipmunk	*Tamias striatus*
Woodchuck	*Marmota monax*
Eastern gray squirrel	*Sciurus carolinensis*
Red squirrel	*Tamiasciurus hudsonicus*
Northern flying squirrel	*Glaucomys sabrinus*
Southern flying squirrel	*Glaucomys volans*
American beaver	*Castor canadensis*
White-footed mouse	*Peromyscus leucopus*
Deer mouse	*Peromyscus maniculatus*
Southern red-backed vole	*Clethrionomys gapperi*
Meadow vole	*Microtus pennsylvanicus*
Woodland vole	*Microtus pinetorum*
Common muskrat	*Ondatra zibethicus*
Southern bog lemming*SC	***Synaptomys cooperi***
Meadow jumping mouse	*Zapus hudsonius*
Woodland jumping mouse	*Napaeozapus insignis*
Common porcupine	*Erethizon dorsatum*
Coyote	*Canis latrans*
Red fox	*Vulpes vulpes*
Common gray fox	*Urocyon cinereoargenteus*
Black bear	*Ursus americanus*
Common raccoon	*Procyon lotor*
Fisher	*Martes pennanti*
Ermine	*Mustela erminea*
Long-tailed weasel	*Mustela frenata*
American mink	*Mustela vison*
Northern river otter	*Lontra canadensis*
Striped skunk	*Mephitis mephitis*
Bobcat	*Lynx rufus*
White-tailed deer	*Odocoileus virginianus*
Moose	*Alces alces*
Blue-spotted salamander*E/SC	***Ambystoma laterale***
Spotted salamander	*Ambystoma maculatum*
Marbled salamander	*Ambystoma opacum*
Eastern newt	*Notophthalmus viridescens*
N. Dusky salamander	*Desmognathus fuscus*
E. red-backed salamander	*Plethodon cinereus*
Four-toed salamander	*Hemidactylium scutatum*
N. spring salamander*T	***Gyrinophilus porphyriticus***
Two-lined salamander	*Eurycea bislineata*
Eastern spadefoot*E	***Scaphiopus holbrookii***
American toad	*Bufo americanus*
Fowler's toad	*Bufo fowleri*
Spring peeper	*Pseudacris crucifer*
Gray treefrog	*Hyla versicolor*
American bullfrog	*Rana catesbeiana*
Green frog	*Rana clamitans*
Pickerel frog	*Rana palustris*
Northern leopard frog*SC	***Rana pipiens***
Wood frog	*Rana sylvatica*
Snapping turtle	*Chelydra serpentina*
Eastern musk turtle	*Sternotherus odoratus*
Painted turtle	*Chrysemys picta*
Spotted turtle*SC	***Clemmys guttata***
Wood turtle* SC	***Gleptemys insculpta***
Blanding's turtle	*Emydoidea blandingii*
Eastern box turtle*SC	***Terrapene carolina***
Eastern worm snake	*Carphophis amoenus*
Eastern racer	*Coluber constrictor*
Ring necked snake	*Diadophis punctatus*
Eastern rat snake*	*Elaphe obsoleta*
Eastern hognose snake*SC	***Heterodon platirhinos***
Milk snake	*Lampropeltis triangulum*
Northern water snake	*Nerodia sipedon*
Smooth green snake*SC	***Opheodrys vernalis***
DeKay's brown snake	*Storeria dekayi*
Red-bellied snake	*Storeria occipitomaculata*
Eastern ribbon snake*SC	***Thamnophis sauritus***
Common garter snake	*Thamnophis sirtalis*

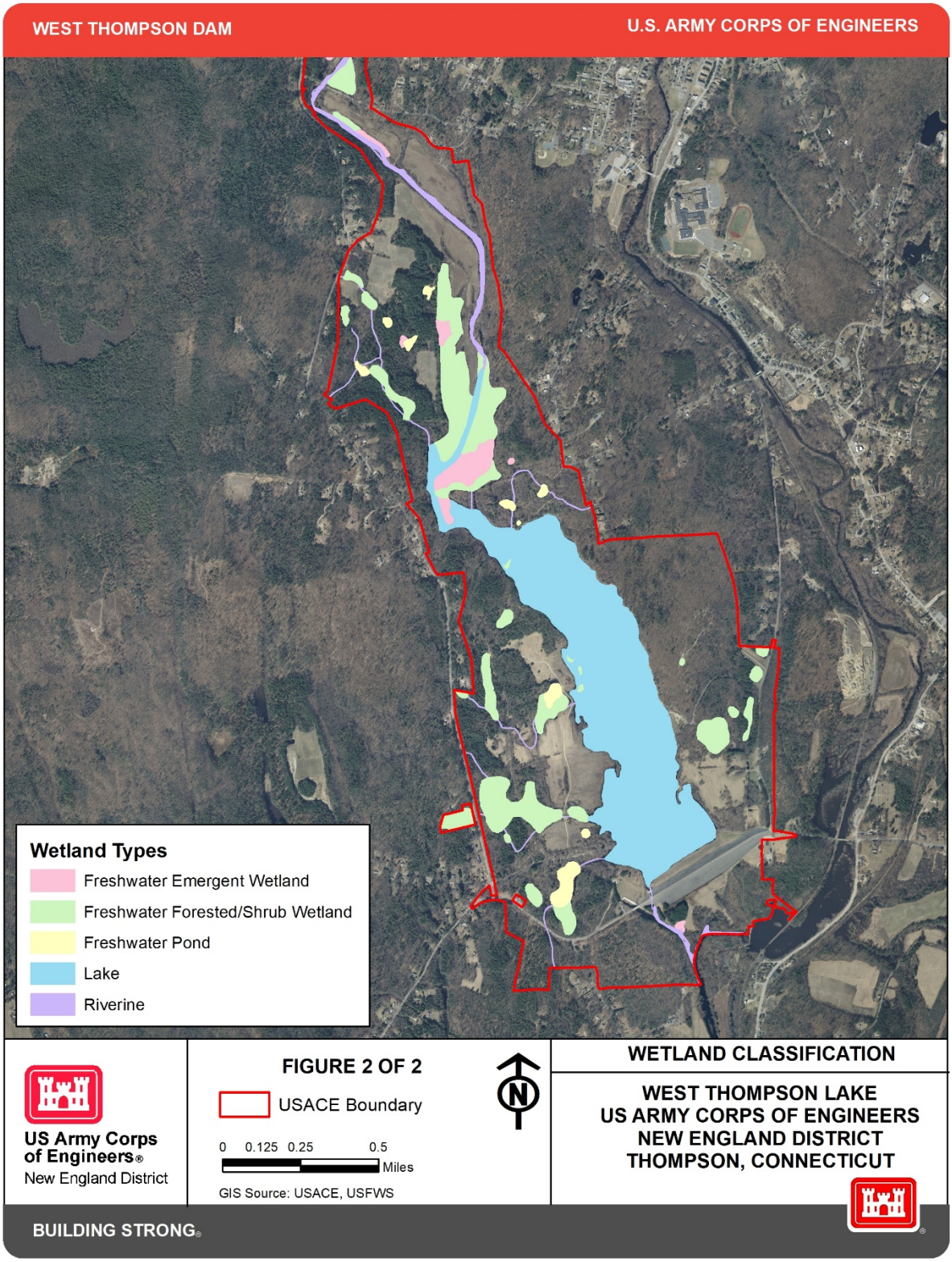
***E = Endangered**
***T = Threatened**
***SC = Special Concern**

