



# Resource Management Plan Wendell 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).

# Wendell State Forest

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

## 1. PROPERTY OVERVIEW

Characteristic	Value
Date Established	1921
Location	Montague, Orange, Wendell
Ecoregion	Worcester Plateau
Watershed	Chicopee, Connecticut, Millers
DCR Region	Central
DCR District	Central Highlands
DCR Complex	Erving
Management Forestry District	Eastern Connecticut Valley
Fire Control District	Franklin
Size (acres)	7,882.7
Boundary Length (miles)	57.1
Elevation - Minimum (feet)	427.1
Elevation - Maximum (feet)	1,274.2
Environmental Justice (acres)	0.0
Estimated Annual Attendance (2020)	15,000
Interpretive Programs (# programs, 2023)	0
Interpretive Programs (# attendees, 2023)	0

## 2. LANDSCAPE DESIGNATIONS

Designation	Acres
Parkland	112.7
Reserve	4,012.6
Woodland	3,634.0
No Designation	123.5

## 3. REGULATORY DESIGNATIONS

Designation	Acres
Priority Habitat (MESA)	701.1
Outstanding Resource Waters – Quabbin Reservoir	529.1
Surface Water Supply Protection Zone A	53.4
Watershed Protection Act	91.8

## 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
Western Massachusetts Climbers' Coalition (WMCC)	Exp. 2017
Western Mass Chapter, New England Mountain Bike Association (NEMBA)	Exp. 2021

## 5. CONCESSIONS

Concession Type
None

## 6. PARTNERS & FRIENDS

Group(s)
None

## 7. FEATURES OF INTEREST

Feature
Lynne's Falls (i.e., Lyons Brook Falls)
Millers River
Mormon Hollow Crag
New England National Scenic Trail
Ruggles and Wickett Ponds
Ruggles Pond Dam
Scenic Overlooks (3), with views of the Millers River Valley and surrounding uplands
Whale Head rock formation

## 8. NATURAL RESOURCES

Resource	Value
Tree Canopy (acres)	7,602.2
Rivers and Streams (miles)	33.0
Open Water (acres)	74.3
Wetlands (acres)	284.1
Certified Vernal Pools (#)	1
Potential Vernal Pools (#)	16
State-Listed Species (# Regulatory)	8
State-Listed Species (# Non-Regulatory)	3
Federally Listed Species (#)	0
Aquatic Invasive Plants (# known species)	0
Terrestrial Invasive Plants (# known species)	5

## 9. FOREST MANAGEMENT (SINCE 2012)

Management Objective	Acres
Maintain and enhance species and structural diversity	118.0



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

Wildfire Attribute	Value or Characteristic
Number of wildfires on property; 2019–2023	1
Acres burned by wildfires on property; 2019–2023	2.0
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	7
Historic - Total MACRIS Listed	7
Historic - National Register Listed	0
Historic - National Historic Landmark	0

## 14. RECREATION RESOURCES

Resource	#
Accessible & Healthy Heart Trail	1
Ballfield	1
Cartop Boat Launch	1
Horseshoe Pitch	2
Ice Rink	1
Pavilion	2
Picnic Area	1
Trail System	1

## 15. RECREATION ACTIVITIES

Activity
Baseball
Bicycling, mountain
Canoeing/Kayaking
Cross-country skiing
Dog sledding
Dog walking, on leash
Fishing, fin fish
Hiking/Walking
Horseback riding
Horseshoes
Hunting
Ice skating
Nature study/Photography
Picnicking
Running/Jogging
Scenic vista viewing
Sledding/Tubing
Snowmobiling
Snowshoeing
Trapping
Volleyball
Wildlife viewing

## 16. ROADS AND TRAILS

Metric	Value
Roads - Unpaved (miles)	9.3
Roads - Paved (miles)	4.7
Forest Roads - Unpaved (miles)	26.6
Forest Roads - Paved (miles)	0.0
Trails - Unpaved (miles)	19.9
Trails - Paved (miles)	0.0
Trails - Unauthorized (miles)	9.8
Trail Density (miles/acre)	0.007
Area of Impact (acres)	3,300.1

## 17. PARKING

Parking Resources	#
Lots	5
Parking Spaces - Total	78
Parking Spaces - Accessible (HP)	2
Parking Spaces - Other	76

## INTRODUCTION

Wendell State Forest (Wendell or the Forest) is approximately 34 miles north-northeast of Springfield in the Town of Wendell (the Town), with a small portion in the Towns of Montague and Orange. The Town is a sparsely populated (924 residents as of the 2020 census) rural community characterized by former agricultural and forested properties with low-density residential development. The Forest occupies upland areas spread across the Town, including hills that define the south side of the Millers River Valley. Montague and Orange state forests abut Wendell to the west and east, respectively, while Erving State Forest lies just north of the Forest across the Millers River. Forest land is held in three tracts (see Land Stewardship Zoning Map on page 32):

- **Main Forest Tract.** This large tract sprawls across the western and northern portions of the Town, encompassing small parcels in Montague and Orange. It hosts nearly all the Forest's recreational assets, including developed recreational facilities at Ruggles and Wickett ponds.
- **Swift River Tract.** Located in the southeast part of the Town, this tract encompasses approximately 457 acres of the West Branch of the Swift River, associated wetlands, and forested hillsides of the river valley. Infrastructure on this tract consists of Cooleyville Road and three short (<0.5 mile) trail spurs and forest roads.
- **Gate Lane Tract.** This small tract, located in the southeast corner of the Town, is connected on its east and west lot lines to extensive DCR Division of Water Supply Protection (DWSP) lands that total thousands of acres and are associated with the Quabbin Reservoir. Gate Lane passes through this tract. There is no other recreation infrastructure.

