



# Resource Management Plan Erving State Forest



Adopted by the DCR Stewardship Council MONTH, 2025

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Massachusetts Department of Conservation and Recreation  
Division of Conservation and Resource Stewardship  
Office of Cultural Resources

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## **Purpose**

Resource Management Plans (RMPs) are foundational documents that identify a park, forest, or reservation's defining natural, cultural, and recreational resources and identify potential threats and opportunities to guide DCR's continued stewardship of the property and to inform future decisions about the property in a way that celebrates and preserves its identity.

RMPs are prepared for "all reservations, parks, and forests under the management of the department" (M.G.L. c. 21, § 2F). These plans "shall include guidelines for the operation and land stewardship of the aforementioned reservations, parks and forests, shall provide for the protection and stewardship of natural and cultural resources and shall ensure consistency between recreation, resource protection, and sustainable forest management." DCR finalizes RMPs following a public process and adoption by the DCR Stewardship Council. The contents of this RMP represent the best available information at the time of adoption by the Stewardship Council.

## **Mission and Core Principles**

The Massachusetts Department of Conservation and Recreation, an agency of the Executive Office of Energy and Environmental Affairs, oversees 450,000 acres of parks and forests, beaches, bike trails, watersheds, dams, parkways, and over 100 National Register listed properties. The agency's mission is to protect, promote, and enhance our common wealth of natural, cultural, and recreational resources for the well-being of all.

DCR strives to be an exemplary leader in conservation and recreation. DCR's staff is passionate, dedicated, and continuously employs best practices, expertise, and a sense of place in carrying out the mission. The following core principles ground the agency in its work. For the benefit and well-being of all—people and the environment—DCR pledges to:

- Provide access to a diversity of outdoor recreational experiences and unique landscapes that is equitable, inclusive, and welcoming.
- Conserve lands, water, and forests by integrating science, research, and technical expertise into the management of our natural resources.
- Advance climate change mitigation and adaptation efforts by implementing sustainable practices and advancing resiliency across our infrastructure, assets, and resources.
- Support healthy communities by providing places for people to connect with nature and each other.
- Inspire generations of stewards by recognizing and honoring our legacy through partnerships, public engagement, and education.

## **Stewardship**

DCR honors Indigenous peoples for their care, throughout many generations, of the land that DCR now stewards on behalf of the people of the Commonwealth. DCR embraces this legacy of stewardship, fostering a sense of shared responsibility by all people for protection of the waters, lands and living things for the enjoyment and appreciation of all.

To learn more about the DCR, its facilities, and programs please visit us at [www.mass.gov/dcr](http://www.mass.gov/dcr). Contact us at [mass.parks@mass.gov](mailto:mass.parks@mass.gov).

# Erving State Forest

<https://www.mass.gov/locations/erving-state-forest>

## 1. PROPERTY OVERVIEW

Characteristic	Value
Date Established	1920
Location	Erving, Orange, Warwick
Ecoregion	Worcester Plateau
Watershed	Connecticut, Millers
DCR Region	Central
DCR District	Central Highlands
DCR Complex	Erving
Management Forestry District	Eastern Connecticut Valley
Fire Control District	Franklin
Size (acres)	3,154.2
Boundary Length (miles)	21.2
Elevation - Minimum (feet)	397.4
Elevation - Maximum (feet)	1,229.0
Environmental Justice (acres)	0.0
Estimated Annual Attendance (2020)	45,000
Interpretive Programs (# programs, 2022)	157
Interpretive Programs (# attendees, 2022)	290

## 2. LANDSCAPE DESIGNATIONS

Designation	Acres
Parkland	233.2
Reserve	594.8
Woodland	2,189.8
No Designation	136.4

## 3. REGULATORY DESIGNATIONS

Designation	Acres
Priority Habitat (MESA)	35.4

## 4. LONG-TERM AGREEMENTS

Agreement	Expiration Year
Appalachian Mountain Club MOA for maintenance of the New England National Scenic Trail	2034
National Park Service General Agreement, New England National Scenic Trail	2029

## 5. CONCESSIONS

Concession Type
None

## 6. PARTNERS & FRIENDS

Group(s)
None

## 7. FEATURES OF INTEREST

Feature
Hermit's Castle
Laurel Lake
Miller's River
New England National Scenic Trail
Scenic overlooks (2) with view of the Miller's River Valley and Mount Monadnock

## 8. NATURAL RESOURCES

Resource	Value
Tree Canopy (acres)	3,097.0
Rivers and Streams (miles)	9.0
Open Water (acres)	28.2
Wetlands (acres)	27.7
Certified Vernal Pools (#)	0
Potential Vernal Pools (#)	3
State-Listed Species (# Regulatory)	5
State-Listed Species (# Non-Regulatory)	4
Federally Listed Species (#)	0
Aquatic Invasive Plants (# known species)	0
Terrestrial Invasive Plants (# known species)	7

## 9. FOREST MANAGEMENT (SINCE 2012)

Management Objective	Acres
Reduce the impacts of biological stressors	9.7
Reduce the risk and long-term impacts of severe disturbances	27.0
Maintain or create refugia	27.0
Maintain and enhance species and structural diversity	286.0

## 10. HISTORY OF WILDFIRES AND CONDITIONS INFLUENCING FUTURE WILDFIRES

Wildfire Attribute	Value or Characteristic
Number of wildfires on property; 2019–2023	0
Acres burned by wildfires on property; 2019–2023	0.0
Number of wildfires in Fire Control District; 2019–2023	220
Acres burned by wildfires in Fire Control District; 2019–2023	108.5
Type of Wildland-Urban Interface.	Intermix
Predicted rate of spread, based on Fire Behavior Fuel Model 13	Moderate to Quick

## 11. NATURAL HAZARDS

Hazard Type	Acres
Flood (1.0%-chance)	Data unavailable
Flood (0.2%-chance)	Data unavailable
Hurricane Inundation (Cat. 1)	N/A
Hurricane Inundation (Cat. 4)	N/A

## 12. CLIMATE CHANGE (BY 2070)

Type of Change	Amount of Change
Increase in annual days over 90° F	>30
Change in annual maximum daily rainfall (inches)	>10
Massachusetts Coastal Flood Risk Model area of inundation (acres)	N/A

## 13. CULTURAL RESOURCES

Resource Type	#
Archaeological	1
Historic - Total MACRIS Listed	9
Historic - National Register Listed	0
Historic - National Historic Landmark	0

## 14. RECREATION RESOURCES

Resource	#
Boat ramp	1
Campground	1
Interpretive Trail	1
Nature Center	1
Pavilion	1
Picnic Facilities	1
Trails System	1
Waterfront Area	1

## 15. RECREATION ACTIVITIES

Activity
Bicycling, mountain
Boating, motor
Boating, sail
Camping
Canoeing/Kayaking
Dog sledding
Dog walking, on leash
Fishing, fin fish
Hiking/Walking
Horseback riding
Hunting
Nature study/Photography
Orienteering
Picnicking
Running/Jogging
Scenic vista viewing
Skiing, cross-country
Snowmobiling
Snowshoeing
Swimming/Sunbathing (beach or pool)
Wildlife viewing

## 16. ROADS AND TRAILS

Metric	Value
Roads - Unpaved (miles)	4.3
Roads - Paved (miles)	4.2
Forest Roads - Unpaved (miles)	10.6
Forest Roads - Paved (miles)	0
Trails - Unpaved (miles)	7.41
Trails - Paved (miles)	<0.1
Trails - Unauthorized (miles)	1.3
Trail Density (miles/acre)	0.006
Area of Impact (acres)	1,342.6

## 17. PARKING

Parking Resources	#
Lots	4
Parking Spaces - Total	139
Parking Spaces - Accessible (HP)	8
Parking Spaces - Other	131

## INTRODUCTION

Erving State Forest (Erving or the Forest) is approximately 36 miles north-northeast of Springfield in the Town of Erving (the Town), with a small portion in the towns of Warwick and Orange. Warwick and Orange State forests abut Erving to the north and east, respectively, and Wendell State Forest is located just across the Miller's River to the south. The Forest occupies upland areas on the north side of the Miller's River Valley and is held in two tracts:

- **Main Forest Tract.** This tract is on the east edge of the Town and crosses into Warwick and Orange. It incorporates the developed recreational facilities around Laurel Lake. For a brief period (ca. 2020–2023), the Forest acreage in Warwick and Orange was managed as part of Warwick and Orange State Forests.
- **Hermit Mountain Tract.** This tract is approximately 0.75 mile to the west of the Main Forest (see Land Stewardship Zoning Map on page 31). This tract encompasses the summit and southern flank of Hermit Mountain, extending south to Route 2 and the Millers River. The tract is crossed by an access road for the Northfield Mountain Pumped Storage Plant (see discussion below).

Laurel Lake is an important natural and recreational resource in the Town that is used by both Forest visitors and private landowners along the lakeshore. The approximately 48-acre waterbody (an enlarged Great Pond) is up to 33 feet deep with water levels controlled via the DCR-owned and managed Laurel Lake Dam (MA00053) (Massachusetts Division of Fisheries and Wildlife (MassWildlife) 2019). The hydraulic height of the dam is 4 feet, indicating a natural lake size of about 37 acres (based on bathymetry) (Massachusetts Bureau of Geographic Information (MassGIS) 2019; Tighe & Bond 2021). Historical maps, town histories, and annual reports of DCR predecessor agencies suggest that the lake was undammed until 1934 (see historical discussion below). The Forest has approximately 0.75 miles of lake frontage concentrated along the south side of the lake. The remaining frontage of approximately 1.0 mile is developed with summer cottages (i.e., camps). This non-Forest recreational lakeshore development began in the 1920s and was roughly contemporaneous with Forest acquisition and development (see Forest history discussion below) (Massachusetts Historical Commission (MHC) 1982: 10). In the 18<sup>th</sup>, 19<sup>th</sup>, and early 20<sup>th</sup> centuries, Laurel Lake was called Long Pond, as shown in numerous historical maps, plans, and atlases. The earliest appearance of “Laurel Lake” that could be located in printed records occurs in a Massachusetts Department of Conservation (DoC) annual report for 1920 (DoC 1921:16). However, some map and report references to Long Pond would persist into the 1930s (for example, the United States Geological Survey's 1935 Warwick quadrangle, <https://livingatlas.arcgis.com/topoexplorer/index.html>).

The New England National Scenic Trail (NET), which incorporates the shorter Metacomet-Monadnock Trail (M&M Trail), runs through the Forest. The NET, designated in 2009, runs 215 miles as a north-south corridor in Massachusetts and Connecticut, with the M&M trail continuing the treadway into New Hampshire (New England Trail 2020). The NET runs through the Forest's Hermit Mountain tract and also uses multiple DCR properties including Warwick and Wendell State Forests. In 2023, the National Park Service (NPS) designated the NET a National Park. The NPS and the Appalachian Mountain Club (AMC) conduct trail maintenance under separate agreements with DCR (DCR and AMC 2024; DCR and NPS 2024).

The Forest is on land shaped by generations of Indigenous peoples and non-Indigenous inhabitants. Past and present Indigenous residents embody fluid, relational connections to the places and spaces now known as Erving State Forest. Groups and individuals, including Indigenous peoples known as the Pocomtuc(k) and/or the Norwotuck tribes, as well as the Pennacook, Nipmuc, and Squakheag, are recorded in available documentation as having relationships to this place over seasons and generations (Native Land Digital 2023). The Miller's River valley is an ancient (12,000–450 years before present) east-west transportation corridor, with the resource-rich Connecticut River Valley being a major destination. Indigenous fishing sites are suspected around Erving, including at Laurel Lake within the Forest. Following Indigenous peoples' dispossession, the land was sold as Erving's Grant in 1752 and incorporated as the Town of Erving in 1838 (MHC 1982).