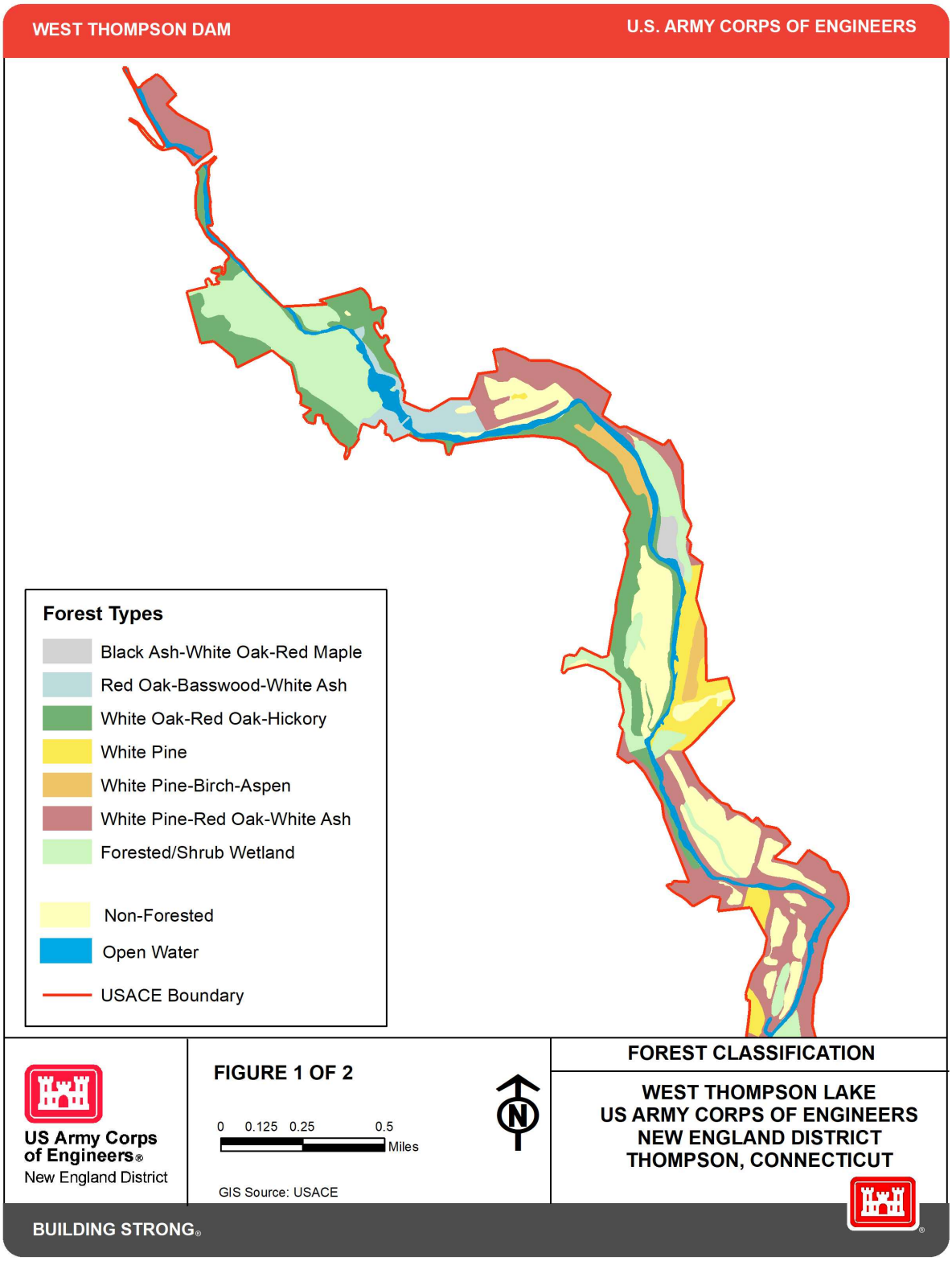
(List is not all-inclusive and does not include bird, fish or invertebrate species)

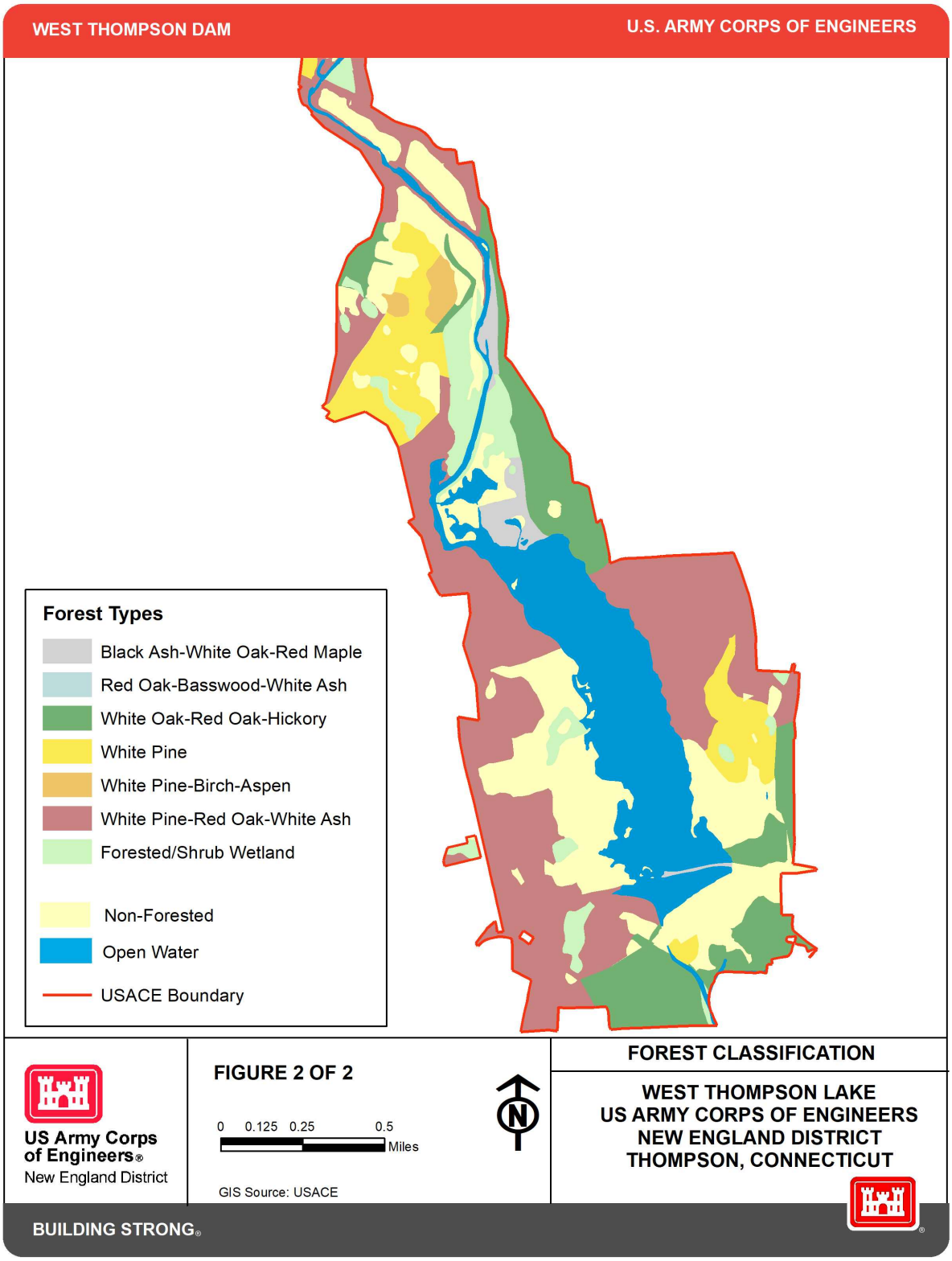
APPENDIX B – NATURAL RESOURCE MAPS

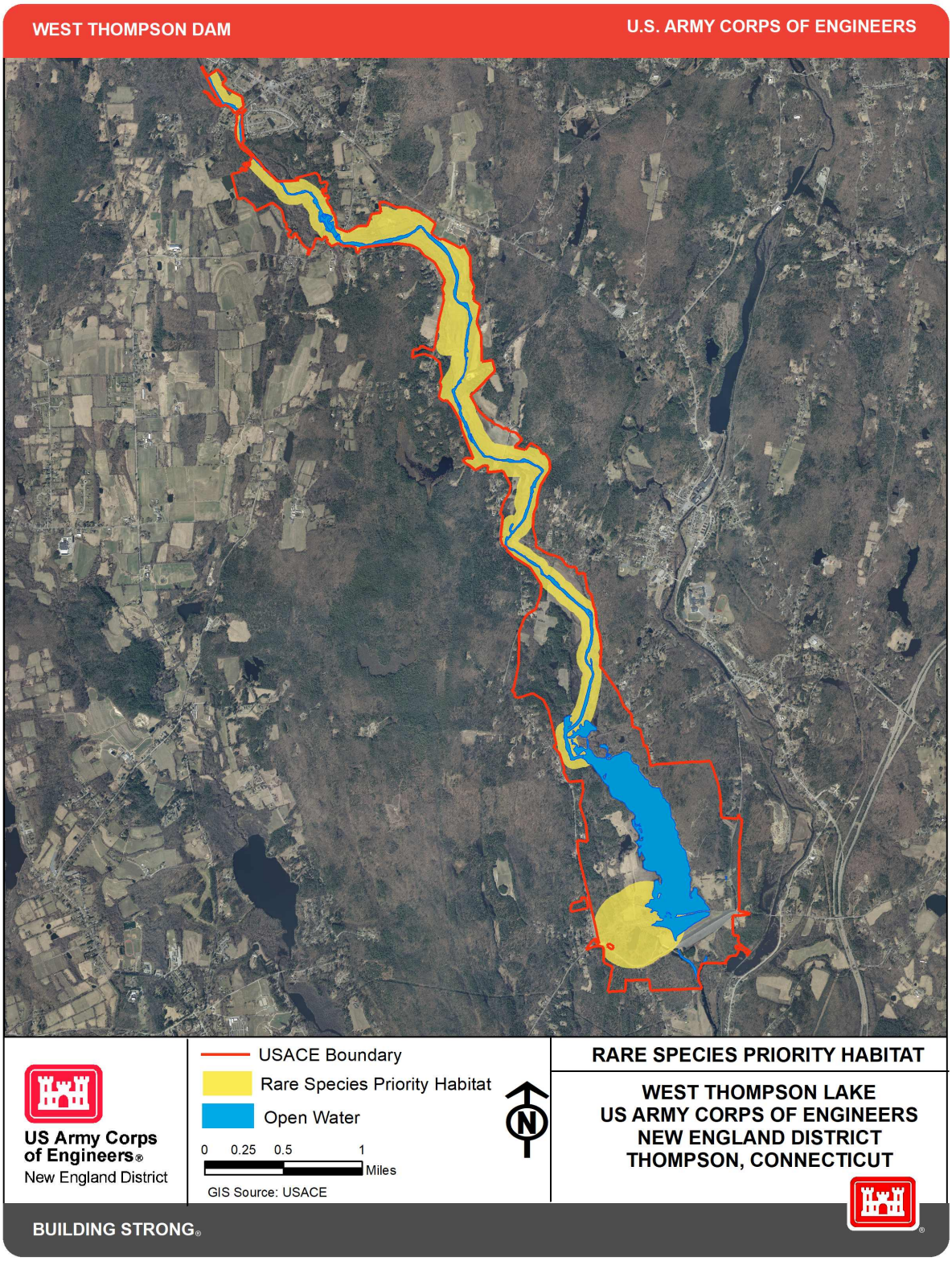

WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
Soil Types
Moderate to Bedrock
Moderate - Shallow to Bedrock
Shallow to Bedrock
Glaciofluvial - Shallow to Bedrock
Glaciofluvial
Melt-out Till
Melt-out Till - Moderate to Bedrock
Melt-out Till - Shallow to Bedrock
Deep Organic - Inland
Shallow Organic - Inland
Deep Organic - Tidal
Shallow Organic - Tidal
Alluvial/Floodplain
Glaciolacustrine
Lodgement Till
Urban Influenced
US Army Corps of Engineers®
New England District
USACE BOUNDARY
Open Water
0 0.25 0.5 1
Miles
N
GIS Source: USDA - NRCS, USACE
SOIL CLASSIFICATION
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®