The New England National Scenic Trail (NET), which incorporates the shorter Metacomet-Monadnock (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 (NET 2020a). The NET passes through the Forest's Main Tract and has an overnight lean-to shelter within the Forest near the main entrance. Lean-to reservations are managed through the NET website (NET 2020b). The NET crosses multiple DCR properties including nearby Erving State Forest and Lake Wyola State Park. 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 Wendell 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 (Native Land Digital 2023) as having relationships to this place over seasons and generations. The Millers 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. The Forest encompasses likely sites where Indigenous peoples hunted, fished, or camped, such as Wickett Pond and the Millers River (Massachusetts Historical Commission (MHC) 1982). Following Indigenous peoples' dispossession, the General Court allocated land in the area to European settlers in the Roadtown and Ervinshire Grants of 1735 and 1754, respectively, and incorporated the Town of Wendell in 1781 (MHC 1982). The rugged terrain dictated sparse, dispersed Euro-American settlement,



with forestry (later to include charcoal making), milling, and animal husbandry (especially sheep and cattle) being dominant economic activities. Wendell's population peaked in the early 19th century. Thereafter, unsustainable timber resource extraction practices and a regional pattern of farm abandonment would set the stage for the Commonwealth's creation of a State Forest.

In 1921, the Commissioner of Conservation purchased 2,124 acres of land in Wendell and eastern Montague and designated them Wendell State Forest (Massachusetts Department of Conservation (DoC) 1922). The purchases were made under authority of the State Forest Act that allowed the Commissioner to "acquire ... any lands suitable for the purposes of conservation or recreation" (Massachusetts General Laws (M.G.L.) Ch. 132, § 30–31). The State Forester described the lands as "suitable in the main for no other purpose than that of producing forest trees" and mostly covered with "a young growth of mixed hardwoods" (DoC 1922:15). Administrative bounds of the Forest were expanded to Orange, Wendell, Montague, and New Salem over the next 15 years as over 4,000 acres were added to the Forest. Some of these lands would later receive separate administrative designations to create new state forest units (e.g. Orange State Forest). Early work in the Forest was largely dedicated to tree planting and road improvement. From 1933–1937, however, Civilian Conservation Corps (CCC) Camp S-62 enrollees undertook recreational improvements, chief among these being the improvement of Ruggles Pond, which was an abandoned mill pond, into a swimming area with a beach, a rehabilitated dam, parking lot with a long stone retaining wall, and a bridge across Lyons Brook (Berg 1998). In addition, CCC workers engaged in forestry work such as construction of water holes, pest control, and tree care. Other noteworthy infrastructure improvements occurred at the Forest from 1966–72, when the day use area at Ruggles Pond was improved and the headquarters and garage buildings were added (Massachusetts Division of Forests and Parks 1966: 6; 1968: n.p.). In the past 25 years, land acquisitions have focused on the Bear Mountain portion of the Main Tract and Swift River Tract (Massachusetts Department of Environmental Management (DEM) 1997:9). Four small (<100 acres) land sales and exchanges occurred between 1970 and 1991 (Massachusetts Department of Natural Resources 1970: meeting minutes for February 26; 1985: meeting minutes for December 17; Massachusetts General Court 1983; 1990). In 2012, DCR designated the eastern portion of the Main Tract and the Swift River Tract as Reserves. The remainder of the Forest is designated Woodland and Parkland. (See Landscape Designation section, page 28.) Prior to adoption of this RMP, Wendell State Forest was managed under a regional Guidelines for Operations and Land Stewardship plan (i.e., GOALS plan) covering the Northeastern Connecticut Valley Region (DEM 1997). Adjacent DWSP lands are managed under a variety of watershed-specific plans (i.e., DCR 2018a, 2018b, 2023a) and regulations.

Wendell State Forest's large size and varied and scenic terrain preserve important conservation values and offer visitors outstanding recreational experiences. The Forest is a matrix of wooded hillsides underlain with granite gneiss bedrock and covered with glacial till. Waterbodies and wetlands run through and punctuate this terrain: the Millers River and the West Branch of the Swift River, perennial streams in narrow valleys, small ponds (Wickett and Ruggles ponds are the pre-eminent examples), numerous swamps, and a kettlehole bog. Most of the Forest is covered with oak hardwood, white pine hardwood, and white pine oak stands. Exposed bedrock and steep terrain create picturesque waterfalls, cascades, outcrops, and cliffs. Stone walls, cellar holes, cart paths, water-powered mill, and CCC-related features evidence historical-period land uses and contribute to the scenic qualities of the Forest. A developed day use area off of Montague Road offers scenic picnic areas with pavilions and a ballfield (informal, i.e., not for permitted team play) on Ruggles Pond, a car-top boat launch on Wickett Pond,

and access to hiking, fishing, and mountain biking activities. In winter months, the Forest is a hub for skiing, snowmobiling, sledding, and ice skating on a temporary rink and is used by the Universal Access Program (UAP) for these activities. Surrounding the Forest are rural residential and agricultural properties, as well as numerous tracts of permanent protected open space owned by Mass Audubon, Mt. Grace Land Conservation Trust (MGLCT), Department of Fish & Game, and DCR. The MGLCT's Hidden Valley Memorial Forest (i.e., Lyons Brook Conservation Area) is only accessible from Forest trails and offers additional recreation opportunities. Wendell's numerous and varied recreational resources offer a quiet, secluded experience for afternoon or day-long adventures any time of year.