Erving State Forest was established in 1920 with a purchase of 944 acres. Creation of the Forest (and others during the period) was authorized by the Massachusetts General Court (MGC) under Chapter 604, Acts of 1920 (i.e., the State Forest Act), that allowed the Commissioner of Conservation to "purchase and hold additional lands within the Commonwealth suitable for the production of timber...." (MGC 1920). For a brief period, the property was referred to as Laurel Lake Forest (DoC 1921: <https://archives.lib.state.ma.us/handle/2452/786287>16; 1922: 38–39). Steady addition of lands over the next two decades increased the Forest's acreage to over 5,472, some of which is now administered as portions of Orange and Warwick State forests (Massachusetts Department of Natural Resources (DNR) 1955: 26). In 1966, the Forest's acreage was reduced when the DNR exchanged land with the Massachusetts Electric Company (MEC) to enable development of the Northfield Mountain Pumped Storage Plant hydroelectric facility. DNR gave approximately 980 acres of land at Hermit and Northfield Mountains to MEC in exchange for over 1,100 acres of land in Colrain (now within Catamount State Forest) (DNR 1966: 24). <https://archive.org/details/departamentofnatu1966mass/page/n13/mode/2up?q=Erving+State+Forest> Recreational development of the Forest began with the 1931–1932 creation of a swimming area and boat ramp at Laurel Lake. Workers from two Civilian Conservation Corps (CCC) camps, S-54 at Erving and S-86 at Warwick State Forest, undertook forestry and recreational improvements from 1935 until 1937, constructing forest roads, water holes, an expanded beach, a picnic area, the Laurel Loop Trail and overlook, and parking lots. CCC workers also constructed a dam, apparently the first at the lake (based on a review of historical maps and atlases), in 1933–1934 to enhance recreation (DoC 1935: 14). These improvements established the Laurel Lake Recreation Area. Stocking of Laurel Lake with trout began during this period (DoC 1933: 8; Berg 1998a, 1998b); this practice continues today. During the 1950s and 1960s, some CCC buildings were replaced, a new headquarters and contact station were constructed, and the campground was added. In 2012, DCR designated the eastern portion of the Main Forest as Reserve. Prior to adoption of this RMP, the Forest was managed under a regional Guidelines for Operations and Land Stewardship plan (i.e., GOALS plan) for the Northeastern Connecticut Valley Region (Department of Environmental Management 1997). A microburst on July 21, 2022, inflicted severe damage to the Laurel Lake Campground and surrounding forest. Extensive repair and forestry clean-up operations were required to return the facility to operation (Vautour 2022).

Erving consists of upland forests spread across slopes and summits of multiple mountains and unnamed hills in the eastern portion of the Town. Town roads offer multiple points of access to the Forest, which is bordered by three other State Forests (Northfield, Warwick, and Orange), the Northfield Mountain Pump Storage Facility and Recreation Center (now owned by FirstLight Power), and rural residential

development. In a few instances, land holdings continue into the Miller's River Valley floor and to the riverbank itself. The forest stands are predominantly oak hardwoods, white pine hardwoods, and hemlock hardwoods. Multiple forested wetlands are interspersed along the perennial streams that cross the Forest. The Forest's developed Laurel Lake Recreation Area is sited along the south side of Laurel Lake and consists of (roughly east to west): 1) a day-use area with an accessible beach (see cover photo), numerous picnic sites, accessible bathroom (sometime called the day use bathhouse), a bathhouse, and the Laurel Loop Trail leading to scenic vistas; 2) a campground with accessible campsites and comfort station; and 3) a boat ramp. The Hermit Mountain Tract contains the Hermit's Castle historical site and has a scenic trail (also part of the NET) that crosses numerous granite gneiss outcrops and cliffs and provides panoramic views of the Miller's River Valley. In winter, the trails are used for hiking, snowshoeing, and snowmobiling. The Forest is an outstanding place for an afternoon swim or hike, a day visit, or a camping adventure.

### **PARK IDENTITY**

Erving State Forest's identity is primarily derived from Laurel Lake and the associated day use and camping facilities of the Laurel Lake Recreation Area, which are popular local and regional recreational amenities. Secondary activities and resources that define the Forest are its trails network and the Hermit's Castle site and associated cliff band. All future activities and improvements should, consistent with the Forest's Parkland, Reserve, and Woodland Landscape Designations, ensure continued high-quality day and overnight recreation opportunities, stewardship of upland and riparian resources and habitat, protection of known and potential cultural resources, and responsible forest management.

### **DEFINING RESOURCES AND VALUES**

Resources and values that define the Forest are related to its recreational and scenic qualities and its history and current use for forestry. They include:

- Contributions to landscape-scale resource protection. Erving is a major component of a network of permanently conserved open space and species habitat across the northern Worcester Plateau and eastern Connecticut River Valley. This regionally significant land area extends roughly 20 miles from Sunderland, to the southwest, north to Warwick, Northfield, and Royalston.
- Laurel Lake, an enhanced natural lake, which is capable of sustaining both coldwater and warm water fish.
  - The lake is Priority Habitat for two Threatened plant species protected under the Massachusetts Endangered Species Act (MESA).
  - The lake is also an important recreational resource for swimming, fishing (both native fish and stocked trout), and boating in the north-central Massachusetts region (see discussion of recreation facilities below).
- The Forest protects the conservation values of, and affords recreational opportunities within, the Millers River and Millers River Valley. This riparian corridor is known for its scenic, natural, cultural, and recreational resources. Route 2, which passes through the valley along the Forest's southern edge, is part of the Mohawk Trail Scenic Byway.
- Forests covering upland peaks as well as stream valleys along Keyes Brook and Moss Brook.

- Many of these forest stands have been developed through the use of silviculture and are managed for a broad spectrum of stewardship goals, such as carbon sequestration and storage.
- Forests and wetlands provide Priority Habitat for three MESA-protected species designated as Endangered or of Special Concern (one plant, one reptile, one insect).
- The cliffs and ledges of Hermit Mountain. These rock outcrops that descend into the Millers River Valley offer multiple conservation values:
  - Recreation, in the form of a popular hiking trail, scenic views of the Valley, and opportunities for bouldering.
  - A historical site. The outcrops were the residence of 19<sup>th</sup>-century Erving resident John Smith. Smith, who would become regionally famous for his idiosyncratic lifestyle, enlarged and improved a natural cave in the cliffs, which became known as Hermit's Castle. This historical site is recorded in the MHC's Massachusetts Cultural Resources Information System (MHC No. ERV.HA.5).
- Developed outdoor recreation facilities of the Laurel Lake Recreation Area for the people of Erving, the surrounding region, and out-of-state visitors:
  - The Laurel Lake day use area, with a waterfront, boat ramp, accessible swimming beach, 65 picnic sites, the accessible J. E. Kulis Pavilion, and a scenic trail.
  - The Laurel Lake Campground with 27 campsites.
  - Erving State Forest represents approximately 25% of the Town's land area and 80% of the Town's open space. Laurel Lake is the town's only natural open water body and the community's most popular recreational site (Erving Open Space Planning Committee and Franklin Regional Council of Governments (EOSPC and FRCOG) 2018: 7–3).

### **STATEMENTS OF SIGNIFICANCE**

Statements of Significance describe the importance or distinctiveness of a place and its resources (NPS 1998). These statements reflect current scholarly inquiry and interpretation and go beyond a simple listing of resources to include contextual information that makes the facts more meaningful. When developing significance statements, the following criteria are considered:

- The property's significance at the time of its establishment.
- How the property, or our understanding of the property, has changed since its acquisition that makes it significant or unique within the state park system today.
- The property's role in recreation and its importance to the community it supports, particularly regarding activities that are unique to that property.

For park planning, these statements focus management actions on the preservation and enjoyment of those attributes that most directly contribute to the importance of the place. For interpretive planning, they comprise the information upon which the interpretive themes and overall program are built.

The following Statements of Significance have been identified for Erving State Forest. The sequence of these statements does not reflect their level of significance.

- Although foresters recognized that forest management could enhance recreational areas, when they created the state forests, recreation was a secondary motivation. State forests were viewed as

opportunities to provide a “wilder” recreational experience in contrast to “planned,” more landscaped parks. Prior to 1933, only three forests offered recreational facilities. Over time the focus on recreation grew to the point where it is the most visible function of the agency.

- The Massachusetts State Forest system was founded on the principles of scientific forest management. These practices contrasted with ongoing unmanaged destructive practices throughout the country. Foresters worked to maximize production and provide a sustained yield over time, aiming for long-term stewardship over short-term profits. The CCC helped accelerate this at Erving with forest improvement cuttings, planting, brush clearing, and extensive spongy moth control (Berg 1999: 61).
- Designated as Priority Habitat (PH 1844), Laurel Lake supports a resilient ecosystem that provides critical habitat for species at risk, or may become at risk, of extinction.
- In addition to the scientific forestry that was part of the mission of the state forests, Erving State Forest was one of three display nurseries in Massachusetts. The department used these nurseries to stimulate public interest in the project (Rivers 1998: 181).
- Erving State Forest is central to over 30,000 acres of connected, protected, open space. It directly links to Warwick State Forest, Northfield State Forest, and Orange State Forest, and is separated only by Route 2 and the Millers River from Wendell State Forest, providing intact lands and waters for resilient ecosystems and critical habitat.

### **UNIFYING THEME**

The Unifying Theme is a statement that ties a property’s stories together and shapes the overall interpretive message that DCR wants to share with visitors in their experience at the property. The theme provides an overarching conclusion for visitors to contemplate (Ham 2013) and answers the question “so what?”. The theme guides all interpretation for the park, both personal (i.e., formal and informal interactions with visitors) and non-personal (e.g., exhibits, signage, brochures).

The Unifying Theme for Erving State Forest is:

Erving’s use illustrates the evolution in management priorities over the last 100 years. These changes show the growth of the agency’s mission and are reflected in the system as a whole.

### **VISITOR EXPERIENCE**

Erving State Forest provides a variety of visitor experiences, including the following:

- **Virtual Experience.** Potential visitors will find information about Erving State Forest on DCR’s web site. The Forest has its own web page that provides potential visitors information needed to plan a visit (<https://www.mass.gov/locations/erving-state-forest>). Missing from the web site, however, is information regarding the Hermit Mountain Tract and its popular hiking trail.
- **Entering the Forest.** Visitors enter the Main Tract of Forest via two well-kept formal gateways with Main Identification Signs at the east and west ends of Laurel Lake Road (built and maintained by DCR). Entering from the east, visitors pass the Forest’s sign at the intersection of Wendell Road and Laurel Lake Road and proceed up Laurel Lake Road and across the Laurel Lake Dam to arrive the contact station within Laurel Lake Recreation Area. From here, they may either check in to the day

use area or campground, then proceed west on Laurel Lake Road to the picnic sites and boat ramp or diverge southwest onto Camp Road (one-way) to access their campground. Visitors from the west pass a Main Identification sign at the intersection of North Street and Swamp Road, enter the Forest via Swamp Road, then turn onto Laurel Lake Road, where they pass another Main Identification Sign. Laurel Lake Road winds through scenic forest and past the boat ramp and picnic sites before reaching the contact station and day use area. From here, a visitor's experience is the same as visitors entering from the east. Multiple Internal Park Information Signs assist with wayfinding on these routes. A third, unmarked lot, primarily for snowmobile parking, is located on Wendell Road in Warwick. The main trailhead for the Hermit Mountain Tract is located on Mountain Road, where there is an informal parking lot at a FirstLight Power access road. This trailhead has no DCR identification signage. (Because of a lack of DCR parking, some recreationists enter this tract via non-DCR trailheads that have been authorized by private property owners.)