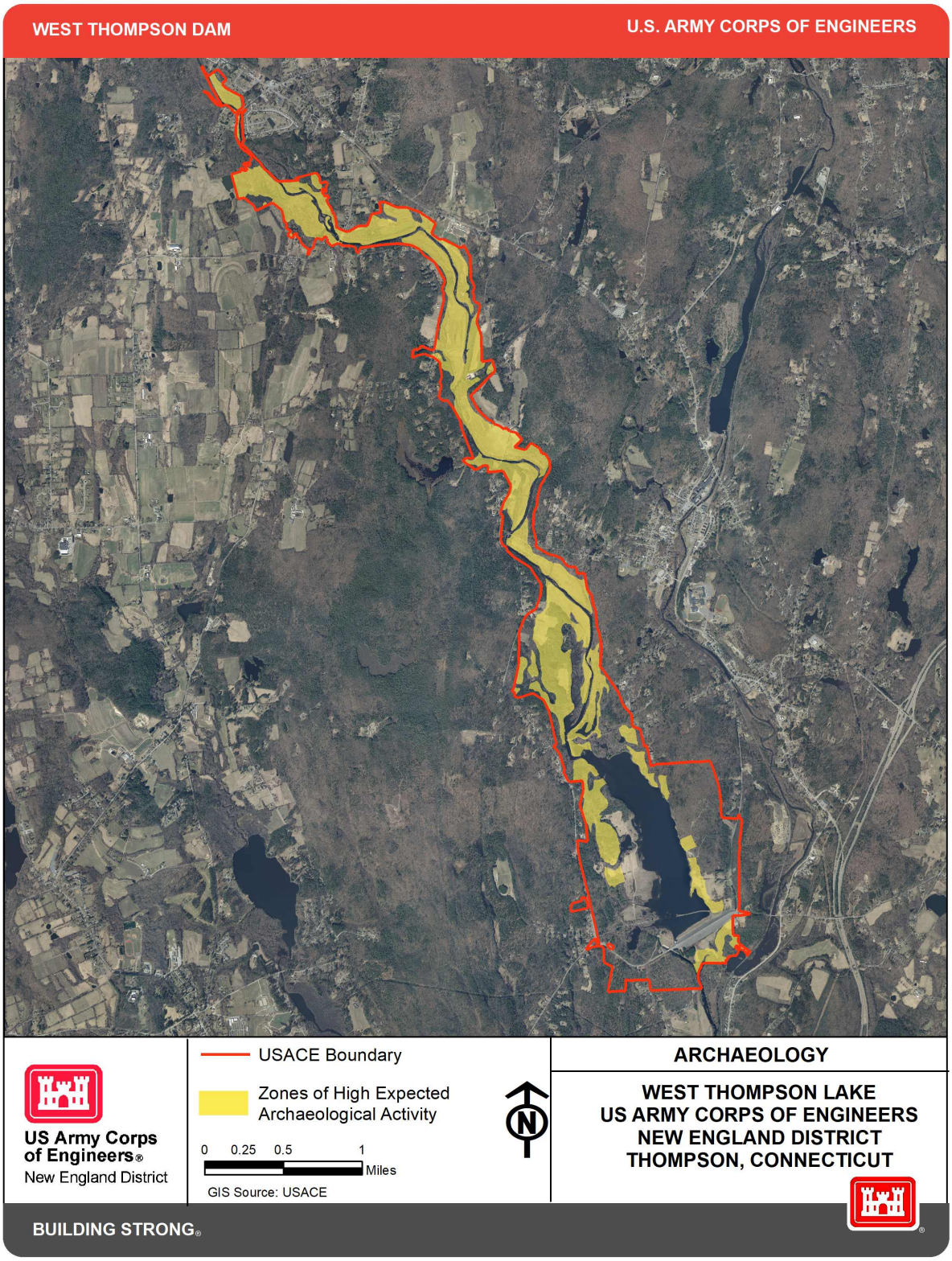

WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
Wetland Types
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine
US Army Corps of Engineers®
New England District
FIGURE 1 OF 2
USACE Boundary
0 0.125 0.25 0.5
Miles
GIS Source: USACE, USFWS
N
WETLAND CLASSIFICATION
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®


WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
Wetland Types
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine
US Army Corps of Engineers®
New England District
FIGURE 2 OF 2
USACE Boundary
0 0.125 0.25 0.5
Miles
GIS Source: USACE, USFWS
N
WETLAND CLASSIFICATION
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®

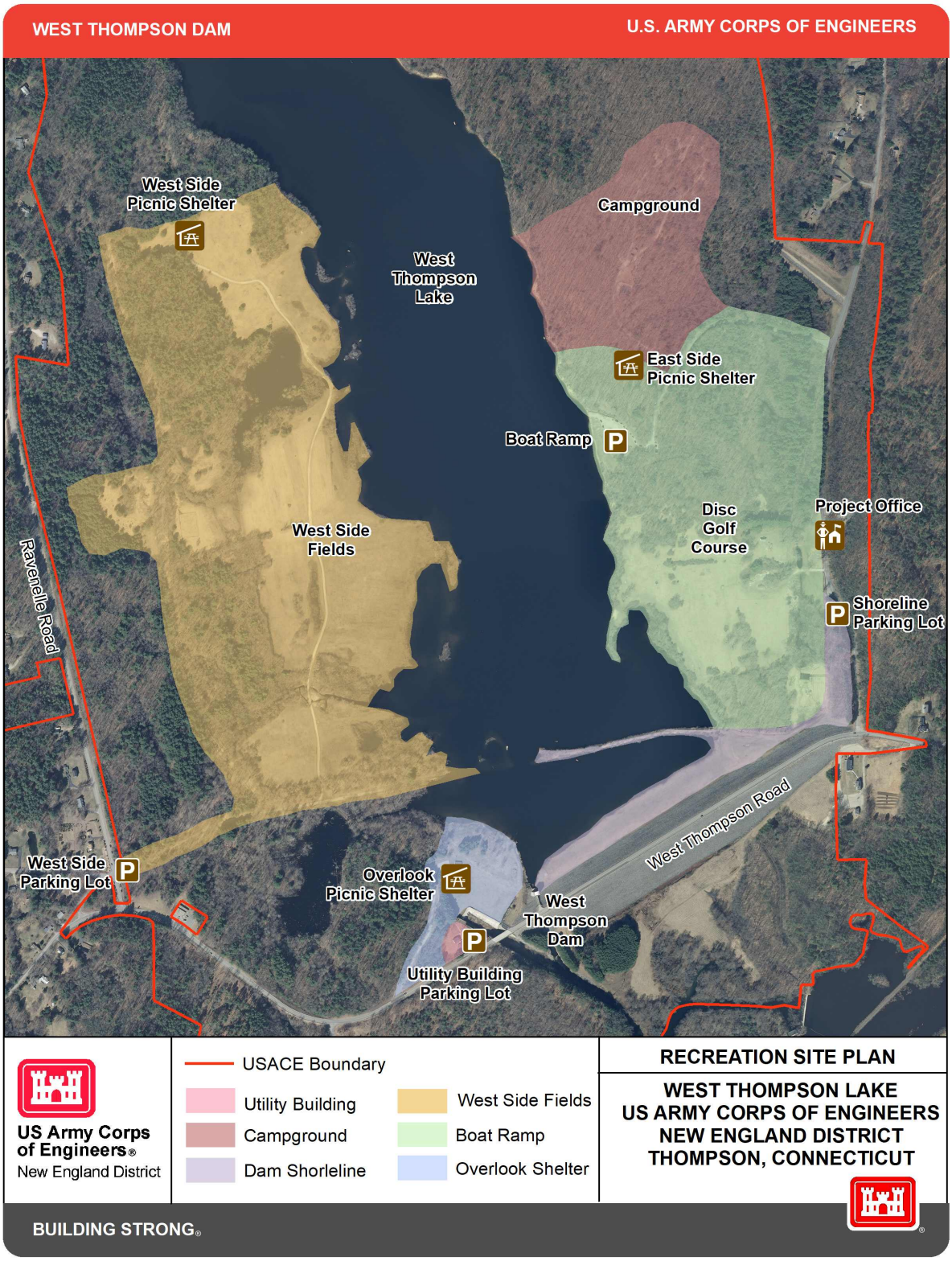

WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
Forest Types
Black Ash-White Oak-Red Maple
Red Oak-Basswood-White Ash
White Oak-Red Oak-Hickory
White Pine
White Pine-Birch-Aspen
White Pine-Red Oak-White Ash
Forested/Shrub Wetland
Non-Forested
Open Water
USACE Boundary
US Army Corps of Engineers®
New England District
FIGURE 1 OF 2
0 0.125 0.25 0.5
Miles
GIS Source: USACE
N
FOREST CLASSIFICATION
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®