### **PARK IDENTITY**

Wendell State Forest's identity combines developed Parkland and Woodland areas that offer diverse, year-round recreation opportunities, with minimally developed Reserves, into a landscape-scale property. The Forest represents an exemplar of the Worcester Plateau Ecoregion because of its size and relationship to the Millers River Valley. The large scale and variety of resources of the Forest should be recognized in future activities and improvements as follows:

- In the Parkland and Woodland portions of the property, maintenance of existing high-quality recreational experiences while significant natural and cultural resources are protected.
- In the Woodland portion of the property, responsible forest management projects balanced with protection of significant natural and cultural resources and recreational experiences.
- In the Reserve portion of the property, unimpeded forest development that will allow creation of late successional habitat and a setting for secluded low-density recreation.

### **DEFINING RESOURCES AND VALUES**

Resources and values that define the Forest are related to its location in the Worcester Plateau Ecoregion, historical associations with a sparsely settled upland community, and its history of forest management and recreational development. They include:

- Landscape-scale resource protection. Wendell is the eighth-largest property in the DCR system and contributes to an extensive network of protected open space extending roughly 20 miles from Sunderland, in the eastern Connecticut River Valley, to Warwick and adjacent towns of the Northern Worcester Plateau. The Forest represents approximately 38 percent of the Town's total land area and creates the largest contiguous forest area in the Town. Consequently, the Forest supports local and regional conservation values including wildlife habitat and corridors, natural communities, archaeological landscapes, and recreation.
- Endangered or uncommon natural resources:
  - The Forest provides Priority Habitat for eight Massachusetts Endangered Species Act (MESA)-listed species: one Endangered, one Threatened, and six of Special Concern as identified by the Natural Heritage & Endangered Species Program (NHESP). These represent one bird species, one mammal, one amphibian, one invertebrate, one insect, and three plants.
  - The Forest contains an example of a Kettlehole Level Bog Community, an NHESP Priority Natural Community (Swain 2020: 217–219, 319; Wendell Open Space Committee and Franklin Regional Council of Governments Planning Department (WOSC & FRCG) 2023: 108, 117).

- Riparian habitat, scenery, and recreation. The Millers River Valley possesses regional significance because of its scenic, natural, cultural, and recreational resources. The Forest, in combination with other protected open space, conserves a 7-mile stretch of largely undeveloped riverbank and forest along the Millers River that also provides habitat for an NHESP Species of Special Concern (WOSC & FRCG 2023: 7). State-owned access points to the river are directly adjacent to the Forest. The Forest's riverbank and steep valley walls contribute to the scenic qualities of the Mohawk Trail Scenic Byway (Route 2).
- Highland peaks and ridges, ponds, and streams that provide habitat, are landmarks in the Forest, and are the setting for recreation. Of particular note are Locke Hill, Jerusalem Hill, Whales Head, Bear Mountain, Wickett Pond, Ruggles Pond, Mormon Hollow Brook, and the West Branch of the Swift River.
- Granite gneiss rock formations: a line of cliffs and boulders known as the Mormon Hollow Crag and a hilltop outcrop known as the Whale's Head or Whale Head.
- Water supply protection. The Swift River Tract is part of a broad managed landscape of primarily DWSP holdings that protects the quality of water entering the Quabbin Reservoir.
- Historic recreational and forestry development. The Forest possesses significant historical CCC-related resources that are some of the best surviving examples of their type in the Commonwealth (Berg 1998): the Ruggles Pond Dam (Dam No. MA01266), the Laurel Drive Bridge (over Lyons Brook), a lengthy retaining wall, a dynamite shed, water holes, and numerous small-scale landscape features. These structures are significant because they exemplify CCC design and construction, particularly the use of hand craftsmanship and native materials, and provide an outstanding range of CCC stonework in one location (Berg 1998). A CCC camp site was located in the vicinity of Ruggles Pond.
- Cultural resources associated with Wendell's pre-Forest history. Areas within the Forest contain or may contain archaeological sites and cultural landscape features that have important associations with Wendell's historical development:
  - The Mormon Hollow Brook (formerly Wickett Brook) corridor, extending from Wickett Pond downstream (north) to the Forest boundary, is thought to be an early Euro-American settlement location in the Town. (The area was not a Mormon settlement. Its name is derived from itinerant Mormon activity in the 1830s, when missionaries attempted to convert town residents in the hollow, or ravine, along the brook (Richardson and Sawin 2015: 69–70).) Industrial-archaeological site remains are visible in the Mormon Hollow area near the intersection of Farley and Mormon Hollow roads and are included in the Inventory of Historic Assets of the Commonwealth (Forward 1985).
  - A railroad construction laborers' camp and quarries, populated primarily by Irish American laborers, near Bear Mountain (Wilson 2022).
- Developed recreation facilities. The Forest is an important regional resource for hiking and walking, mountain biking, and winter sports with facilities consisting of:
  - The Ruggles Pond picnic areas and ballfield.
  - Wickett Pond and its boat launch.
  - The warming hut and a skating rink (set up seasonally) at headquarters.