- **Water-Based Passive Recreation.** The Laurel Lake Recreation Area offers a wealth of recreation opportunities for day and overnight guests: swimming from the sandy beach, picnicking at wooded sites and a pavilion dispersed along the shore of the lake, fishing, and boating. Valuable and regionally important accessible recreation facilities are provided in the form of accessible picnicking in the pavilion, a permanent ramp at the beach (one of only a few at DCR facilities), and an accessible bathroom is located at the primary day use parking lot.
- **Water-Based Active Recreation.** Motorboats are permitted on Laurel Lake and are launched at the west end of Laurel Lake from the Forest's boat ramp, which is accessed off of Laurel Lake Road. A 10-mile-per-hour speed limit is in effect, except for water skiers between noon and 6:00 PM. Boat engines are limited to 10 horsepower (MassWildlife 2019). The unlined gravel lot for the boat ramp holds approximately three vehicles with trailers.
- **Trail-based Passive Recreation.** Visitors seeking other recreational opportunities may access a trails network that provides year-round opportunities for Forest exploration. Hikers may obtain scenic views from some of the highest elevation points in the Town: vistas of Mount Monadnock on the CCC-developed Laurel Loop Trail that begins in the Laurel Lake Recreation Area, or views southward across the Miller's River Valley from cliffs on Hermit Mountain.
- **Trail-based Motorized Recreation.** The Forest is a destination for snowmobiling and offers a dedicated parking area on Wendell Road. Snowmobilers may use multiple trails through the Forest and make use of connections to a regional trail system that incorporates nearby DCR and other conserved properties.

### **THREATS AND OPPORTUNITIES**

The following information identifies potential threats to the park's natural and cultural resources and identifies opportunities to enhance their protection and stewardship. Although recreation is not considered a resource under statute (M.G.L. c. 21, § 2F), it is included below because recreation is an important part of the park-going experience, helps define a park's values, and is a key part of assessing the consistency of activities taking place in the Commonwealth's forests, parks, and reservations.

Threats and opportunities identified below are used to inform the development of management recommendations. Potential recommendations must meet prioritization criteria to be included in the Priority Recommendations table (Table 19, page 36).

## **Natural Resources**

### ***Threats***

- The Massachusetts Department of Environmental Protection (MassDEP) has identified several water quality impairments in Laurel Lake (MA35035) and in the section of the Miller's River adjacent to the Forest (MA356-05), resulting in these waters being classified as not suitable habitat for sustaining a native, naturally diverse community of aquatic flora and fauna (MassDEP 2023a: 185-186; MassDEP 2023b: 227). Because MassDEP updates its Integrated List of Waters on a regular basis, readers are directed to refer to the most recent version of that document for current information.
- Erving State Forest is located in a watershed with a Total Maximum Daily Load (TMDL) report to address water quality impairments (per MassDEP 303d list) to Laurel Lake (Assessment Unit (AU) ID MA35035). Although the waterbody is listed as requiring a TMDL (Category 5 of the 303d list) a TMDL has not yet been developed. Designers of future projects should focus on addressing identified impairments, in accordance with the DCR Stormwater Design Handbook (VHB 2022).
- Expansion of and year-round residency in private homes at Laurel Lake may result in increased effluent from septic systems into the lake that degrades its water quality and threatens MESA-protected species habitat. There is an opportunity for DCR and MassDEP to collaborate with private homeowners on Title V septic upgrades and other measures that would protect water quality.
- High levels of visitation at the Laurel Lake waterfront may threaten water quality of the lake. (Carrying capacity of the waterfront is unknown.)
- Priority Habitat for a MESA-protected Threatened aquatic plant species may be negatively affected by changes to lake level management practices via the Laurel Lake Dam (Natural Heritage & Endangered Species Program (NHESP) 2023).
- The Forest headquarters is serviced by a well (a regulated public water supply well, no. 1091003) located adjacent to the facility's parking lot. Conditions within the Zone I Wellhead Protection Area are inconsistent with MassDEP guidance and Best Management Practices (BMPs) for wellhead protection (MassDEP 1995; 2011) because the wellhead is unsecured and vehicle parking occurs within the area. Therefore, water quality and the headquarters' water supply may be threatened.
- Red pine scale, an invasive exotic insect, threatens to inflict widespread mortality in red pine stands and was identified in the Forest in the 2022 Forest Health Program results (DCR 2022a).
- The emerald ash borer, a destructive exotic wood boring insect, threatens the health of ash trees in the Forest.
- Spongy moth, an invasive pest that causes defoliation during its spring feeding in the caterpillar life stage, is present in the Forest. Infestations of this insect were identified in portions of the Hermit Mountain tract during the 2022 Forest Health Program (DCR 2022a). Infestations have caused multiple defoliation events within the same growing season and are expected to threaten tree health.
- The following seven species of invasive plants have been identified in the Forest: autumn olive, burning bush, glossy buckthorn, Japanese barberry, Japanese knotweed, multiflora rose, and Oriental bittersweet. (These invasives have been identified in the Forest by field staff. The Forest was not field surveyed in the 2017 Invasive Plant Management Plan: Central Region (BSC Group 2017)). Invasive species may negatively impact both the ecological integrity and biodiversity of the Forest.

- There is incomplete information on the presence or distribution of invasive plants in Erving. Such information is needed to determine if any sensitive resources are being impacted by invasive plants.
- Occasional unauthorized off-highway vehicle (OHV) use may threaten natural species and communities through vegetation damage, sedimentation of adjacent wetlands, and disturbance of wildlife through excessive noise.
- Recreationists pursuing an unknown activity or activities have created several unauthorized trails. Construction of trails without authorization and applicable regulatory review may threaten MESA-protected species habitat, uncommon natural communities, and/or ecosystem functions.
- Erving headquarters may be programmatically inadequate for Forest management activities undertaken there. The buildings are shared with the Forest Fire Control Program, which sometimes results in restricted space for maintenance and vehicle storage, thus threatening efficient staff operations. Upgrades to insulation, electrical services, doors, and roofing may also be needed.

### **Opportunities**

- The Forest is located within the Quabbin to Cardigan Initiative's (Q2C) project area. This initiative is a public-private collaborative effort to conserve the Monadnock Highlands of north-central Massachusetts and western New Hampshire. The Forest's location within the project area offers opportunities to participate in agency partnerships, grants, and land acquisitions in support of DCR's and Q2C's mutual conservation and recreation goals (Q2C 2023).
- There are four minor discrepancies between DCR's Open Space layer and Town of Orange and Erving assessor data. There is an opportunity to correct these discrepancies through deed research, instrument survey, or other means as necessary, so that the Open Space layer accurately reflects DCR's physical ownership.
  - Orange: At the intersection of Rt. 2A and Moss Brook Road, two parcels encompassed in the Open Space layer are actually developed with small homes.
  - Erving: On High Street, a DCR-owned parcel containing a small parking lot and forest road is not shown in the Open Space layer.
  - Erving: At the headquarters parcel, the Open Space layer does not match the assessor layer.,
- Approximately 136.4 acres of the Forest has no Landscape Designation (DCR 2012). Assigning Landscape Designations to these portions of the Forest could help with management of associated natural resources and ensure management consistent with DCR properties statewide.
- An opportunity exists to enhance the aquatic connectivity and climate resilience of the Forest's coldwater streams (i.e., streams where maximum summer water temperatures generally do not exceed 22° C). One of the Forest's culverts could be replaced with a structure consistent with the Massachusetts Stream Crossing Handbook (Massachusetts Department of Fish and Game 2018) and the most current Climate Resilience Design Standards (e.g., Commonwealth of Massachusetts 2022). The University of Massachusetts' Critical Linkages Project has identified this culvert (ID no. 24646) as being in the top 10% for restoration potential statewide. See <http://www.umasscaps.org/applications/critical-linkages.html> for additional information on this project.

- Some of the Forest's three potential vernal pools may "support rich communities of vertebrates and invertebrates" (MassWildlife 2009) and serve as important habitat components for other wildlife. Surveying and certifying these pools (DCR (n.d.a) and MassWildlife (2009)), as appropriate, may help better protect these animals.
- There are opportunities to protect Priority Habitat for MESA-protected Threatened aquatic plant species in Laurel Lake through the following measures:
  - Controlling excess nutrient loads to help prevent aggressive aquatic plants that could result if the lake were to become eutrophic.
  - Continuing the current water level management regime at the Laurel Lake Dam, which was determined in consultation with NHESP (Leddick 2024) and formalized in a Wetlands Protection Act Record of Decision (Warwick Conservation Commission 2018). The dam stop blocks are maintained at a height of 16 inches below the dam's concrete wingwalls. In high water emergencies, the stop blocks may be removed to maintain this water level. Natural water level fluctuations due to seasonal weather patterns are allowed to occur. If, in the future, the agency was to identify a need to change this management practice, such a change would be made in consultation with the NHESP (NHESP 2023).
  - Establishing a Dam Operations & Maintenance Plan that codifies regulation of Laurel Lake water levels.
- Avoiding the use of mechanical equipment for park maintenance and/or habitat management within 300 feet of the bank of Moss Brook (Moss Brook Road Tract) between March 15 and November 15 would better protect State-listed species (Schlüter 2024).
- In addition to Priority Habitat (i.e. Regulatory Habitat), there is also Non-Regulatory Habitat for four MESA-protected species. Unlike Regulatory Habitat, which is based on verified records of state-listed species and has associated mapped Priority Habitat, Non-Regulatory Habitat is based on the presence of suitable habitat and there is no associated mapped Priority Habitat. On state lands, both Regulatory and Non-Regulatory Habitat are protected under the MESA (321 CMR 10.00). Requesting pre-filing consultation with NHESP for "all works, projects, or activities" in the Forest, regardless of location in or out of Priority Habitat, will ensure continued protection of this habitat and compliance with the MESA.
- There may be opportunities to protect and/or enhance Non-Regulatory habitat for a NHESP plant Species of Special Concern in the Hermit Mountain Tract of the Forest through species survey (refer to MassWildlife n.d. for guidelines) and design of forest management projects to thin the forest canopy.
- There may be opportunities to protect and/or enhance Non-Regulatory habitat for a NHESP insect Species of Special Concern in the Hermit Mountain Tract of the Forest by conducting a host plant survey (including for false foxglove) to determine if habitat remains suitable for the species. If unsuitable, canopy thinning and prescribed fire may improve habitat conditions (Leddick 2024).
- There are multiple (at least 14) unapproved geocaches in the Forest, some of which are located away from trails. Inappropriately located geocaches may threaten sensitive natural resources.

- There is an opportunity to minimize forest fire threats and protect cultural resources through maintenance of CCC-era water holes (debris removal, brush cutting, and inlet/outlet enhancement), in accordance with DCR BMPs for these resources (DCR n.d.b).
- There are opportunities to enhance forest management activities at Erving State Forest to achieve a suite of ecosystem services. Preparation and implementation of a Forest Resource Management Plan would inform management decisions directed at long-term regional goals.

### **Cultural Resources**

#### ***Threats***

- A lack of knowledge concerning archaeological and historic architectural resources in the Forest threatens their effective management and protection.
- Occasional unauthorized OHV use may threaten archaeological resources in the Forest.
- Construction and use of the previously mentioned unauthorized trails may disturb areas of the Forest that have potential archaeological resources.
- There are unauthorized permanent climbing bolts for rock climbing installed at Hermit's Cave on the Hermit Mountain Tract. The cultural significance and geographic limits of this locally well-known, 19<sup>th</sup>-century site have not been fully evaluated and rock-climbing activities may present a threat to this resource.
- There are multiple (at least 14) unapproved geocaches in the Forest, some of which are located away from trails. Inappropriately located geocaches may threaten sensitive archaeological resources.
- A retaining wall (possibly built by the CCC) in front of the lifeguard station building at the waterfront is beginning to fail, which is unsightly and threatens the integrity of the walkway situated behind the wall.
- Current digitized and spatially referenced flood maps from the Federal Emergency Management Agency (FEMA) do not cover Erving State Forest. This limits DCR's ability to identify potential threats from flood events to cultural resources in the Forest.

#### ***Opportunities***

- Approximately 136.4 acres of the Forest has no Landscape Designation (DCR 2012). Assigning Landscape Designations to these portions of the Forest could help with management of associated cultural resources and ensure management consistent with DCR properties statewide.
- The Forest contains locations that may be ancient archaeological sites, as well as at least two cellar holes and four mill sites from the historical period. Archaeological reconnaissance survey of the Forest provides an opportunity to preserve and interpret these and other significant archaeological resources. Such a survey could cover contexts such as ancient and historical period land use and settlement patterns along the Mohawk Trail (including at Hermit's Castle), Millers River water-powered industries (quarrying/milling), and activities of the CCC.
- The Forest is located approximately 4 miles east of the Turners Falls Sacred Ceremonial Hill Site, a "highly significant Native American "prayer hill" containing stone features" (Matthews 2008). This site has been determined to be eligible for listing on the National Register (Matthews 2008). The "site is considered by Tribal authorities to be part of a ceremonial district" (Shutesbury Historical

Commission (SHC) 2021). Although the boundaries of this district “are presently undetermined,” its approximate boundary is “a 16-mile radius around the Turners Falls Site” (SHC 2021). Because of the Forest’s location within the potential district, there is a possibility that Indigenous features occur within the Forest.