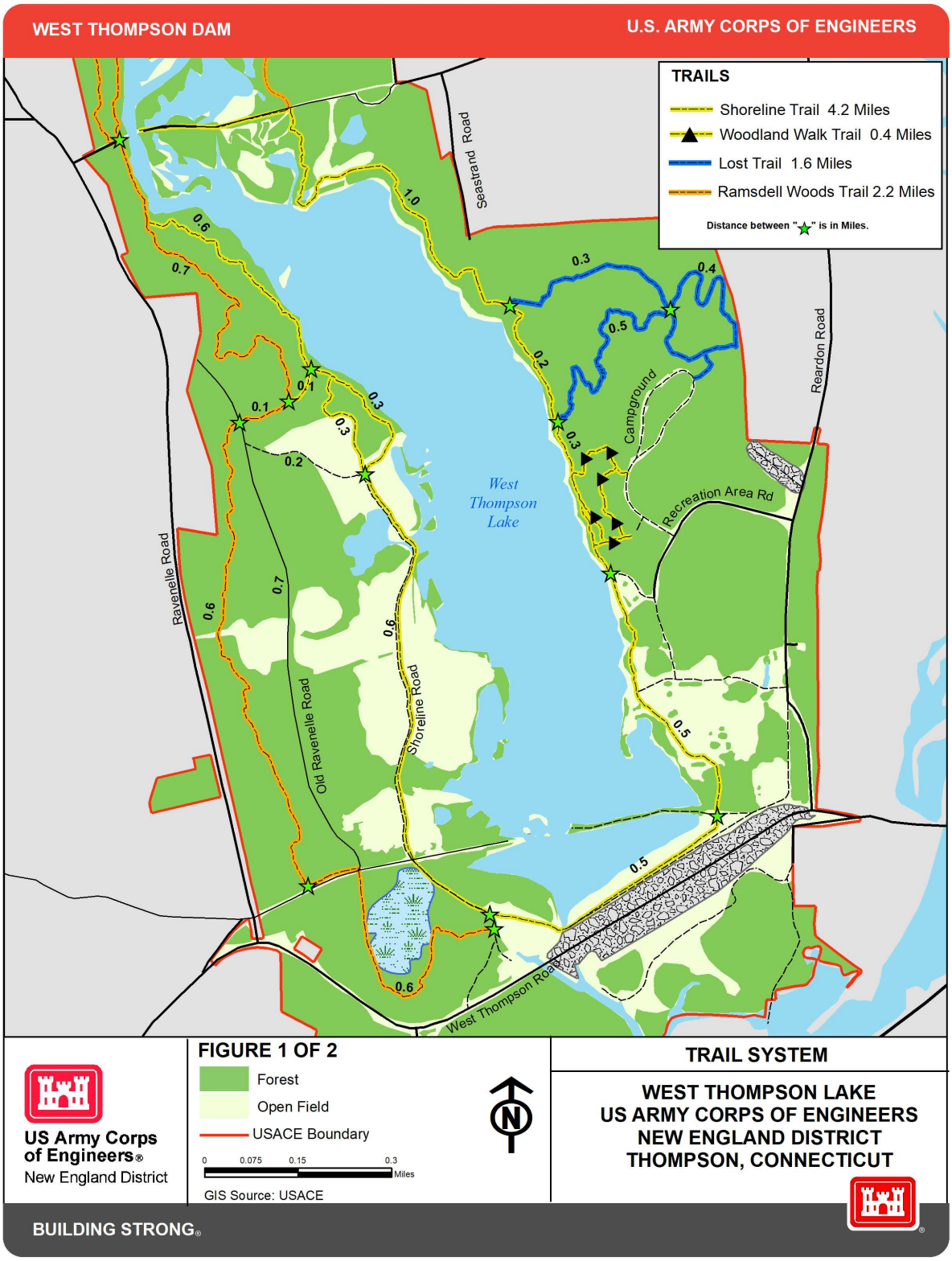

WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
Forest Types
Black Ash-White Oak-Red Maple
Red Oak-Basswood-White Ash
White Oak-Red Oak-Hickory
White Pine
White Pine-Birch-Aspen
White Pine-Red Oak-White Ash
Forested/Shrub Wetland
Non-Forested
Open Water
USACE Boundary
US Army Corps of Engineers®
New England District
FIGURE 2 OF 2
0 0.125 0.25 0.5
Miles
N
GIS Source: USACE
FOREST CLASSIFICATION
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®

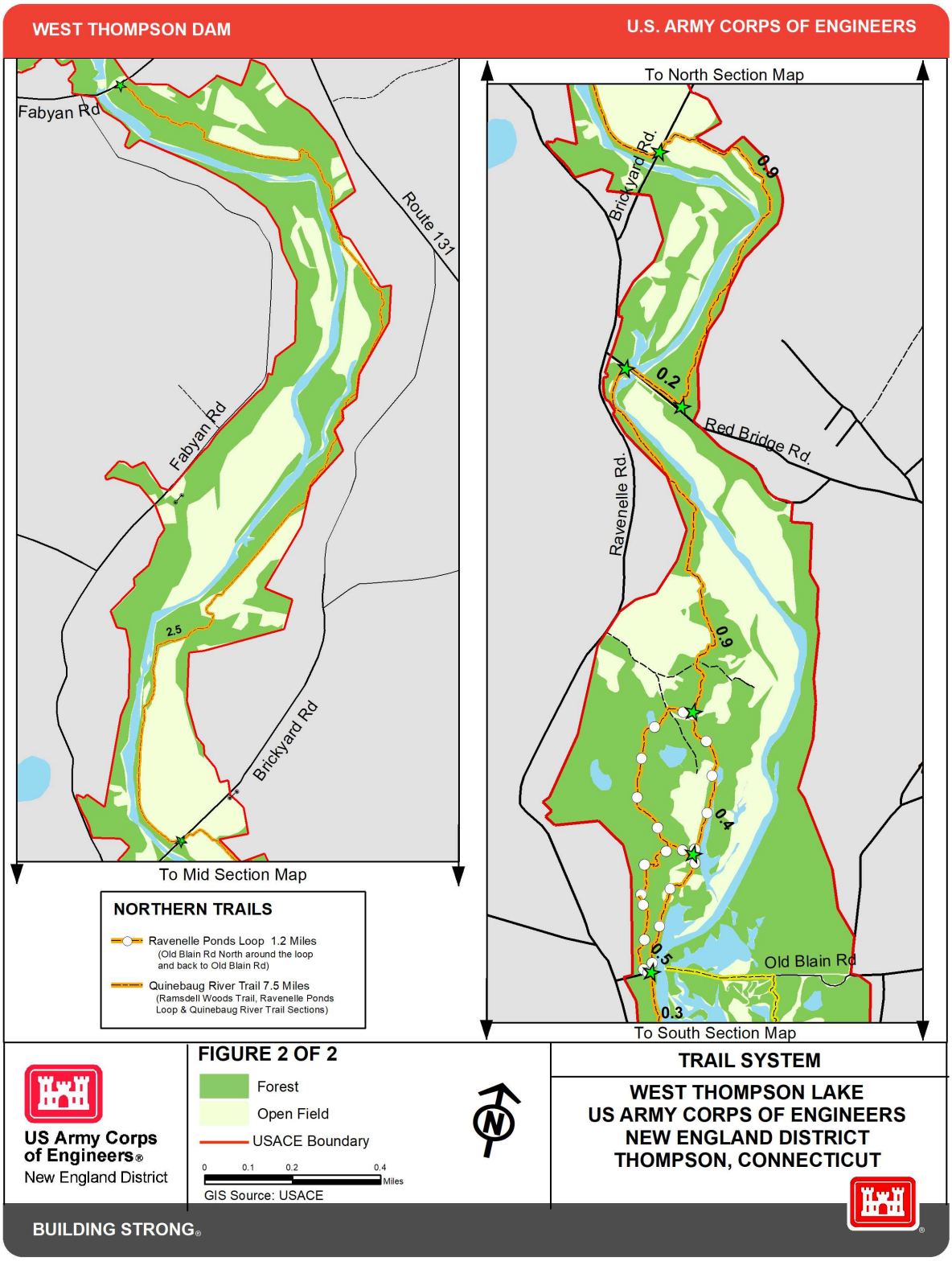

WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
USACE Boundary
Rare Species Priority Habitat
Open Water
0 0.25 0.5 1
Miles
GIS Source: USACE
US Army Corps of Engineers®
New England District
RARE SPECIES PRIORITY HABITAT
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®


WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
USACE Boundary
Zones of High Expected Archaeological Activity
0 0.25 0.5 1
Miles
GIS Source: USACE
US Army Corps of Engineers®
New England District
ARCHAEOLOGY
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®

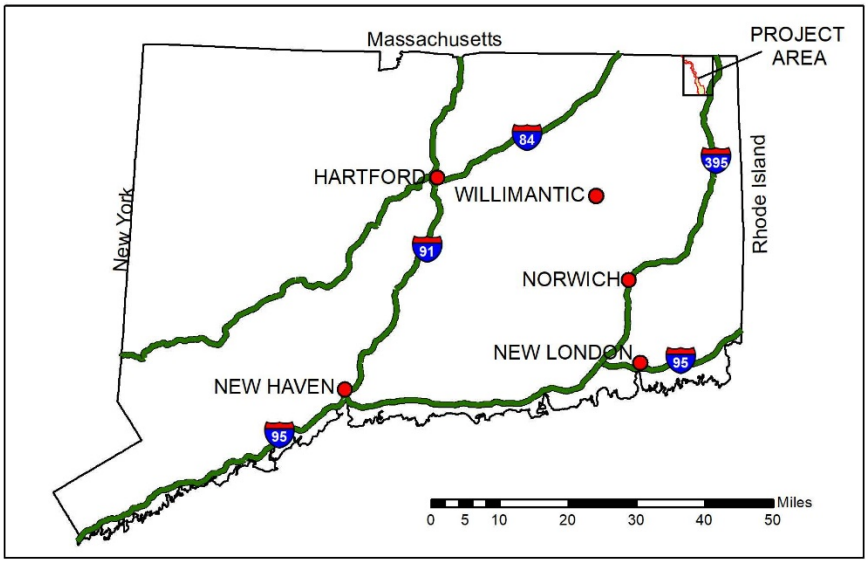
APPENDIX C – PARK & RECREATION MAPS

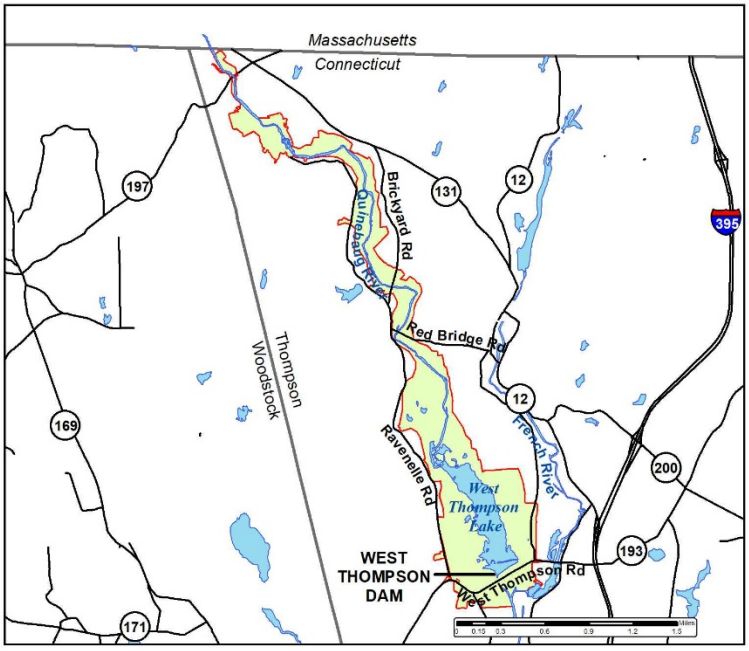

WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
West Side Picnic Shelter
Campground
West Thompson Lake
East Side Picnic Shelter
Boat Ramp
Disc Golf Course
Project Office
West Side Fields
Ravenelle Road
Shoreline Parking Lot
West Thompson Road
West Side Parking Lot
Overlook Picnic Shelter
West Thompson Dam
Utility Building Parking Lot
US Army Corps of Engineers®
New England District
USACE Boundary
Utility Building
Campground
Dam Shorleline
West Side Fields
Boat Ramp
Overlook Shelter
RECREATION SITE PLAN
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®


WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
TRAILS
Shoreline Trail 4.2 Miles
Woodland Walk Trail 0.4 Miles
Lost Trail 1.6 Miles
Ramsdell Woods Trail 2.2 Miles
Distance between "★" is in Miles.
Seastrand Road
Reardon Road
Campground
Recreation Area Rd
West Thompson Lake
Ravenelle Road
Old Ravenelle Road
Shoreline Road
West Thompson Road
1.0
0.6
0.7
0.3
0.4
0.5
0.2
0.1
0.3
0.3
0.2
0.7
0.6
0.6
0.5
0.5
0.6
US Army Corps of Engineers®
New England District
FIGURE 1 OF 2
Forest
Open Field
USACE Boundary
0 0.075 0.15 0.3
Miles
GIS Source: USACE
N
TRAIL SYSTEM
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®


WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
Fabyan Rd
Route 131
Fabyan Rd
2.5
Brickyard Rd
To Mid Section Map
To North Section Map
Brickyard Rd.
0.9
0.2
Red Bridge Rd.
Ravenelle Rd.
0.9
0.4
0.5
Old Blain Rd
0.3
To South Section Map
NORTHERN TRAILS
Ravenelle Ponds Loop 1.2 Miles
(Old Blain Rd North around the loop and back to Old Blain Rd)
Quinebaug River Trail 7.5 Miles
(Ramsdell Woods Trail, Ravenelle Ponds Loop & Quinebaug River Trail Sections)
US Army Corps of Engineers®
New England District
FIGURE 2 OF 2
Forest
Open Field
USACE Boundary
0 0.1 0.2 0.4 Miles
GIS Source: USACE
N
TRAIL SYSTEM
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®