- Extensive trails system that serves multiple user groups and includes forest and abandoned town roads, hiking trails with scenic vistas, purpose-built mountain biking trails, and an accessible and Healthy Heart trail.
- Recreational access for diverse user groups. The Forest is a center for UAP recreation programming: cross-country skiing, ice skating, sled hockey, and hiking/snowshoeing. The UAP serves approximately 70-100 people at the Forest each winter.

### **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 Wendell State Forest. The sequence of these statements does not reflect their level of significance.

- Together with Erving State Forest, Wendell State Forest is central to over 30,000 acres of connected, protected, open space. This land is managed by a variety of public, private, and nonprofit stewards. It directly links to Montague State Forest, Wendell Wildlife Management Area, and Whetstone Wood Wildlife Sanctuary and is separated only by Route 2 and the Millers River from Erving State Forest, providing intact lands and waters for resilient ecosystems and critical habitat.
- Beyond the original intents of timber harvesting, pest control, and fire control, DCR forest management objectives have evolved to include carbon sequestration and storage, diverse wildlife habitats, forest resiliency, water quality, and safety.
- The state forests were partly created to lessen the Commonwealth's dependency on out-of-state lumber and to support industry in Massachusetts. Early forest management strategies were driven by productivity and economics. As the science and societal stewardship values evolved, increased consideration was given to the environmental impacts of a site-specific forest management project. In some cases, other objectives, such as improving wildlife habitat or maintaining forest resilience might be the primary reason for a particular project.
- Nine Priority Habitat areas exist throughout Wendell State Forest. These areas indicate land that is known to be the geographic extent of habitat for state-listed species. These species are either at risk, or may become at risk, of extinction.

- Though foresters recognized that forest management could enhance recreational activities, 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.

### **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 Wendell State Forest is:

Perhaps surprisingly, recreation, resource management, and conservation go hand in hand.

### **VISITOR EXPERIENCE**

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

- **Virtual Experience.** Potential visitors will find information about Wendell 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/wendell-state-forest>).
- **Entering the Forest.** The primary visitor entrance to the Forest is at the Main Tract, via Montague Road. Here, visitors enter the Forest through a formal gateway with a Main Identification Sign. Turning onto the paved Laurel Drive, visitors are guided by interior park signage approximately 0.25 miles through forest stands and across the Laurel Drive Bridge to reach the day use area. A contact station (not used currently), kiosk, and paved parking area are sited on the north side of Laurel Drive. From this parking lot, it is a short walk to Ruggles Pond and the Forest’s developed picnic area and ballfield. Because of the large size of the Forest, there are numerous gated trailheads within informal parking areas around the Forest periphery. (“Laurel Drive” is the official designation of the forest gateway road segment off of Montague Road, as recorded in the Massachusetts Department of Transportation (MassDOT) Road Inventory (<https://gis.massdot.state.ma.us/roadinventory/>)). The road is labelled as such in DCR GIS data sets. However, the road is labelled as either Laurel Drive or Wickett Pond Road in other commonly used mapping applications, such as the MassGIS basemap, Google, and Bing).
- **Water-Based Passive Recreation.** Ruggles Pond, immediately adjacent to the day-use parking lot, offers peaceful water views from a sandy shoreline and small lawn. Wickett Pond, accessible by car approximately 1.5 miles from the day use lot, has a car-top boat launch for non-motorized craft. Wendell’s secluded waterbodies offer multiple opportunities for fishing. The Massachusetts Division of Fisheries and Wildlife (MassWildlife) currently stocks the Millers River and Mormon Hollow Brook with trout, and Wickett and Ruggles ponds are also popular destinations for fishing in the Forest.

- **Picnicking.** Picnic tables are dispersed in scenic locations around the day use parking lot and, to the south of the road, in a white pine grove on a sloping hillside overlooking Ruggles Pond. Each picnic area has a pavilion.
- **Field Games.** A path leads approximately 550 feet southwest through the picnic grove to a ballfield that may be used for a variety of pickup sports.
- **Trail-based Passive Recreation.** Visitors seeking other recreational opportunities may access an extensive trails network. Nearly 47 miles of unpaved roads and trails extend through woodlands and over highland summits and ridges, providing visitors the opportunity for a variety of activities according to their ability, ranging from an accessible and Healthy Heart trail experience to a challenging technical mountain bike ride. With some of the highest elevations in Town, the Forest offers expansive scenic views from overlooks on the NET and Jerusalem Hill.
- **Winter recreation.** In winter, Laurel Drive is closed to vehicles and visitors park in an event and winter lot off of Montague Road near the headquarters. Wendell is a popular winter destination with extensive opportunities for ice skating, sledding, cross-country-skiing, snowshoeing, and snowmobiling. Skating is offered on a temporary outdoor rink, weather permitting. Trails are groomed for cross-country skiing and a field behind headquarters provides a site for an outdoor skating rink and sledding. A warming hut next to the headquarters offers shelter to visitors. The headquarters complex is also a hub for UAP winter recreation programming.