- There is an opportunity to improve management and protection of Hermit’s Castle on the Hermit Mountain Tract through research, inventory, and interpretation.
- There is an opportunity to improve management and protection of cultural resources by conducting a forest-wide architectural survey that updates CCC-related resource data (Berg 1998a; 1998b) and incorporates other types of resources into the Cultural Resources Inventory.
- The headquarters complex buildings were added in the 1950s or 1960s. There is an opportunity to evaluate these and other identical structures across the DCR system for historical significance.
- There is an opportunity to improve the visitor experience and preserve a possible CCC structure by rehabilitating the retaining wall in front of the lifeguard station.

### **Recreation**

#### ***Threats***

- There is no reliable cellular service at the day use area, which creates operations challenges such as:
  - Forest staff and visitors are unable to use any electronic payment means for parking fees.
  - Communication times may be limited during emergencies.
- Some deeds for private camps or cottages on Laurel Lake contain language such as “With a right of way now used to head of said Lake, also right of landing now used at head of said Lake. Reserving the right of raising the water in said Lake.” (For example, Franklin County Registry of Deeds, Book 5957, Page 300). Legal analysis is required to determine whether and which owners have such rights and how such rights may be legally exercised when DCR owns Laurel Lake Dam (MA00053) that controls lake water levels.
- A private neighbor adjacent to the Forest’s boat ramp may be exceeding their legal rights under a deeded right-of-way and possibly encroaching on DCR land by parking vehicles and trailers adjacent to the boat ramp parking area. This activity threatens other recreational use of the boat ramp area.
- Because the boat ramp is also a deeded right-of-way for a private neighbor, and there are other private homes nearby, some Forest visitors may not realize that the boat ramp is intended for public access.
- Parking at the boat ramp is limited, leading to parking on Laurel Lake Road and traffic obstruction.
- Current digitized and spatially referenced flood maps from FEMA do not cover Erving State Forest. This limits DCR’s ability to prepare for flood emergency operations and to identify potential threats from flood events to recreational resources in the Forest.
- The agency owns and operates Laurel Lake Dam (MA00053). Lakeside cottage owners sometimes attempt to persuade DCR to change the water level of Laurel Lake or attempt to change water levels on their own by removing spillway stop blocks. Excessively low or high water levels may threaten recreationists’ experience of the waterfront and boat ramp.

## *Resource Management Plan: Erving State Forest*

- There are accessibility issues Forest-wide that are identified in the June 2018 Erving State Forest, Erving, MA: Program Accessibility Assessment (Institute for Human Centered Design (IHCD) 2018). These accessibility issues threaten the access to and quality of experiences at the Forest for persons with disabilities. Noteworthy issues include, but are not limited to:
  - The beach and water access ramp, built in 1988, is in disrepair and no longer compliant.
  - The bathhouse is not on accessible route from waterfront and has interior accessibility issues.
  - There is no accessible route to the pavilion.
  - The campground has two accessible sites but no accessible water spigots.
  - The nature center is not fully accessible.
- The Hermit's Castle site cannot be made ADA accessible, which prohibits enjoyment of this resource persons with disabilities, or users with limited mobility.
- The contact station is sited such that it sometimes causes conflicts between campground and day use vehicle traffic. Vehicles for campers that are checking in to the campground may obstruct vehicles of day use visitors that are entering and exiting the day use area, causing delays in vehicle movement and frustration for recreationists.
- High visitor attendance at the Forest's waterfront sometimes threatens the quality of the visitor's experience because of litter and crowding (EOSCPC and FRCOG 2018: Appendix C).
- There is no clear closure policy and procedure for the waterfront, which can lead to staff confusion and frustration for visitors.
- One authorized and one desire path leading to the waterfront have surfaces that are crumbling or eroding, which threatens the user experience and results in sedimentation of the lake at the waterfront.
- Public Access Board regulation signage at the boat ramp is inaccurate, referencing 324 CMR 2.00 instead of 320 CMR 2.00. There is an opportunity to update this signage and increase visitor awareness of public access regulations by replacing this and any other related signage in the Forest.
- Off-leash dogs owned by cottage residents sometimes threaten the quality of the visitor experience at the lake, particularly at the boat ramp (EOSCPC and FRCOG 2018: Appendix C).
- Bathrooms at the campground may currently be too far from some campsites to comply with Department of Public Health (DPH) regulations. New self-contained restroom units, currently under permitting review, may resolve this issue.
- The continued usage and (eventually) the structural integrity of the nature center are threatened by deferred maintenance of the building's roof and siding.
- The functionality of the nature center for interpretive programming is hindered by multiple issues:
  - The building is small (approximately 8 by 14 feet), which allows little room for storage or audience gatherings during inclement weather.
  - The building's storage and interpretive materials (e.g. artifacts and displays) require updating.
  - The building's location is beneficial for programming directed at overnight guests, but not for day use visitors.

- The building is not accessible: there is no accessible route and level changes at the entrance are do not meet standards.
- A lack of equipment storage at the campground and day use areas hinders field operations maintenance during the summer operations season. Storage facilities are a 10-minute drive away at headquarters, which adds time to routine maintenance tasks that require additional tools or supplies.
- Trail maps and signs in the Forest are outdated, threatening the user experience and understanding of recreational opportunities at the property.
- Signs at the Hermit Mountain trailhead do not reference DCR, threatening user understanding of ownership and rules and regulations for the property.
- DCR does not own trailhead parking for the popular Hermit's Cave trail. Lack of public parking may threaten access to the forest tract.
- There is no published trail map for the Hermit Mountain Tract, which threatens visitor awareness of and access to this resource.
- Rock climbers have installed unauthorized climbing bolts at Hermit's Castle in the Hermit Mountain portion of the Forest. Per DCR Parks and Recreation regulations, climbing with ropes is only permitted in designated areas. Inappropriate climbing activity may threaten recreationist safety, natural resources, and/or cultural resources.
- The interpretive panel at Hermit's Castle is gone and the panel support is in disrepair. This threatens the visitor experience at the site.
- A short section of the Hermit Mountain Loop Trail is on private property. Development or other activities on the private parcel could threaten public access.
- There is a short, user-created spur off the Hermit Mountain Loop Trail, located where the trail intersects with the Forest boundary. This trail may have been created by hikers who mistook Forest boundary markers for trail blazes and may cause recreationists to become lost or confused.

Laurel Lake, the Millers River, and Keyup Brook are used for fishing of both stocked and native fish. Native fish in Laurel Lake and the Miller's River are included on the Freshwater Fish Consumption Advisory List (DPH 2023a: 7, 8). Keyup Brook is not listed in the Freshwater Fish Consumption Advisory List, but MassDEP has identified water quality impairments in this brook (MA35035), resulting in this waterbody being classified as "Not Supporting" fish consumption (MassDEP 2023a: 185; MassDEP 2023b: 95). No DPH Fish Consumption Advisory Signs (MassDEP 2023b) are posted at these waterways, welcome waysides, the Laurel Lake boat ramp, or other sites in the Forest where anglers might view them. (Because MassDEP updates its Integrated List of Waters on a regular basis, readers are directed to refer to the most recent version of that document for current information.)

### ***Opportunities***

- There is an opportunity to study park carrying capacity by collecting detailed attendance statistics and possibly traffic studies.
- There is an opportunity to enhance the visitor experience and facilitate agency staff interactions with the public by developing a clear policy and protocols for day use area capacity limits and closures, including use of the DCR Facility Alerts App.

- There is an opportunity to expand and improve the experience of visitors with disabilities in the Forest by addressing identified accessibility issues, not limited to: beach and water access, bathhouse approach and interior, access to the pavilion, accessible yurts/cabins and water spigots in the campground, sidewalks around the waterfront area, and access to the nature center (IHCD 2018).
- There may be an opportunity to install an accessible dock for car-top boat users in the day use area or at the boat ramp. The Department of Fish & Game's Office of Fishing and Boating Access may have resources to assist with this infrastructure.
- There is an opportunity to enhance parking facilities and reduce overcrowding at the Laurel Lake boat ramp and the adjacent portion of Laurel Lake Road by increasing the size of the boat ramp parking area.
- There is an opportunity to enhance public understanding that the boat ramp is public property and open to the general public, as well as to encourage appropriate use of the resource, by replacing the existing Internal Park Information Sign at the driveway entrance on Laurel Lake Road with a Cantilevered Site/Facility Sign that reads "Boat Ramp, Erving State Forest", as well as a Rules and Regulations Sign meeting current DCR graphics standards adjacent to the boat launch.
- There is an opportunity to ensure consistent agency management of the Laurel Lake Dam and lake water levels for protection of recreational and natural resources by:
  - Installing a locking mechanism on the dam spillway stop blocks; and
  - Preparing a Dam Operations & Maintenance Plan in consultation with the Office of Dam Safety and NHESP.
- There is an opportunity to enhance field operations efficiency at the campground and waterfront by installing a small, secure storage facility for maintenance equipment in the vicinity of these areas, such as along the "access road" between Camp Road and Laurel Road. Inclusion of electrical service at such a facility would allow for charging and storage of battery-electric landscaping equipment. Additionally, construction of such a facility could also help to alleviate potential building capacity issues at the headquarters complex.
- There is an opportunity to enhance the functionality and visitor experience for programs at the nature center by adding a small porch or pavilion to the building and resolving accessibility issues.
- There is an opportunity to enhance the user experience of the campground by installing facilities for tetherball, horseshoes, or other field games, possibly on the lawn next to the campground comfort station.
- There is an opportunity to enhance the safety and utility of the campground's amphitheater by repairing its deck boards.
- There is an opportunity to increase attendance at interpretive events by relocating the amphitheater to a more central location and making it accessible.
- Main Identification Signs for the Forest do not conform to current DCR graphics standards. There is an opportunity to improve the Forest's image and enhance agency brand consistency by updating these signs.
- There is an opportunity to improve the quality and accessibility of the campground experience by adding electrified yurts or cabins to the facility.

- There are multiple topics that may afford opportunities for interpretive programming in the future, such as: ancient and historical period land use along the Mohawk trail, Millers River historical water-powered industries (quarrying/milling), CCC camps, the Northfield Mountain pump storage facility, and Hermit's Castle.
- There is an opportunity to improve the visitor experience at the day use area by updating the two Welcome Wayside panels and making them accessible.
- There is an opportunity to evaluate the trail system at Erving to provide better loop options, experiences, and accessibility.
- There are opportunities to improve trail conditions and Internal Park Signage within the trails system.
- There are opportunities to prevent visitors from getting lost or confused on the Hermit Mountain Loop Trail, where the trail intersects with the Forest boundary and users have created a trail spur that follows the boundary markers:
  - Add additional confidence blazes and/or an internal park direction sign; and
  - Close the trail spur in accordance with Trails Guidelines and Best Practices (DCR 2019a, or update) and BMPs (DCR n.d.b).
- The increasing popularity of mountain biking at Erving offers opportunities to partner with the New England Mountain Bike Association (i.e., NEMBA) or other user group to maintain or improve trails on the property. Alternately, the DCR may encourage mountain bike users to use authorized, purpose-built bike trails at nearby Wendell State Forest.
- In general, there may be opportunities to protect sensitive MESA-protected habitats and Priority Natural Communities by implementing monitoring and strategies to discourage off-trail uses such as unauthorized geocaching and unauthorized bouldering (Leddick 2024).
- There is an opportunity to improve forest roads and enhance forest fire protection through addition of gravel and regrading, repair and replacement of water bars, culverts, and other water control features, and tree and brush removal along the road shoulders.
- As the status of the Northfield Snowmobile Club evolves, there may be opportunities to partner with the organization on trail maintenance initiatives through a Volunteer Stewardship Agreement (i.e., VSA).
- There is an opportunity to improve the visitor experience at Hermit's Castle and to provide universal access to this site by:
  - installing a new wayside panel at the site and
  - creating web-based content such as a virtual visitor experience.
- There may be opportunities to protect the Hermit Mountain Loop Trail's corridor through land acquisition or other legal agreements. (It does not appear feasible, based on property boundaries and trail geometry, to relocate the trail segment onto agency lands. However, additional field evaluation may identify such an alternative.)
- Implementing the remaining recommendations from the Energy Audit Study of Erving (Rise Engineering 2018) would increase visitor and staff comfort while helping the Commonwealth to meet its targets for reductions in energy costs, energy consumption, and greenhouse gas emissions under the Accelerated Energy Program.