APPENDIX D – PROJECT MAPS





US Army Corps of Engineers®
New England District

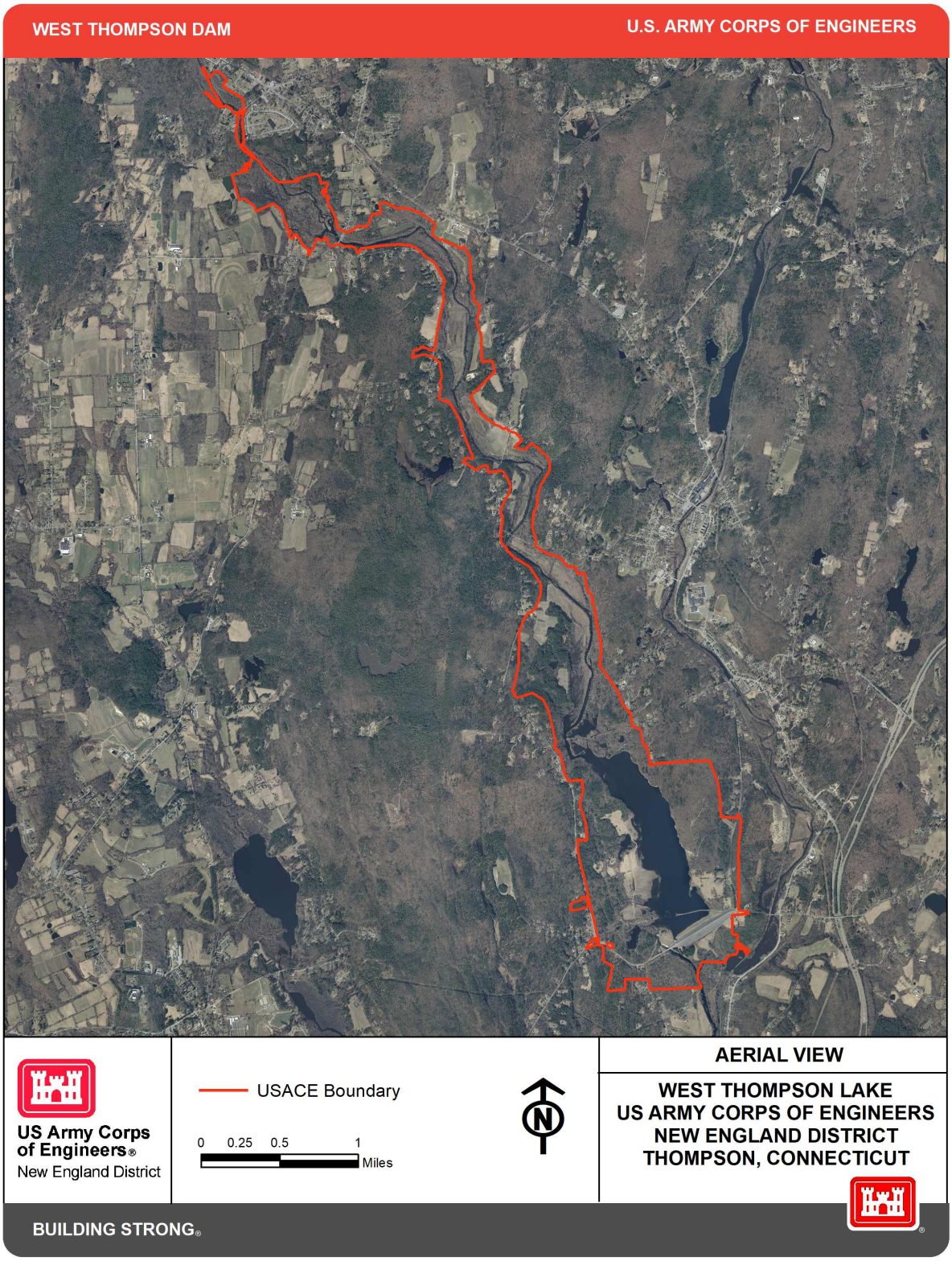
USACE Boundary

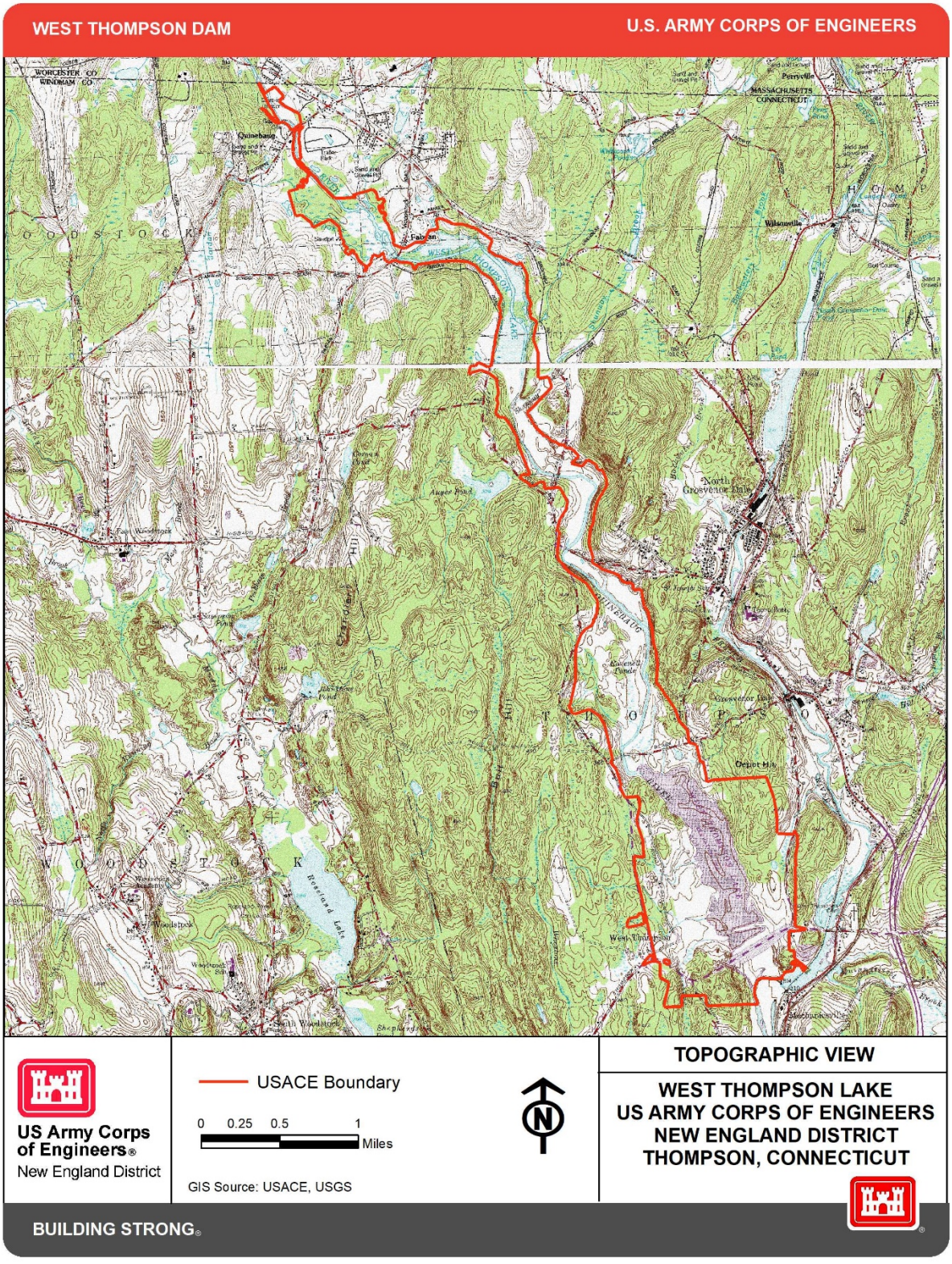