### **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 37).

#### **Natural Resources**

##### ***Threats***

- There are numerous locations in the Forest where Town assessor data does not align with DCR open space data. There is an opportunity to enhance agency stewardship by confirming or correcting agency data at these locations, based on deed descriptions, boundary monuments and registered land surveys, so that the Open Space layer accurately reflects DCR's physical ownership.
- Water quality may be threatened at the headquarters well (no. 1319001) because vehicle parking occurs within the well's Zone I Wellhead Protection Area. This activity is inconsistent with Massachusetts Department of Environmental Protection (MassDEP) guidance and Best Management Practices (BMPs) for wellhead protection (MassDEP 1995; 2011).
- Rock climbing could threaten habitat for a MESA-listed, NHESP Species of Special Concern plant species that thrives in rocky clefts and cool, moist, and shady conditions.



- Forest visitors have created multiple unauthorized trails. Some of these trails lead onto adjacent private property and conserved lands. Construction of trails without authorization or applicable regulatory review may threaten MESA-protected species habitat, natural communities, and or ecosystem functions.
- The NHESP does not have records of the mountain bike trails constructed between 2005 and 2021. MESA consultation and review are required for retention of any previously unauthorized trail(s) as well as new trails. Because there was no MESA review, use of these trails, as well as unauthorized trails, may be impacting priority natural resources or MESA-protected species habitat (Leddick 2024).
- Although the Forest's natural communities have not been systematically surveyed, two Priority Natural Communities have been identified. These communities, and existing and potential threats to their ecological integrity and continued persistence in the Forest are identified below:
  - Kettlehole Level Bog (S2 - Imperiled). An example of this community type is present in the Main Tract. In general, this community type is considered vulnerable to nutrient enrichment, alterations to hydrology, and trampling (Swain 2020).
  - Red Spruce Swamp (S3 - Vulnerable). A large example of this community type is primarily located just outside the Main Tract on undeveloped private land, with a small portion (<1.0 acre) extending into the Forest. This community type, which primarily occurs at higher elevations in Massachusetts, is vulnerable to climate change and to alterations in hydrology (Swain 2020).
- There is evidence of recreationists starting campfires at scenic overlooks on the NET. It is unknown if these fires were in association with unpermitted overnight camping by trail through-hikers. Improper campfires may cause wildfires that threaten natural species and communities.
- Unknown persons have installed maple sugaring taps on trees along Farley Road. Some or all of these trees may be within the Forest and tapped without a permit or other use agreement, which would be a violation of Parks and Recreation Rules. Improper tapping may threaten the health of trees.
- Anecdotal information indicates that the number of hunters using the Forest is diminishing. Decreased hunting may result in an overpopulation of deer and consequent over-browsing that threatens forest health.
- Red pine scale, an invasive exotic insect, poses a threat to the health of red pine stands in the Forest.
- Emerald ash borer, a small invasive beetle, poses a threat to the health of ash trees within the Forest.
- Hemlock looper, a native moth species, was identified in the Forest in 2022 by DCR's Forest Health Program (DCR 2022a). This insect causes defoliation that can imperil tree health.
- In addition to the invasive pests listed previously, the following forest health threats are likely present: hemlock woolly adelgid, hemlock elongate scale, beech bark disease, beech leaf disease, southern pine beetle, and spongy moth.
- There are multiple (at least 38) unapproved geocaches in the Forest, some of which are located away from trails. Inappropriately located geocaches may threaten sensitive natural resources.
- The following five species of invasive plants have been identified in the Forest: common 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 for 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 Wendell State Forest. 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.

### **Opportunities**

- There is an opportunity to enhance management of Forest resources and prevent inadvertent encroachments by identifying locations where DCR open space boundaries do not conform to Town assessor data and making corrections as needed to conform these two data sets.
- 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).
- Approximately 123.5 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.
- There are multiple land inholdings in the Forest and peripheral undeveloped lots that offer opportunities for land acquisitions that could increase forest habitat, contribute to landscape-scale conservation in the region, and protect water quality. In particular, there may be opportunities for land acquisition or permanent conservation restrictions between Wendell and Lake Wyola State Park that would protect conservation values and the NET trail corridor.
- The Gate Lane Tract directly abuts DWSP property. Intra-agency discussions between DWSP and State parks could determine if it is appropriate to transfer control of specific tracts both to and from DWSP and State parks to ensure optimal resource protection.
- 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). Three of the Forest's culverts could be replaced with structures 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 these three culverts (ID nos. 24563, 24579, 24590) 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.
- Portions of the Main Forest Tract are located within the DCR Priority Watershed "Final Total Maximum Daily Load (TMDLs) of Phosphorus for Selected Connecticut Basin Lakes." DCR construction projects within Priority Watersheds maximize Stormwater Control Measures, potentially beyond those necessary to meet regulatory criteria (VHB 2022). By maximizing treatment, DCR addresses existing impairments in the receiving waters and contributes to improving water quality in the Priority Watershed. Designers of future projects in affected portions of the Forest should review the latest MassDEP 303d list to understand other impairments of the receiving water

and to fine tune stormwater treatment to address these pollutants, in accordance with the DCR Stormwater Design Handbook (VHB 2022).