- The Town's residents have a strong interest in promoting the community's natural, open space, and recreation resources in order to enhance quality of life and the Town's economic development. This interest may present an opportunity for a partnership between the Forest and the Town, which is an opportunity that that Town has noted in its open space plan (EOSCPC and FRCOG 2018: 6-2, 9-2).
- Erving State Forest's location adjacent and in close proximity to the Mohawk Trail National Scenic Byway creates grant and marketing opportunities for the Forest (Federal Highway Administration 2022; FRCOG 2009; Western Massachusetts Scenic Byways Marketing Committee 2023).
- Re-licensing of the Northfield Mountain Pump Storage Facility may present opportunities to expand trail connectivity and recreation opportunities in the Forest.

### **CLIMATE CHANGE**

Climate change impacts nearly every aspect of DCR's properties, from ecosystem health, to infrastructure, to recreation. (See DCR 2024 for an overview of these impacts.) The Department is actively working to mitigate and adapt to current and future impacts through such actions as forest management; decarbonizing DCR's buildings, vehicles, and power equipment; protecting wetlands; and using nature-based solutions to minimize stormwater impacts. Information on these, and other, efforts is incorporated into RMPs as available and appropriate.

Any discussion of climate change requires a shared understanding of terminology. Because of this, this RMP section adopts commonly accepted terms to the greatest extent possible. In general, climate-related technical terms used in this RMP are as defined in the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC 2021). Exceptions to this are the terms Adaptation, Risk, and Sensitivity, which are used as defined in DCR's Climate Change Vulnerability Assessment (CCVA; Weston and Sampson 2022).

DCR manages its forests to provide a range of ecosystem services such as recreation, clean water, wood commodities, and wildlife habitat (DCR 2020). For ecosystems under its management, DCR carefully considers both their vulnerability to climate change and their ability to mitigate the effects of climate change by storing carbon in ecosystems and harvested wood products. Several approaches are used to monitor DCR forests and to design forest management strategies to adapt to climate change and provide ecosystem services. (See Swanston et al. (2016) for information on adaptation strategies and approaches associated with DCR's forest management.) Established in 1957, DCR's Continuous Forest Inventory (CFI) system uses a network of more than 2,000 permanent plots on which repeated measurements are taken on an ongoing basis. The CFI measures the status, size, and health of over 100,000 trees; other vegetation; down woody material; and the forest floor. (See DCR 2022b for additional information on the CFI system.) This information helps DCR understand at a strategic scale the current character, condition, and trends of forest ecosystems under its care. DCR also uses operational inventory to help plan specific treatments and evaluate their outcomes. Using these different scales of information, remotely sensed data, and local and regional external expertise, DCR plans projects that help its stands, forests, and other lands adapt to climate change and mitigate greenhouse gas emissions. The conservation and science-based management of forest lands are an essential element to ensuring crucial carbon storage and advancing climate change resilience (Massachusetts Executive Office of Energy and Environmental Affairs (EEA) 2024). For additional information on the relationship between DCR's forest

management practices and climate change, please see pages 77–85 in Massachusetts Forest Action Plan 2020 (DCR 2020) and Managing Our Forests...For Carbon Benefits (DCR 2023).

The Department is actively assessing and addressing the vulnerability of its properties and facilities to the impacts of climate change. In 2022, DCR conducted a CCVA (Weston and Sampson 2022). Findings from this CCVA are being used by DCR to enhance park operations and maintenance, inform resilient investment, and provide a framework for hazard mitigation and climate adaptation for natural resources, cultural resources, recreational activities, buildings, facilities, and other infrastructure. Property-specific climate change information from the CCVA is included in the Climate Change (by 2070) table (Table 12) at the beginning of this RMP. An overview of the impacts of climate change on DCR facilities and operations is presented in the DCR Climate Impacts Story Map (DCR 2024).

### **Climate Exposure and Impacts**

A summary of the ways in which the Commonwealth's natural, cultural, and recreational resources may be impacted by climate change is provided below. During the preparation of RMPs some resources may be identified as having particularly high exposure and/or sensitivity to the anticipated hazards or consequences of climate change. When this occurs, these resources and the projected impacts to them are described. In some instances, the potential impacts of climate change on a given resource are not well understood. When this occurs, only exposure is discussed.

#### ***Natural Resources—General Impacts***

Climate change affects temperature, precipitation, and atmospheric and ocean chemistry, which in turn directly and indirectly affect the natural environment, including the plants, animals, and natural communities of DCR's forests, parks, and reservations.

Climate is known to influence the presence, absence, distribution, reproductive success, and survival of both native and non-native plants (Finch et al. 2021). Native northern and boreal species, including balsam fir, red spruce, and black spruce may fare worse under future conditions, but other species may benefit from the projected changes in climate (Janowiak et al. 2018). Some non-native invasive species will be affected by climate change while others will remain unaffected, and some non-invasive non-native species are likely to become invasive (Finch et al. 2021). In general, elevated temperature and CO<sub>2</sub> enrichment associated with climate change increases the performance of non-native plants more strongly than the performance of native plants (Liu et al. 2017). Climate change may result in the presence of new non-native invasive plants on a property, and changes to the distribution and/or abundance of invasives already present on a property.

Exposure to a changing climate affects wildlife in a variety of ways. For animals that live in or near aquatic environments, "changes in habitat and hydrological regimes are expected to shift their abundance and distribution" (Isaak et al. 2018: 89). Impacts to terrestrial animals are expected to be highly variable (Halofsky et al. 2018) but may be considered to fall into the following four categories: 1. habitat loss and fragmentation; 2. physiological sensitivities (i.e., innate characteristics that influence the ability to cope with changing temperature and precipitation conditions); 3. alterations in the timing of species' life cycles; and 4. indirect effects (e.g., disruption of ecological relationships) (Friggens et al. 2018). Although all Northeast wildlife are exposed to hazards associated with climate change, some groups, "including montane birds, salamanders, cold-adapted fish, and freshwater mussels, could be particularly affected by changing temperatures, precipitation, sea and lake level, and ocean processes" (MassWildlife 2015:

357). In addition, it is the position of the NHESP that state-listed species and Priority Natural Communities are likely to be highly sensitive to climate change and that all state-listed species will be negatively affected by hydrologic changes, changes in water, soil, and air temperature, and changes in forest composition.

### ***Natural Resources—Property-Specific Exposure and Impacts***

Four of the Forest's streams have been identified as Coldwater Fish Resources by MassWildlife. These are Moss Brook and Keyup Brook on the Main Tract and Fourmile Brook and Packard Brook on the Hermit Mountain Tract, for the brooks' full length within the Forest. Such streams provide important habitat for coldwater species, which are typically more sensitive than other species to alterations in stream flow, water quality, and temperature (MassGIS 2021). The ecological connectivity of Keyup Brook has been negatively affected by a culvert, a condition that is likely to worsen with exposure to a changing climate.

Climate change may cause some vernal pools to dry earlier in the season than they have historically, potentially interfering with amphibian life cycles and negatively impacting associated wildlife (Cartwright et al. 2022). Similar impacts may occur at the Forest's potential vernal pools that function as vernal pools.

The eastern newt and eastern red-backed salamander have been reported in the Forest. Populations of these amphibians may be threatened by the impacts of climate change.

Responses of Massachusetts' invasive plants (i.e., those categorized as Invasive by the Massachusetts Invasive Plant Advisory Group (MIPAG) (n.d.)) to a changing climate are largely unknown. However, sufficient information exists to project the likely future trend of Japanese barberry and Oriental bittersweet. Climate change facilitates invasion by Japanese barberry "because of higher growth and germination in warmer climates" (Merow et al. 2017: E3276). Because of this, it is anticipated that barberry will further spread at Erving State Forest. "Available data suggest that bittersweet is likely to benefit from the warming and increased precipitation that are predicted for the Northeast" (Rustad et al. 2012), resulting in expansion throughout New England. Areas where the forest canopy or forest floor has been disturbed are particularly susceptible (McNab and Loftis 2002). Because of this, it is anticipated that Oriental bittersweet will continue to expand within Erving in response to climate change.

### ***Cultural Resources—General Impacts***

Climate change may negatively affect cultural resources, their preservation, and maintenance (EEA 2022; International Council on Monuments and Sites (ICOMOS) Climate Change and Cultural Heritage Working Group 2019; Rockman et al. 2016: 3, 18; United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Center 2007). In Massachusetts, cultural resources may be exposed to the following natural phenomena that are correlated with adverse impacts: higher annual average temperature (especially in winter), increased numbers of freeze-thaw cycles, increased precipitation intensity, higher relative humidity, higher wind speeds, an increase in severe storm events, increased numbers and severity of wildfires, more severe seasonal droughts, increase in number and severity of inland flood events, increased coastal flooding and erosion, increased probability of landslides, changes in groundwater levels, shifts in native and invasive species distribution, performance, and phenology; and changes in oceanic and atmospheric chemistry (Rockman et al. 2016; Commonwealth of Massachusetts 2023: 5.1-31–5.1-61).

The phenomena listed above may produce a variety of adverse impacts to Massachusetts' cultural resources. Sensitivity and potential impacts vary based on resource category (i.e., archaeological sites, cultural landscapes, ethnographic landscapes and sites, and buildings and structures). Resource-specific factors such as location, design, materials, condition, etc. will also influence sensitivity and consequent impacts. All categories of cultural resources may be subject to complete or partial destruction through wildfire, inland flooding, sea level rise, storm surge, or landslides. Additionally, these resource categories may be subject to other types of impacts, as follows. Archaeological sites may have site stratigraphy disrupted by changes in hydrography, may suffer accelerated decomposition of artifacts and features, and may be impacted inadvertently during disaster response. Cultural landscapes may lose plantings due to a variety of stressors (e.g., drought or flood, pests, soil salinity), may be infiltrated by invasives, may be eroded by surface runoff, may experience more rapid deterioration of hardscaping and site furnishings, and may be damaged by high wind or heavy snow events. Ethnographic landscapes, traditional cultural places, and associated communities (including Indigenous peoples) may suffer both tangible and intangible impacts such as loss or diminishment of natural species used for food, ceremony, or medicine; alterations in timing of hunts, etc.; increased difficulty of vulnerable subgroups (e.g., the elderly) to perform outdoor tasks; and a loss of cultural knowledge associated with resources and practices. Buildings and structures may be damaged or destroyed by high wind or heavy snow events, suffer accelerated deterioration through a variety of mechanisms (e.g., elevated humidity, chemical reactions, destructive pests and organisms), may be destabilized by hydrological changes, or be damaged by inadequate gutters or drainage systems (ICOMOS Climate Change and Cultural Heritage Working Group 2019: 73–89; Rockman et al. 2016: 20–24). (See Rockman et al. 2016: 19–24 for a detailed assessment of the potential impacts of climate change on cultural resources.)

#### ***Cultural Resources—Property-Specific Exposure and Impacts***

No cultural resources with known elevated exposure or sensitivity to potential consequences of climate change were identified at this property.