GIS Source: USACE. CT DEEP

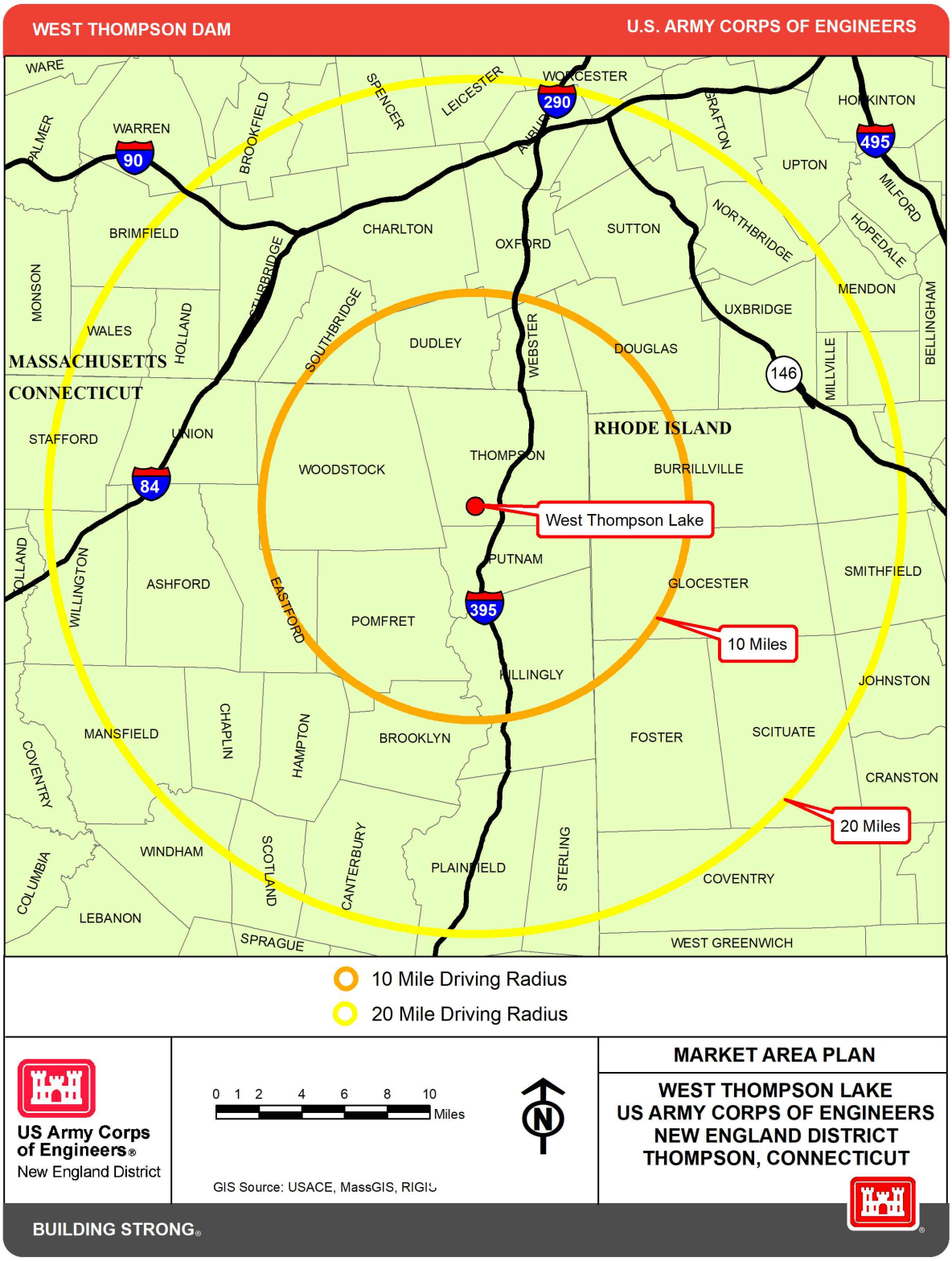
LOCUS PLAN

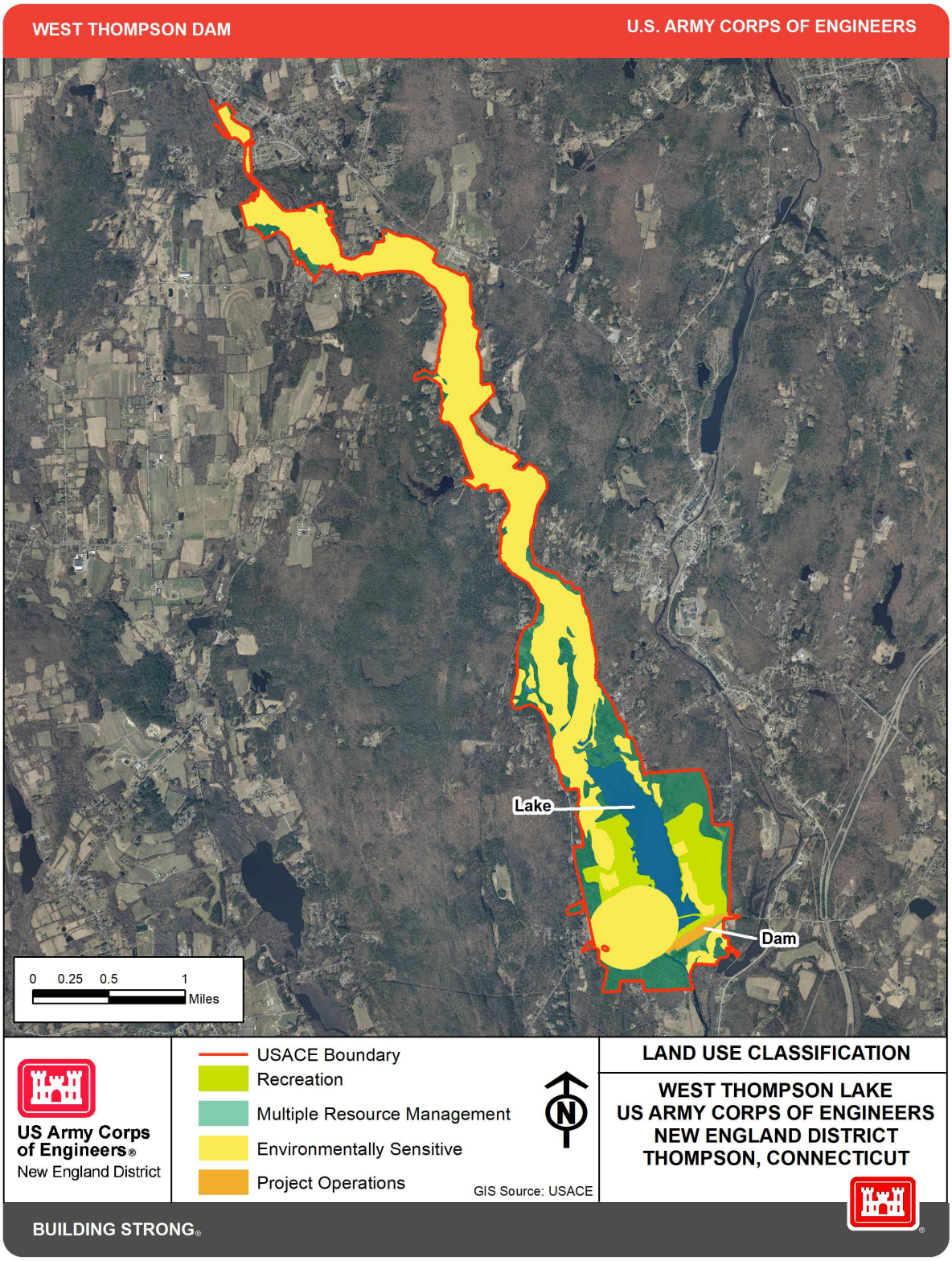
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CT