- The Forest's Swift River and Gate Lane tracts are located in a watershed with a TMDL report to address water quality impairments (per MassDEP 303d list) to Quabbin Reservoir (AU MA36129). 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).
- Some of the Forest's 16 potential vernal pools may "support rich communities of vertebrates and invertebrates" (MassWildlife 2009) and serve as important habitat components for other wildlife, including one of the Forest's state-listed species. Surveying and certifying these pools (DCR (n.d.a) and MassWildlife (2009)), as appropriate, may help better protect these animals.
- There is an opportunity to minimize forest fire threats and protect cultural resources through maintenance of CCC-era water holes (e.g., debris removal, brush cutting, and inlet/outlet enhancement), in accordance with DCR BMPs for these resources (DCR n.d.b).
- There is an opportunity to protect MESA-protected species habitat in the Forest by identifying any mountain bike trails constructed between 2005 and 2021, as well as unauthorized trails, that fall within Priority Habitat and consulting with the NHESP (possibly through an after the fact filing) on closure, retention, or other management activities associated with these trails (Leddick 2024).
- There is an opportunity to protect identified Priority Habitat for a MESA-listed plant, an NHESP Species of Special Concern that thrives in rocky clefts with cool, moist, shady conditions and rocky clefts, though continued monitoring of forest health to ensure a healthy shade canopy.
- There is an opportunity to protect potential habitat for an NHESP state-listed plant, a Species of Special Concern that thrives in deep shade and rocky clefts, by conducting a plant survey (refer to MassWildlife n.d. for guidelines) at the Mormon Hollow Crag to determine whether habitat for this plant is present in locations where it may be impacted by rock climbers. Plant survey may also be appropriate in mapped rare plant locations east of Diamond Match Road and west of Wendell Depot Road (Leddick 2024).
- There is an opportunity to manage Priority Habitat for an NHESP state-listed plant, a Species of Special Concern that requires periodic disturbance such as managed forestry to persist.
- There is an opportunity to protect Priority Habitat for an NHESP Threatened plant species in Wickett Pond by monitoring the habitat for invasive plants, stormwater and sediment inputs, and excessive trampling by recreationists.
- Priority Habitat for an NHESP state-listed invertebrate, a Species of Special Concern, is present in the Forest. There is an opportunity to protect habitat for this species by maintenance of vegetated riparian buffers and minimization of negative impacts to this habitat from human disturbance (e.g. sedimentation, invasive and non-native species) in the Forest along the Millers River.
- Priority Habitat for an animal Species of Special Concern is present in the Forest along Mormon Hollow and Baker brooks, in the vicinity of Davis, Damon, Farley, and Perry Farm roads. This species is particularly sensitive to impacts resulting from changes in water temperature and quality. There is an opportunity to protect Priority Habitat for the species in this area by avoiding trail crossings in the area; avoiding removal and alterations of canopy and sub-canopy; and consulting with the NHESP if

beaver management is required upstream or downstream of this location (Leddick 2024). In addition, there is an opportunity to prioritize review of an unauthorized trail that passes in or near Priority Habitat at this location.

- Priority Habitat for an NHESP state-listed bird, a Species of Special Concern, is present in the Forest. There may be opportunities acquire additional habitat for this species and/or to partner with the NHESP on habitat management initiatives.
- In addition to Priority Habitat (i.e. Regulatory Habitat), there is also Non-Regulatory Habitat for three 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 is Priority Habitat and Non-Regulatory habitat for multiple MESA-listed species (one amphibian, one animal, one reptile, three insects) in the Forest that depend on healthy streams and wetlands, along with adjacent wooded upland areas. There is an opportunity for continued protection of this habitat through continued application of BMPs for forestry and trail maintenance.
- The following forest roads and trails in the Forest pass through Priority Habitat and Non-Regulated habitat for MESA-protected species associated with vernal pools and wetlands: Loop, Moose Track, Maple Leaf, Hanna Swarton, Trail, Wickett Pond Trail, and an unnamed skid road (object ID 33233 in DCR’s trails data) running between Wickett Pond and Brook roads. There is an opportunity to survey and assess these roads and trails to determine whether they are impacting this species habitat (Leddick 2024).
- At the time this RMP was under preparation, a MESA-protected insect was discovered at Wickett Pond, but the NHESP had not yet assigned Priority Habitat for the species. In the future, there may be opportunities for further NHESP consultation and agency management of habitat for this species (Leddick 2024)
- There is an opportunity to document the Kettlehole Level Bog natural community in order to enhance the stewardship and augment the scientific community’s knowledge of this resource type.
- There is an opportunity to protect forest health and improve relationships with private Forest neighbors by confirming whether the tapped sugar maple trees on Farley Road are within Forest boundaries, and, if so, identifying the person(s) who are tapping the trees and helping them request a written authorization or Special Use Permit (depending on whether the tapping is commercial or non-commercial).
- Portions of Wendell are located within the Connecticut sub-basin of the Connecticut River Watershed; a DCR Priority Watershed. DCR construction projects within Priority Watersheds maximize Stormwater Control Measures, potentially beyond those necessary to meet regulatory criteria (VHB 2022). By maximizing treatment, DCR addresses existing impairments in the receiving waters and contributes to improving water quality in the Priority Watershed. Designers of future projects at Wendell should review the latest MassDEP 303d list to understand other impairments of

the receiving water and to fine tune stormwater treatment to address these pollutants, in accordance with the DCR Stormwater Handbook (VHB 2022).

- There is an opportunity to reduce unauthorized OHV use in the Forest by installing gates at ungated forest roads (see Priority Recommendations).