#### ***Recreation—General Impacts***

Outdoor recreation and park visitation are dependent on weather and climate and will be affected by a warming climate (Wilkins and Horne 2024). Higher temperatures positively affect participation in most outdoor activities, except snow-based activities (Wilkins and Horne 2024). “Winter is warming substantially faster than other seasons, and winter warming is especially pronounced in the...Northeastern United States” (Wilkins and Horne 2024: 15). Exposure to this climate change phenomenon is projected to significantly reduce the length of winter recreation seasons for downhill skiing, cross-country skiing, and snowmobiling, decreasing recreational opportunities and causing substantial economic impacts (Wobus et al. 2017). Whitewater rafting, primitive area use, and hunting are also projected to be negatively impacted by exposure changing weather patterns associated with climate change (Askew and Bowker 2018). Although “coldwater fishing habitat is expected to decline under a warming climate, which will likely result in fewer fishing days,” overall fishing participation in the Northeast is projected to rise “due to the more favorable temperatures” (Wilkins and Horne 2024: 11). Horseback riding on trails, boating, swimming, and visiting interpretive sites are also expected to see higher participation in the Northeast under climate change (Askew and Bowker 2018). Temperature preferences of campers indicate that the “number of ideal days” for camping will also increase (Wilkins and Horne 2024: 13). Participation in biking is also projected to increase, especially in the winter and

shoulder months (Wilkins and Horne 2024: 13). Climate change may also impact outdoor recreation through increased impacts to recreation infrastructure (e.g., flooding impacts), and increased exposure to disease vectors (e.g., mosquitoes and ticks), longer pollen seasons, and heat-related illnesses (O'Toole et al. 2019).

### ***Recreation—Property-Specific Exposure and Impacts***

Recreation activities at the Forest likely to be negatively impacted by exposure to weather changes resulting from climate change include hunting and snow-dependent sports (i.e., cross-country skiing, snowmobiling, and snowshoeing). Other recreation activities may see increased participation, especially those associated with the waters of Laurel Lake. Fishing, swimming, and other water-based activities may experience increased participation due the anticipated increase in temperature (i.e., more than 30 additional days with temperatures over 90° F; Table 12).

## **APPLIED LAND STEWARDSHIP ZONING**

DCR assesses the appropriate uses and stewardship of its properties at two spatial scales: the landscape level and the property level.

### **Landscape Designation**

In 2012, DCR engaged in a comprehensive system-wide assessment of lands managed by its Division of State Parks and Recreation, designating them as Reserve, Woodland, or Parkland. (See Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines (DCR 2012) for details.) Multiple Landscape Designations may apply to individual properties with diverse resources and levels of development. The majority of Erving State Forest was designated Woodland, with a small portions designated Parkland at developed recreational facilities, and some areas in Warwick and Orange designated Reserve. Identification of Land Stewardship Zones within Erving was performed in the context of these three Landscape Designations.

The following Land Stewardship Zoning is recommended to guide management and any future development. (See Land Stewardship Zoning Maps, pages 31 and 32, and the Land Stewardship Zoning layer on DCR's Stewardship Map: <https://dcrgis-mass-eoeaa.hub.arcgis.com/>.)

### **Zone 1**

Zone 1 areas have highly sensitive ecological and/or cultural resources that require additional management approaches and practices to protect and preserve these special features and their values (DCR 2012). The following area of Erving has been designated Zone 1.

- A small area around the Hermit's Castle Site (MHC no. ERV.HA.5) on the Hermit Mountain Tract, to protect the historical and archaeological integrity of this cultural site. Identified components of Hermit's Castle consist of a cellar hole, a cave, and stone retaining walls just north of the cellar hole. The Zone 1 area is defined as an approximately 750-foot (north–south) by 600-foot (east–west) elliptical buffer area around these site components. Further historical and archaeological site evaluation is needed to refine site boundaries and management guidelines, which may result in the future revision of the Zone 1 area, or the substitution of a Significant Feature Overlay for Zone 1 protections.

## **Zone 2**

Zone 2 areas provide for a balance between resource stewardship and recreational opportunities that can be appropriately sustained. They include stable yet important cultural and natural resources. These areas provide a buffer for sensitive resources, recharge areas for surface and groundwaters, and large areas where existing public recreation activities can be managed at sustainable levels (DCR 2012). The following areas of Erving have been designated Zone 2.

- All areas not identified as Zone 1 or Zone 3.

## **Zone 3**

Zone 3 areas include altered landscapes in active use and areas suitable for future administrative, maintenance, and recreation areas (DCR 2012). The following areas of Erving are currently developed, appropriate for potential future development, or intensively used for recreation. They have been designated Zone 3.

- The footprint of the existing day use area, including beach, parking, and picnic locations.
- The existing campground areas. In general, the campground zoning is a 100-ft-wide corridor measured 50 ft off of each side of the Camp Road centerline, but widens to include the comfort station and amphitheater location. Zoning also includes a 100-ft-wide corridor measured 50 ft off the center line of the unnamed gravel road that runs between Camp Road and Laurel Lake Road, for possible future campground expansion needs and/or a small maintenance building.
- The structural footprint and roadway approaches (including shoulders) to the Laurel Lake Dam.
- The winter parking lot on Wendell Road.
- The boat ramp and associated parking area.
- The headquarters complex.

## **Significant Feature Overlay**

Significant Feature Overlays provide precise management guidance in order to maintain or preserve recognized resources features regardless of the zone in which they occur. The following Significant Feature Overlay was developed for Erving:

- **Sensitive Rare Species Overlay—Moss Brook.** This overlay extends 600 feet from Moss Brook, in and near Priority Habitat polygon PH 1682. The use of mechanical equipment for park maintenance and/or habitat management within 300 feet of the bank of Moss Brook is to be avoided between March 15 and November 15 (Schlüter 2024). Within 600 feet of the brook, applicable Conservation Management Practices are to be followed for forestry activities (see <https://www.mass.gov/info-details/forestry-and-rare-species-review>). The associated State-listed species and required Conservation Management Practices may be identified through a pre-filing consultation with NHESP.
- **Sensitive Rare Species Overlay—Laurel Lake.** This overlay covers the watershed of Laurel Lake and the Laurel Lake Dam and is intended for the protection of habitat within the lake for MESA-protected species. Changes in use or activities that could impact the waterbody, including changes to lake water levels, should be planned in coordination with NHESP. Lake water levels are controlled by the Laurel Lake Dam and, at the time of this RMP's preparation, are managed under a Warwick Conservation Commission Determination of Applicability (Warwick Conservation Commission 2018). In the future,

Laurel Lake Dam operations may be guided by a Dam Operations & Maintenance Plan, while protection of lake water quality may be managed under a Watershed-Level Plan for Laurel Lake. Both of these plans were under agency consideration at the time of this RMP's preparation (see Table 19, page 36).

- **Wellhead Protection Overlay.** This overlay includes three Zone I Wellhead Protection Areas. Within this overlay, activities should be consistent with Wellhead Protection Tips (MassDEP 1995) and MassDEP Guidance (MassDEP 2011).

### **DCR STEWARDSHIP MAP TOOL**

This RMP should be viewed in conjunction with DCR's Stewardship Map, a GIS-based tool that allows users to view a property's natural, cultural, and recreational resources. The Stewardship Map tool is dynamic, and information continues to be updated after adoption of an RMP. Guidance for using the tool, as well as BMPs for resource stewardship, are located on the Stewardship Map site: <https://dcrsgis-mass-eoeaa.hub.arcgis.com/>.

Because authorized trails are located within State-Listed Species Habitat on this property, managers should consult an additional GIS-based tool, the NHESP 2022 Guidance Codes for DCR Trail Maintenance Map. (<https://mass-eoeaa.maps.arcgis.com/home/item.html?id=cb252e8df40d408c81fe8fcf690e14f6>) This tool allows users to select specific trail segments and identify restrictions and regulatory review associated with performing 10 common trail maintenance activities on these segments. Because site-specific rare species information is confidential under Massachusetts law (M.G.L. c. 66, § 17D), access to this tool is restricted.

### **CONSISTENCY REVIEW**

Resource Management Plans "shall ensure consistency between recreation, resource protection, and sustainable forest management" (M.G.L. c. 21, § 2F). For planning purposes, an activity is considered consistent with resource protection if it has no significant, long-term, adverse impact on resources. To this end, a series of indicators were developed to evaluate the impacts of recreation and forest management on natural and cultural resources.

Many activities with the potential to negatively affect resources are already subject to agency and/or regulatory review (e.g., forest management activities, projects within Priority Habitat). For these activities, compliance with state regulations, regulatory authority guidance, DCR policies and processes, and BMPs is considered an indicator of consistency between park use and resource protection. New indicators were generated for activities not subject to agency or regulatory review, and are based on available data, information readily identifiable via aerial imagery or site visits, assessments by DCR subject matter experts, or the property manager's knowledge of park conditions and use. (See Table 18, page 33.)

Indicators are applied during the RMP planning process in order to ensure a standardized assessment of consistency across all properties in the DCR system. Inconsistencies identified via the application of indicators are used to inform the development of management recommendations.

The status of indicators (Yes, No, Unknown, and N/A) were accurate at the time this RMP was prepared and were used for planning purposes. However, they represent a snapshot in time and may not reflect future conditions. In addition, the status of indicators will change as recommendations get implemented.

## **MANAGEMENT RECOMMENDATIONS**

Forty-two priority management recommendations were developed for this property. They are presented in Table 19, page 36. All recommendations are of equal importance.

Priority management recommendations derive from Threats, Opportunities, and Consistency Assessment information presented in this RMP. For a recommendation to be considered a priority and listed in the table, it must meet one or more of the criteria listed below. Maintenance and management needs not meeting one or more of these criteria are not included in the table but are identified in the Threats and Opportunities sections.

The following types of recommendations are considered priority:

- Natural resource stewardship and restoration activities consistent with park identity and intended to improve ecological function and connectivity.
- Cultural resource management activities consistent with park identity and intended to prevent the loss of integrity of significant cultural resources.
- Improvements consistent with park identity that are needed to support intended park activities.
- Actions required for regulatory compliance or compliance with legal agreements.
- Activities that prevent or ameliorate threats to the health and safety of park visitors and employees.
- Activities that address inconsistencies among recreation, resource protection, and sustainable forest management, as identified through use of the Consistency Assessment checklist.

Progress toward implementing priority recommendations is tracked through the use of DCR's Capital Asset Management Information System (CAMIS). The property manager should enter each recommendation listed in Table 19 (page 36) into CAMIS as a separate work order, noting "\*RMP" in the description field. Non-traditional work orders (e.g., volunteer trail work, posting of DPH Fish Consumption Advisory posters, certification of vernal pools) should be closed out by the property manager, once the recommendation has been implemented.