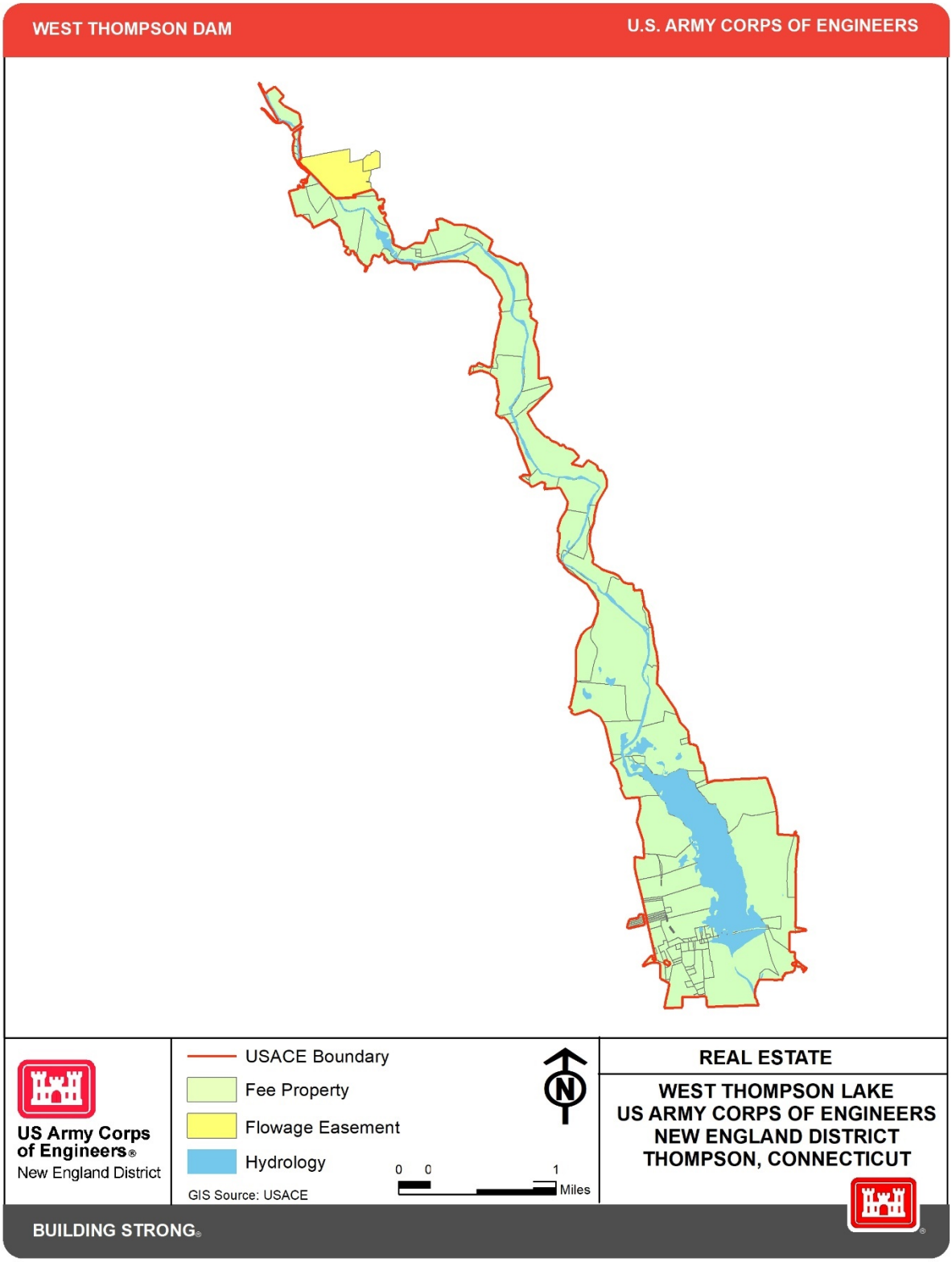
BUILDING STRONG®

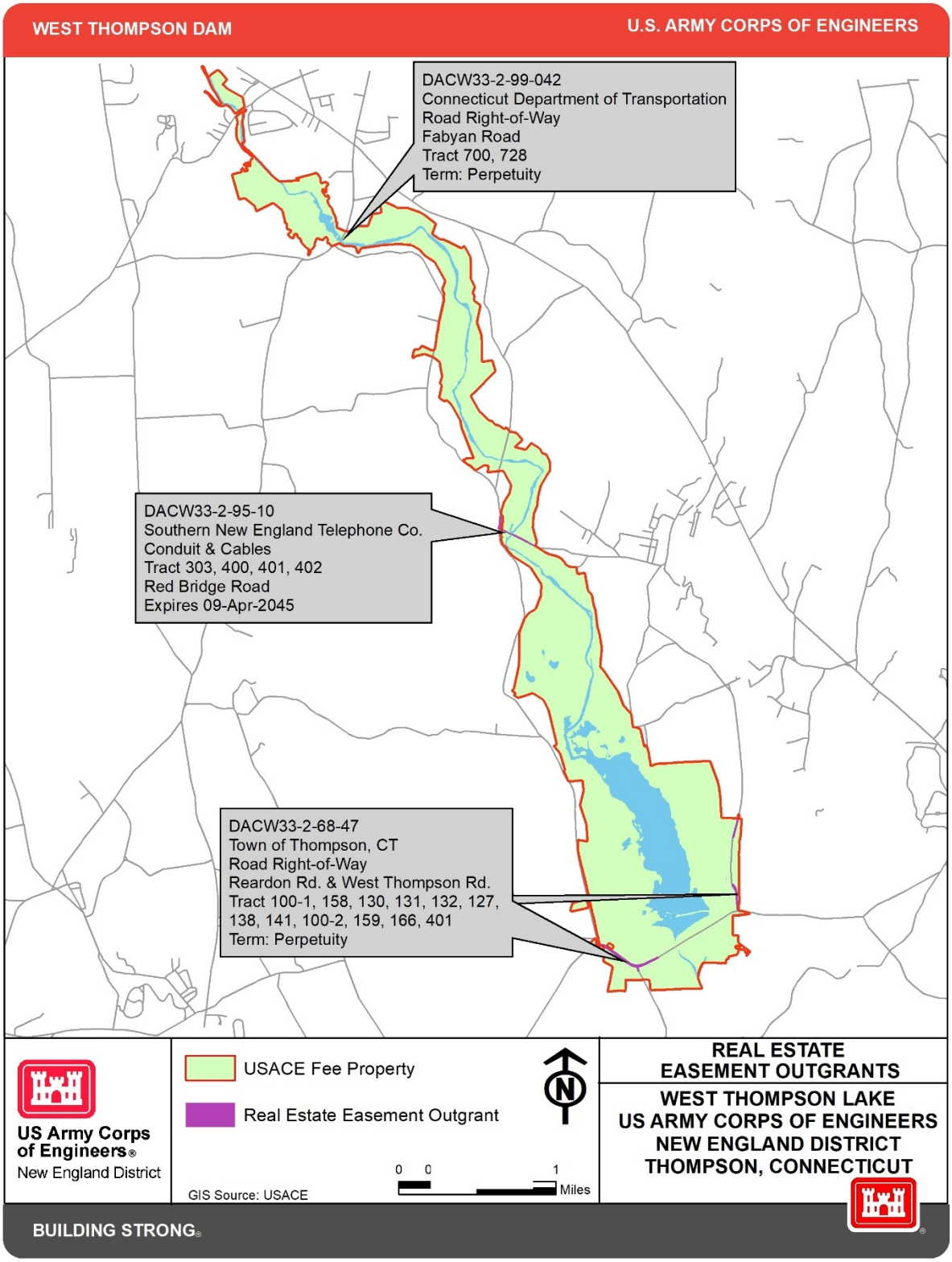

WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
US Army Corps of Engineers®
New England District
USACE Boundary
0 0.25 0.5 1
Miles
N
AERIAL VIEW
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®

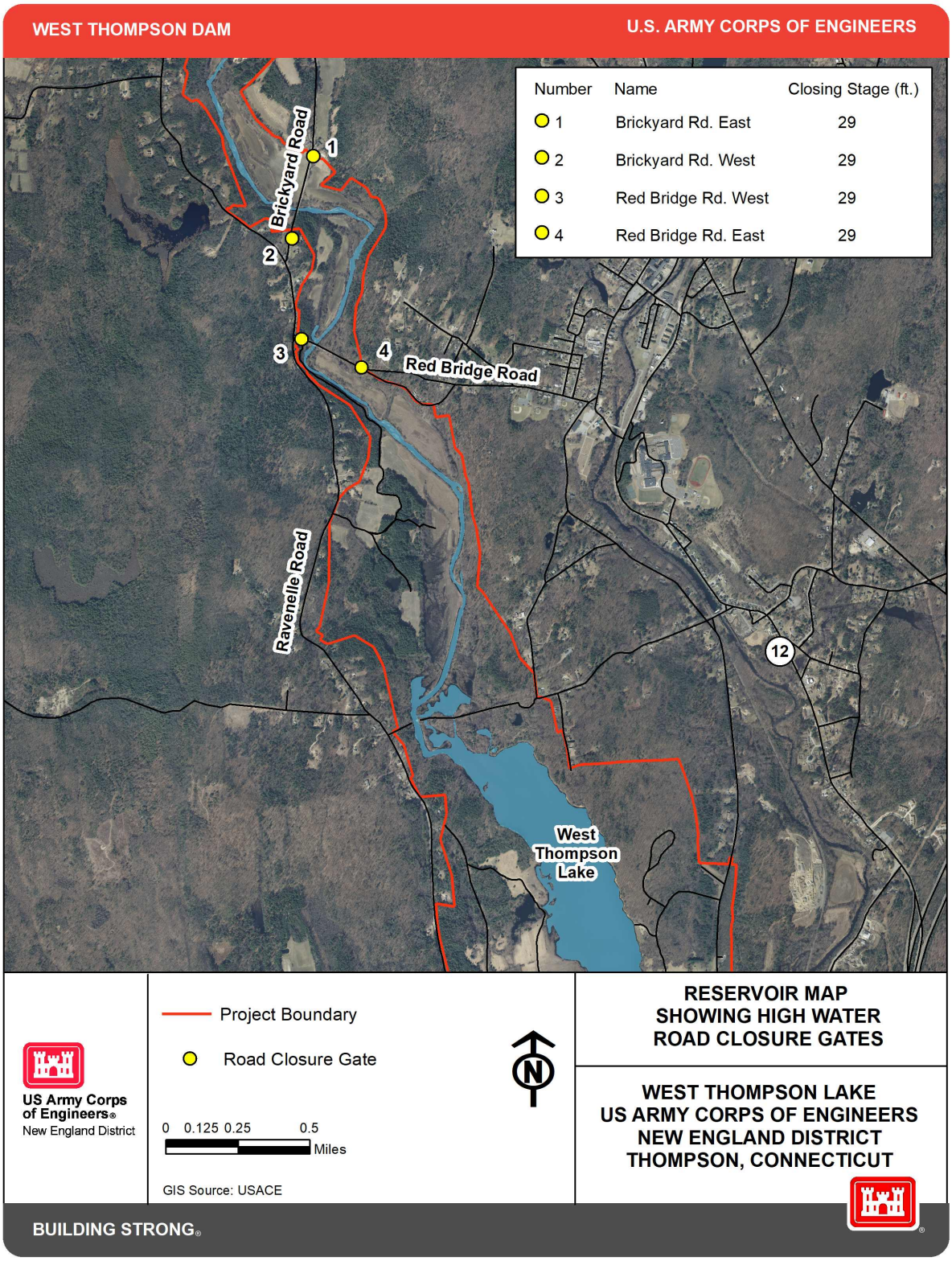

WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
USACE Boundary
0 0.25 0.5 1
Miles
GIS Source: USACE, USGS
US Army Corps of Engineers®
New England District
TOPOGRAPHIC VIEW
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®


WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
WARE
WARREN
BROOKFIELD
SPENCER
LEICESTER
WORCESTER
HOPKINTON
PALMER
90
290
495
AUBURN
GRAFTON
UPTON
MILFORD
NORTHBRIDGE
HOPEDALE
BRIMFIELD
CHARLTON
OXFORD
SUTTON
MENDON
MONSON
STURBRIDGE
SOUTHBRIDGE
UXBRIDGE
BELLINGHAM
WALES
HOLLAND
DUDLEY
WEBSTER
DOUGLAS
MILLVILLE
MASSACHUSETTS
CONNECTICUT
146
RHODE ISLAND
STAFFORD
UNION
THOMPSON
WOODSTOCK
BURRILLVILLE
84
West Thompson Lake
PUTNAM
SMITHFIELD
WILLINGTON
ASHFORD
EASTFORD
GLOCESTER
395
POMFRET
10 Miles
PLAINFIELD
JOHNSTON
MANSFIELD
CHAPLIN
HAMPTON
BROOKLYN
FOSTER
SCITUATE
COVENTRY
CRANSTON
20 Miles
WINDHAM
SCOTLAND
CANTERBURY
STERLING
COLUMBIA
LEBANON
SPRAGUE
WEST GREENWICH
10 Mile Driving Radius
20 Mile Driving Radius
US Army Corps of Engineers®
New England District
0 1 2 4 6 8 10
Miles
N
GIS Source: USACE, MassGIS, RIGIS
MARKET AREA PLAN
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®


WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
Lake
Dam
0 0.25 0.5 1
Miles
US Army Corps of Engineers®
New England District
USACE Boundary
Recreation
Multiple Resource Management
Environmentally Sensitive
Project Operations
GIS Source: USACE
N
LAND USE CLASSIFICATION
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®


WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
US Army Corps of Engineers®
New England District
USACE Boundary
Fee Property
Flowage Easement
Hydrology
GIS Source: USACE
0 0 1
Miles
REAL ESTATE
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®


WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
DACW33-2-99-042
Connecticut Department of Transportation
Road Right-of-Way
Fabyan Road
Tract 700, 728
Term: Perpetuity
DACW33-2-95-10
Southern New England Telephone Co.
Conduit & Cables
Tract 303, 400, 401, 402
Red Bridge Road
Expires 09-Apr-2045
DACW33-2-68-47
Town of Thompson, CT
Road Right-of-Way
Reardon Rd. & West Thompson Rd.
Tract 100-1, 158, 130, 131, 132, 127,
138, 141, 100-2, 159, 166, 401
Term: Perpetuity
US Army Corps of Engineers®
New England District
USACE Fee Property
Real Estate Easement Outgrant
N
0 0 1
Miles
GIS Source: USACE
REAL ESTATE EASEMENT OUTGRANTS
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG®


WEST THOMPSON DAM
U.S. ARMY CORPS OF ENGINEERS
Number Name Closing Stage (ft.)
1 Brickyard Rd. East 29
2 Brickyard Rd. West 29
3 Red Bridge Rd. West 29
4 Red Bridge Rd. East 29
Brickyard Road
Red Bridge Road
Ravenelle Road
West Thompson Lake
12
US Army Corps of Engineers
New England District
Project Boundary
Road Closure Gate
0 0.125 0.25 0.5
Miles
GIS Source: USACE
RESERVOIR MAP
SHOWING HIGH WATER
ROAD CLOSURE GATES
WEST THOMPSON LAKE
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
THOMPSON, CONNECTICUT
BUILDING STRONG

APPENDIX E – PUBLIC COMMENTS