### **Cultural Resources**

#### ***Threats***

- A lack of knowledge concerning prehistoric and historical archaeological resources in the Forest threatens their effective management and protection. There are three known areas (the Mormon Hollow Brook corridor and Mormon Hollow, Bear Mountain vicinity, Wickett Pond vicinity) where noteworthy historical archaeological resources may be present. The DCR Cultural Resources Inventory (CRI) contains some limited information about these and other archaeological resources in the Forest.
- A patch of invasive Japanese knotweed is located adjacent to an archaeological site in Mormon Hollow. The inevitable spreading of this plant will result in a loss of archaeological site integrity.
- Current digitized and spatially referenced flood maps from the Federal Emergency Management Agency (FEMA) do not cover Wendell State Forest. This limits DCR's ability to identify potential threats from flood events to cultural resources in the Forest.
- Erosion associated with natural weather events and human recreational activities (hiking, mountain biking, OHV use, geocaching, etc.) may threaten archaeological resources in the Forest.
- There are multiple (at least 38) unapproved geocaches in the Forest, some of which are located away from trails. Inappropriately located geocaches may threaten sensitive cultural resources.
- Construction and use of the previously mentioned unauthorized trails may disturb areas of the Forest that have potential archaeological resources.
- The masonry of the CCC Laurel Drive Bridge has condition problems in the form of masonry pointing loss and vegetation growth. Persistence of these conditions will eventually lead to more severe degradation of the structure.

#### ***Opportunities***

- Approximately 123.5 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.
- There is an opportunity to improve management, protection, and interpretation of significant cultural resources in the Forest through completion of a Forest-wide cultural resources reconnaissance survey in partnership with municipal, tribal, and regional entities. Such a survey would update current archaeological and historical resources CRI information and incorporate other types of resources into the CRI. In particular, the Mormon Hollow Brook corridor, Bear Mountain vicinity, and Ruggles Pond area are known or have the potential to contain sites with important historical associations and could be prioritized for survey.
- The Forest is located approximately 3 to 8 miles east and southeast 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 conduct outreach to the Church of Jesus Christ of Latter-Day Saints (i.e., the Mormon Church) regarding the Mormon Hollow area to obtain additional information on the relative historical occupation area and specific historical/archaeological resources of this historical community in relation to DCR's current forest boundaries.
- There is an opportunity at Mormon Hollow to improve management of archaeological resources and minimize conflicts between recreational use and cultural resource protection by conducting an archaeological survey of the area.
- There may be opportunities to enhance protection and public awareness of archaeological resources in Mormon Hollow by implementing interpretive programming for the site.
- There is an opportunity to protect archaeological resources in Mormon Hollow by removing invasive knotweed before it spreads further into the archaeological site.
- There is an opportunity to enhance historical preservation of the CCC Laurel Drive Bridge (i.e., Bridge over Entrance Road, MHC No. WEN.909) by:
  - Completing a MHC Form F–Bridge form for the bridge, which currently lacks such an inventory form.
  - Assessing the condition of the structure’s masonry.
  - Conducting masonry repointing and vegetation removal using historically appropriate techniques and materials.
- There is an opportunity to preserve the historical integrity of CCC-era water holes through routine maintenance in accordance with DCR BMPs for these resources (DCR n.d.b).
- As knowledge concerning cultural resources in the Forest is expanded, there may be opportunities to incorporate this knowledge into interpretive programming for visitors.
- The Town of Wendell has designated as Scenic Roads all roads eligible under M.G.L. c. 40, § 15C (i.e., all town roads except numbered routes or state highways) (WOSC & FRCG 2023: 95). DCR’s preservation of forest edges (e.g. aesthetic buffers) and stone walls maintains the scenic character of these public ways.

### **Recreation**

#### ***Threats***

- There are accessibility issues Forest-wide that are identified in the March 2022 Wendell State Forest, Millers Falls, MA: Program Accessibility Assessment (Institute for Human Centered Design (IHCD) 2022). These accessibility issues threaten the access to and quality of experiences at the Forest for people with disabilities. Noteworthy issues include, but are not limited to:
  - Lack of van accessible (HP) parking and other parking design issues.



- Lack of accessible routes to headquarters, the boat launch, and event area pavilion.
- Shortcomings in the Outdoor Recreation Access Route.
- Inadequate picnic table and grill designs.
- Shortcomings in the interior of the headquarters (particularly the bathroom) and warming hut.
- Wickett Pond is nearing the end of natural lake succession. This provides a beautiful and dynamic natural resource but will eventually lead to the transition of the pond into a vegetated wetland and an end to recreational boating.
- Current digitized and spatially referenced flood maps from FEMA do not cover Wendell 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.
- Visitors occasionally engage in depreciative behaviors such as unauthorized swimming and campfires at the Wickett Pond boat launch.
- The Forest's Main Identification sign does not meet current DCR graphics standards and is seasonally obscured by vegetation.
- Visitors' appreciation and enjoyment of the Forest's recreational, natural, and cultural resources may be limited by the lack of a Welcome Wayside at the day use area.
- There are no rules or Welcome Wayside signage posted at the Wickett Pond boat launch, which threatens visitors' responsible use and enjoyment of the pond.
- There are minor inaccuracies and outdated information in the forest map that may lead to confusion for visitors:
  - A parking area on Saxon Bridge Road is not on the park map.
  - A parking area on Jerusalem Road is incorrectly located.
  - Kentfield Road is shown as paved on the map but is actually an unmaintained forest road.
  - Several authorized mountain biking trails are not shown.
  - The Healthy Heart Trail, which utilizes the Friendly Loop Trail, is not indicated.
- There is an opportunity to enhance the robust accessible programming of the Forest by improving the existing accessible trail. The trail could be upgraded to meet current accessibility guidelines and changed from an out-and-back configuration to a loop to improve the user experience.
- Multiple forest roads in the Main Tract of the Forest, including roads on the Bear Mountain portion of the Forest, and on Perry Farm and Saxons Bridge roads are currently ungated, creating a high incidence of unauthorized dumping, OHV use, after hours parties, dumping of stolen cars, and other depreciative behaviors. The Town has found this behavior to be a nuisance for private Forest neighbors and public safety officials.
- Unpermitted OHV activity in the winter months damages trails that are groomed for winter sports, reducing the quality of forest experiences for winter recreationists.
- The high level of trail usage in the Forest results in erosion and other conditions problems.
- Current mountain bike trails were built by the Western Mass Chapter (formerly Pioneer Valley Chapter) of the New England Mountain Biking Association (NEMBA) under a 2005 DCR Trail Request and Evaluation Form (DCR and NEMBA 2005) and DCR VSA that expired in 2021 (DCR and NEMBA