# Resource Management Plan: Erving State Forest

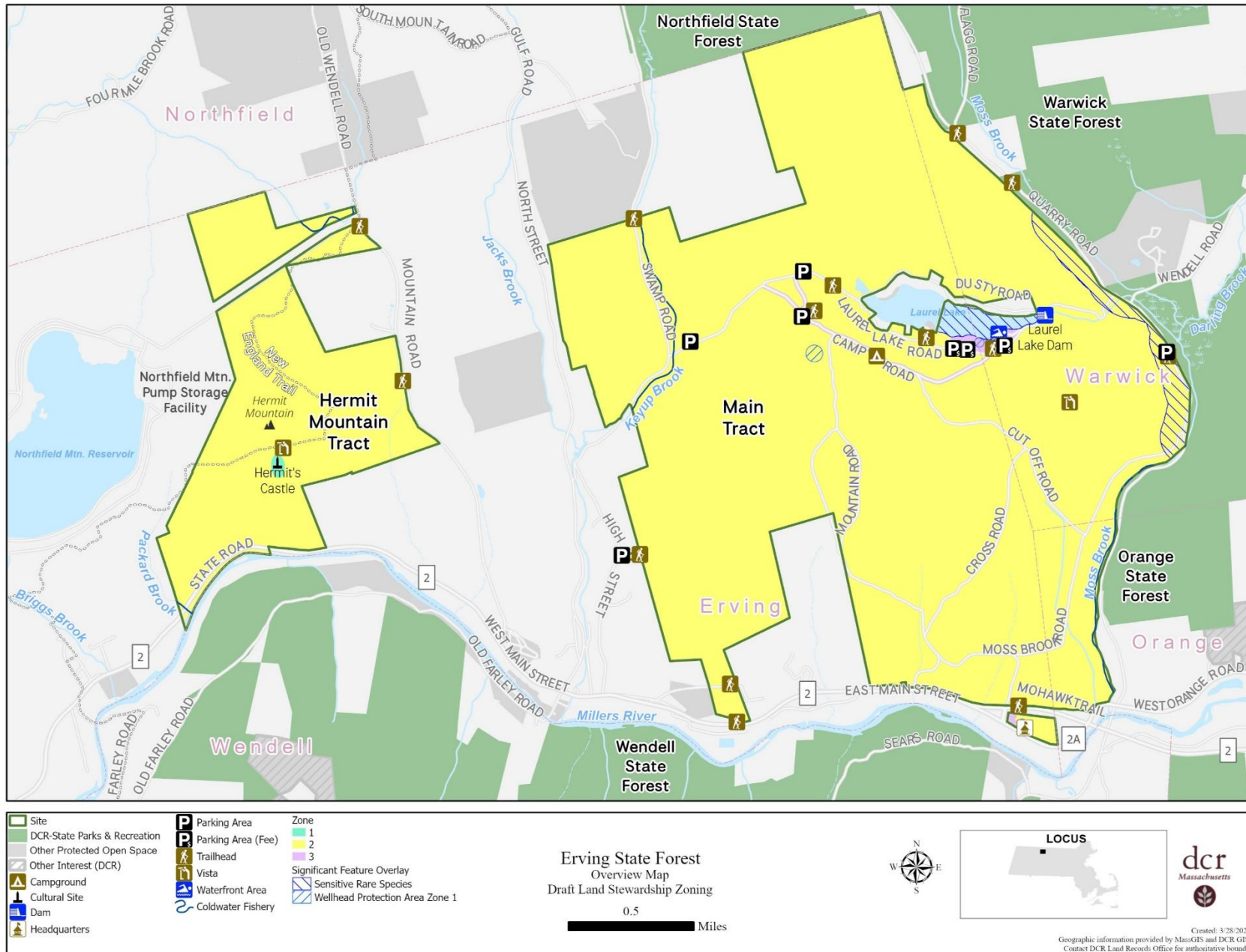


Figure 1. Land Stewardship Zoning Map.

# Resource Management Plan: Erving State Forest

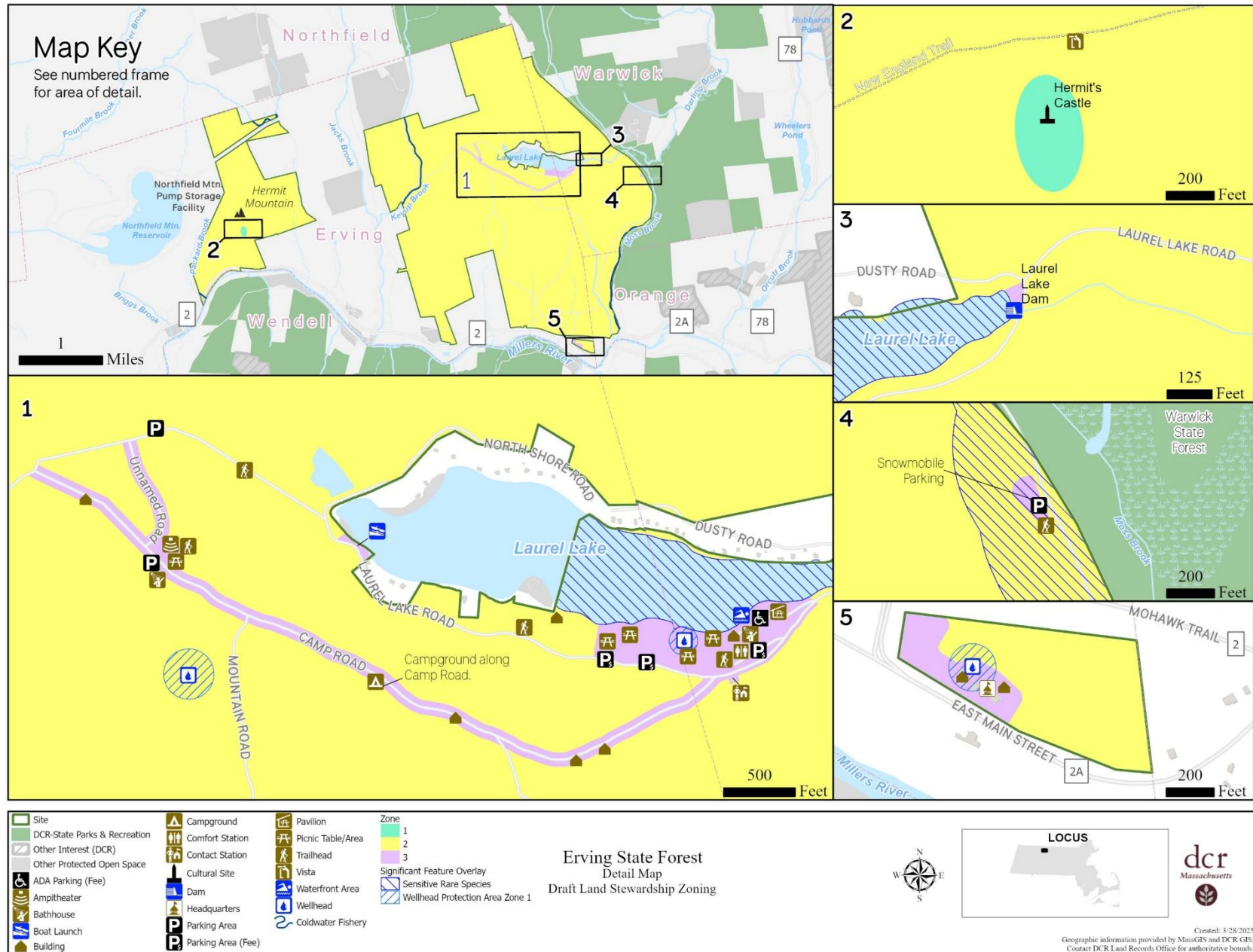


Figure 2. Land Stewardship Zoning Map (continued).

**Table 18. Consistency Assessment. This assessment represents a snapshot in time and may not reflect future conditions.**

Category	Metric	Status
Landscape Designation	1. All development and uses of the park since 2012, or currently planned for the park, are consistent with its Landscape Designation(s).	Yes
Natural Resources	1. All projects (normal maintenance activities, special projects, volunteer projects) conducted within Priority Habitat were reviewed and approved through DCR's internal review process and by NHESP for potential impacts to rare species and their habitats.	N/A
Natural Resources	2. All projects conducted within areas subject to state and/or federal wetlands or waterways regulations were reviewed and approved through DCR's internal review process; reviewed and approved through the appropriate, local, state, and/or federal review process; and were carried out in accordance with the terms of a valid permit.	Yes
Natural Resources	3. Sensitive resource areas, such as steep slopes, riverbanks, streambanks, pond and lakeshores, wetlands, and dunes are free of desire paths and other user-created trails.	Yes
Natural Resources	4. Aquatic areas adjacent to beaches, boat ramps and launches, roads, and hiking trails are free of eroded sediments.	No
Natural Resources	5. The extent of exposed soil in campground and/or picnic sites is stable or decreasing.	Yes
Natural Resources	6. The extent of native vegetation in campground and/or picnic sites is stable or increasing. (As assessed by property manager.)	Yes
Natural Resources	7. Area of trail impacts in Reserves is less than 50% of total area. (See Naughton (2021) for information on primary area of trail impacts.)	Yes
Natural Resources	8. Congregations of breeding, migratory, or wintering wildlife are protected from disturbance by temporary (e.g., seasonal) restrictions on recreational access.	No
Natural Resources	9. Geocaches, letterboxes, orienteering control locations, and other discovery destinations are located outside sensitive natural resource areas and their locations have been reviewed and approved by park personnel. (As assessed by property manager.)	No
Natural Resources	10. Zone I wellhead protection areas are free of vehicle parking, chemical storage, or concentrated recreation.	No

*Resource Management Plan: Erving State Forest*

<b>Category</b>	<b>Metric</b>	<b>Status</b>
Natural Resources	11. All boat ramps and launches have cleaning stations and/or educational signs and materials on preventing the spread of aquatic invasive organisms. (As assessed by property manager.)	No
Natural Resources	12. For each barrier beach there is a current, approved Barrier Beach Management Plan and all beach-related activities are conducted in accordance with this plan.	N/A
Cultural Resources	1. All maintenance activities and projects with the potential to cause sub-surface disturbance are being reviewed by the DCR archaeologist for potential impacts to archaeological resources.	No
Cultural Resources	2. All maintenance activities and projects affecting historic properties (buildings, structures, and landscapes over 50-years-old) are being reviewed by the Office of Cultural Resources to avoid adverse impacts.	Yes
Cultural Resources	3. Historic buildings, structures, and landscapes are being used, maintained, and repaired in a manner that preserves their cultural integrity and conveys their historic significance to park visitors.	Yes
Cultural Resources	4. Recreational activities such as hiking, biking, and boating are not eroding cultural properties such as archaeological sites or historic landscapes through creation of desire lines, rutting in the landscape, damage to historic built features, or excessive scouring (erosion) of coastal and shoreline areas.	No
Cultural Resources	5. Geocaches, letterboxes, and other discovery destinations are located away from sensitive cultural resources, and their locations have been reviewed and approved by park personnel.	No
Cultural Resources	6. Historic buildings, structures, landscapes, archaeological sites, and concentrations of historic resources are located outside of areas predicted to be subject to flooding, storm surge, or sea-level rise.	Unknown
Recreation	1. Types of recreation, levels of recreational use, and types and extent of recreation infrastructure are consistent with the park's identity statement.	Yes

*Resource Management Plan: Erving State Forest*

<b>Category</b>	<b>Metric</b>	<b>Status</b>
Recreation	2. Trail density is consistent with the park's Landscape Designation(s). (See Trails Guidelines and Best Practices Manual (DCR 2019a) for density thresholds.)	Yes
Recreation	3. All authorized trail construction was performed in accordance with an approved Trail Proposal Form.	Yes
Recreation	4. Over 90% of the park's official trails network is classified as being in Fair or better condition.	Yes
Recreation	5. Recurring use by OHVs is restricted to authorized trails. (As assessed by property manager.)	No
Recreation	6. There is a high level of compliance with dog leash regulations and policies. (As assessed by property manager.)	No
Recreation	7. Athletic fields are free of recreation-caused impacts (e.g., bare spots) to turf. (As assessed by property manager.)	N/A
Recreation	8. Water-based recreation is consistent with "Uses Attained" designation as identified by MassDEP in its most current integrated list of waters (e.g., MassDEP 2023a); DPH fish consumption advisories; and/or water quality testing at waterfront areas.	No
Recreation	9. Recreation facilities are located outside of areas subject to flooding, storm surge, or sea-level rise.	Unknown
Sustainable Forest Management	1. Forestry activities are consistent with Landscape Designation and associated forestry guidelines.	Yes
Sustainable Forest Management	2. Forestry activities are consistent with current Forest Resource Management Plan.	N/A
Sustainable Forest Management	3. Tree cutting is performed in accordance with an approved cutting plan, if required under the Massachusetts Forest Cutting Practices Act (M.G.L. c. 132, §§ 40–46).	Yes

**Table 19. Priority Recommendations for Erving State Forest. All recommendations are of equal importance. When multiple agency parties are responsible for implementing a recommendation, the lead party, or parties, are identified parenthetically in the Implementation column. Property managers should enter these recommendations as work orders in CAMIS to ensure their tracking and implementation.**

Category	Recommendation	Implementation
Natural Resources	Apply Landscape Designations to those portions of the Forest currently lacking such designations.	Management Forestry (Lead), GIS Program
Natural Resources	Explore means to protect Laurel Lake water quality and Priority Habitat for Massachusetts Endangered Species Act-protected Threatened plant species in the lake by collaborating with Laurel Lake camp and cottage owners on Title V septic compliance.	Lakes and Ponds Program (Lead), Office of the General Counsel, Office of Natural Resources
Natural Resources	Develop a comprehensive Watershed-Based Plan for Laurel Lake to address the multiple threats and opportunities in this Resource Management Plan, including those relating to aquatic life and to the hydrological, chemical, and physical inputs from both outside and within the Forest. Update Forest RMP as needed to address Watershed-Based Plan.	Contractor, Lakes and Ponds Program (Lead), Office of Cultural Resources
Natural Resources	Assess the culvert (ID no. 24646) with high restoration potential for replacement (as assessed by the Critical Linkages Project (see <a href="http://www.umasscaps.org/applications/critical-linkages.html">http://www.umasscaps.org/applications/critical-linkages.html</a> ) with a structure consistent with the Massachusetts Stream Crossing Handbook (Massachusetts Department of Fish and Game 2018) and the most recent Climate Resilience Design Standards (e.g., Commonwealth of Massachusetts (2022), as applicable). Where viable, program funds for culvert replacement and replace culvert.	Design and Engineering (Co-Lead), Management Forestry, Office of Climate Resiliency, Office of Cultural Resources, Office of Natural Resources (Co-Lead), Trails and Greenways Program
Natural Resources	Survey, document, and submit documentation to certify the two potential vernal pools that are in Woodland portions of the Forest, in accordance with DCR (n.d.a) and MassWildlife (2009), as warranted.	Office of Natural Resources, Volunteers

*Resource Management Plan: Erving State Forest*

<b>Category</b>	<b>Recommendation</b>	<b>Implementation</b>
Natural Resources	<p>Through deed research, instrument survey, or other means as necessary, investigate discrepancies between DCR's Open Space layer and Town assessor data. As needed, correct Open Space layer and/or document and resolve the following potential encroachments in accordance with Agency-wide Guidance and Best Management Practices (DCR 2019b).</p> <ul style="list-style-type: none"> <li>• Orange: At the intersection of Rt. 2A and Moss Brook Rd., two parcels within the Open Space layer that are developed with small homes.</li> <li>• Erving: On High Street, a DCR-owned parcel containing a small parking lot and forest road that is not shown in Open Space.</li> <li>• Erving: The headquarters parcel as it intersects with the Massachusetts Department of Transportation's Route 2 corridor.</li> </ul>	Contractor, GIS Program (Co-Lead), Management Forestry (Co-Lead), Office of the General Counsel, Park Operations
Natural Resources	Review and implement MassDEP Wellhead Protection Tips and Guidance (MassDEP 1995, MassDEP 2011) within the Forest's Zone I Wellhead Protection Areas.	Contractor, Facilities Engineering (Lead), Park Operations
Cultural Resources	Work with Indigenous partners to inventory, document, conserve, and interpret Indigenous resources and history within the Forest.	Management Forestry, Office of Cultural Resources (Lead), Partner
Cultural Resources	Maintain historical Civilian Conservation Corps water holes in accordance with DCR Best Management Practices (DCR n.d.b).	Forest Fire Control (Lead), Office of Cultural Resources, Park Operations
Cultural Resources	Conduct an architectural reconnaissance survey of the Forest that updates CCC-related resource data and incorporates additional resources, such as the headquarters, that are now over 50 years of age.	Consultant, Office of Cultural Resources (Lead)
Cultural Resources	Conduct an archaeological reconnaissance survey (950 CMR 70) in cooperation with municipal, tribal, and non-profit partners. Complete appropriate Massachusetts Historical Commission archaeological site forms for identified archaeological resources.	Consultant, Office of Cultural Resources (Lead), Partners

*Resource Management Plan: Erving State Forest*

<b>Category</b>	<b>Recommendation</b>	<b>Implementation</b>
Cultural Resources	Conduct an archaeological site survey of the Hermit's Castle Site (Massachusetts Historical Commission no. ERV.HA.5) to determine site boundaries and significance.	Office of Cultural Resources (Lead)
Cultural Resources	<p>On completion of archaeological survey of Hermit's Castle Site (Massachusetts Historical Commission no. ERV.HA.5):</p> <ul style="list-style-type: none"> <li>• Develop site management guidelines for recreation, vegetation management, and interpretation to protect historic and archaeological site components, and also protect the setting of, the cultural resource.</li> <li>• As appropriate, refine existing Zone 1 geographic area and management guidelines or replace with a Significant Feature Overlay.</li> </ul>	Interpretive Services, Management Forestry, Office of Cultural Resources (Lead), Office of Natural Resources
Recreation	Investigate and pursue a means to provide cellular data service at the day use area and campground.	Consultant, Facilities Engineering (Lead)
Recreation	Conduct capacity study of waterfront and determine visitor count threshold for closures. Craft policy for when closures are warranted, including directives for staff and use of the Facility Alerts App.	Aquatics Program (Lead), Park Operations
Recreation	Identify and implement staffing and/or traffic control measures for controlling access to the day use area during capacity closures.	Park Operations (Lead), Interpretive Services
Recreation	Make appropriate facility upgrades and implement recommendations from the Energy Audit of Forest buildings (RISE Engineering 2018).	Architecture Section, Contractor, Facilities Engineering (Lead), Park Operations
Recreation	Conduct engineering study of headquarters building to determine if current space is adequate for building programming, what repairs are needed for the building, and if seasonal equipment storage at Laurel Lake could resolve any identified capacity and logistics issues.	Architecture Section (Lead), Park Operations

*Resource Management Plan: Erving State Forest*

<b>Category</b>	<b>Recommendation</b>	<b>Implementation</b>
Recreation	In partnership with the Natural Heritage & Endangered Species Program, develop and implement Operations & Maintenance Plan for Laurel Lake Dam. Memorialize desired water level to maintain recreational usage while protecting Priority Habitat for Threatened plant species in the lake. Update Resource Management Plan as needed to reflect Operations & Maintenance Plan.	Contractor, Office of Cultural Resources, Office of Dam Safety (Co-Lead), Office of Natural Resources (Co-Lead), Park Operations (Co-Lead), Partner
Recreation	Design, fabricate, and install interpretive materials that explain how DCR's dam management benefits protected species and enhances recreation in the Forest.	Interpretive Services (Lead), Park Operations
Recreation	Implement program of forest road repair and maintenance.	Forest Fire Control (Co-Lead), Park Operations (Co-Lead)
Recreation	Add field game infrastructure to the campground.	Park Operations
Recreation	Repair the amphitheater deck to ensure near-term safety and usability of this important infrastructure.	Park Operations
Recreation	Conduct deed research to determine which Laurel Lake cottages possess rights-of-way to the head of the lake, the "landing" (the boat ramp) on the lake, or to other Forest resources, as well as to determine how such rights may or may not be exercised on DCR property (such as in Franklin County Registry of Deeds, Book 5957, Page 300).	Office of the General Counsel
Recreation	Conduct deed research and field survey, as necessary, to determine legal rights of property owner adjacent to boat ramp to use DCR land. Resolve potential encroachments in accordance with draft Agency-wide guidance and Best Management Practices (DCR 2019b).	Management Forestry, Office of the General Counsel (Lead)
Recreation	Add a Cantilevered Identification Sign to the winter parking lot on Wendell Road and a Cantilevered Site/Facility Sign to the entrance of the boat ramp.	Park Operations

*Resource Management Plan: Erving State Forest*

<b>Category</b>	<b>Recommendation</b>	<b>Implementation</b>
Recreation	Ensure that Department of Public Health Fish Consumption Advisory Posters ( <a href="https://www.mass.gov/doc/fish-consumption-advisory-poster-for-marine-and-fresh-water-bodies-0/download">https://www.mass.gov/doc/fish-consumption-advisory-poster-for-marine-and-fresh-water-bodies-0/download</a> ) are posted at all fishing access locations.	Park Operations
Recreation	In partnership with FirstLight Power, investigate the possibility of acquiring rights for public parking and installation of a Welcome Wayside at the Hermit Mountain Trailhead. Coordinate with the Town on access and safety issues associated with the tract.	Land Protection Program (Lead), Park Operations, Partners
Recreation	Install Cantilevered Identification Sign and Welcome Wayside at the Hermit Mountain trailhead. Remove non-DCR signage from trailhead.	Interpretive Services (Lead), Park Operations
Recreation	Develop and install two Welcome Waysides with updated maps in the day use area to replace existing panels in kiosks. Ensure that the kiosks meet Americans with Disabilities Act requirements for accessibility.	Interpretive Services (Lead), Park Operations
Recreation	Implement Key Recommendations from the 2018 Program Accessibility Assessment (Institute for Human Centered Design 2018) relating to improvements at the bathhouse, waterfront (swimming area), picnic area, assorted toilet rooms, nature center, boat ramp, and parking lots. Where appropriate, coordinate implementation with mater planning effort for day use area.	Architecture Section, Contractors, Facilities Engineering, Universal Access Program (Lead)
Recreation	Replace three existing Main Identification Signs with new signs conforming to DCR graphic standards.	Park Operations (Lead), Sign Shop

*Resource Management Plan: Erving State Forest*

<b>Category</b>	<b>Recommendation</b>	<b>Implementation</b>
Recreation	<p>Resolve trail-related threats and opportunities identified in this RMP, in accordance with Trails Guidelines and Best Practices (DCR 2019a, or update), through the following actions:</p> <ul style="list-style-type: none"> <li>• Maintain authorized trails, as identified in the DCR Trail Data Layer provided to the Natural Heritage and Endangered Species Program in 2021, and in accordance with the Recreational Trail Maintenance and Biodiversity Conservation 2021 update.</li> <li>• Evaluate trail segments for discontinuation or active closure, including those that are: unauthorized, unsafe, connecting to privately-owned property, located in environmentally or culturally sensitive areas, or otherwise inconsistent with DCR Trails Guidelines and Best Practices. Provide an updated trail data layer to the Natural Heritage and Endangered Species Program.</li> <li>• Establish new trails, as warranted, following regulatory review. Provide an updated trail data layer to the Natural Heritage and Endangered Species Program.</li> </ul>	Management Forestry, Office of Natural Resources, Park Operations (Co-Lead), Partners, Trails and Greenways Section (Co-Lead)
Recreation	In consultation with the Natural Heritage & Endangered Species Program, remove unauthorized climbing bolts at the Hermit's Cave site and install advisory sign at site prohibiting climbing and bouldering.	Park Operations (Lead), Partner
Recreation	Remove old interpretive sign frame at Hermits Castle site.	Park Operations
Recreation	<p>Following completion of a cultural resources evaluation of Hermit's Castle (see above), prepare new interpretive content such as:</p> <ul style="list-style-type: none"> <li>• A wayside interpretive panel for installation at the site.</li> <li>• Virtual content, including an interpretive video, so that people of all abilities may be able to remotely access this important cultural site.</li> </ul>	Interpretive Services (Lead), Office of Cultural Resources, Universal Access Program

*Resource Management Plan: Erving State Forest*

<b>Category</b>	<b>Recommendation</b>	<b>Implementation</b>
Recreation	Work with the geocaching community to ensure that caches located in sensitive natural and cultural resources are relocated out of those areas and that any new geocaches are placed outside of sensitive areas and with the approval of the property manager.	Office of Cultural Resources, Office of Natural Resources, Park Operations
Recreation	Close and naturalize user-created spur trail on Hermit Mountain Loop that follows Forest property boundary. Install trail markers to indicate that trail makes a sharp turn at this location.	Park Operations
Recreation	Add trail signs to trails system.	Park Operations (Lead), Trails and Greenways Section
Recreation	Prepare new trail map for the general public that includes Hermit Mountain Tract.	GIS Program, Interpretive Services, Trails and Greenways Section (Lead)
Recreation	Repair or replace deteriorated roof and siding on nature center.	Architecture Section (Lead), Contractor, Park Operations
Recreation	Replace inaccurate public access signage at boat ramp.	Park Operations, Partner

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PUBLIC REVIEW DRAFT - SEPTEMBER 2025