2019). There is no active VSA or other agreement for mountain bike trail work in the Forest. Lack of an agreement creates ambiguity in trail stewardship responsibilities that may threaten natural and cultural resources in the Forest and may hinder effective trail maintenance.

- The NET creates challenges for DCR field operations staff, as follows:
  - The NET website lists parking available at the headquarters and Ruggles Pond day use area. NET trail users leave cars at these sites for multiple nights without notifying DCR staff. This also takes away parking from day use visitors.
  - Field operations staff are not informed of all NET through-hikers that may be staying in the Wendell lean-to.
  - The lean-to and grounds require routine structural maintenance and grounds upkeep.
- Segments of the Millers River, Lyons Brook, Mormon Hollow Brook, and Whetstone Brook at the Forest may be used for fishing for native fish and, in the case of the Millers River and Mormon Hollow Brook, stocked fish. The Massachusetts Department of Public Health (DPH) has included all four waterbodies on its Freshwater Fish Consumption Advisory List (DPH 2023: 8). No DPH Fish Consumption Advisory Signs are posted at these waterways, welcome waysides, or other sites in the Forest where anglers might access these waterways.

### ***Opportunities***

- There is an opportunity to expand and improve the visitor experience of people with disabilities by addressing identified accessibility issues, not limited to:
  - Lack of van accessible (HP) parking and other parking design issues.
  - Lack of accessible routes to headquarters, the boat launch, and event area Pavilion.
  - Lack of an accessible portable toilet at the day use parking lot.
  - Issues with the Outdoor Recreation Access Route and Friendly Trail.
  - Inadequate picnic table and grill designs.
  - Shortcomings in the interior of the headquarters (particularly the bathroom) and warming hut (IHCD 2022).
- The Main Identification Sign does not conform to current DCR graphics standards. There is an opportunity to improve the Forest's image, enhance brand consistency, and increase the visibility of the main entrance by relocating the sign and replacing the panel.
- There is an opportunity to improve visitors' appreciation and enjoyment of the Forest's recreational, natural, and cultural resources by installing a Welcome Wayside at the day use area.
- There is an opportunity to improve visitors' impression of the Forest and DCR by properly disposing of scrap materials and antiquated equipment that have accumulated in the winter/event parking lot.
- There is an opportunity to enhance user enjoyment of Wickett Pond and minimize depreciative behaviors by installing DCR Welcome Wayside and rules and regulations signage at the boat launch.
- There is an opportunity to improve forest roads and enhance forest fire protection through addition of gravel and regrading, bridge and culvert replacement (including on Laurel Drive), repair and replacement of water bars and other water control features, and tree and brush removal along the road shoulders.

- Inventorying and assessing road and trail stream crossings, including application of the Massachusetts Stream Crossings Handbook (Division of Ecological Restoration 2012) would allow prioritization of culvert replacement/restoration and reduction of future impacts to water quality, aquatic and adjacent habitats, and potentially biodiversity.
- There is an opportunity to improve trail conditions through increased staffing and funding for trail materials such as gravel.
- The popularity of mountain biking at Wendell offers opportunities to renew the partnership with NEMBA in order to improve trail conditions and prevent unauthorized mountain bike trail construction in the Forest.
- Wendell contains a popular, regionally known rock-climbing destination called the Mormon Hollow Crag, a cliff face on the west side of Jerusalem Hill. Technical, rope-supported climbing was established at the site under the 2016 VSA and Climbing Management Plan in cooperation with the Western Mass Climbers Coalition (WMCC). Both documents have now expired (DCR and WMCC 2017; WMCC 2015). There is an opportunity to enhance stewardship of the Mormon Hollow Crag by reviewing rock climbing activities at the site and, if appropriate, working with the WMCC to renew the expired VSA and finalize a Mormon Hollow Crag management plan.
- As of the development of this RMP, the Town of Wendell is conducting a feasibility study (supported by MassTrails) for a multi-use bike path, the Blue Heron Greenway, connecting the Towns of Erving and Wendell. Such a path could provide multi-modal access to the Forest and there may be opportunities for DCR to serve as a partner or otherwise participate in such an endeavor. However, the route under consideration passes through a portion of the Forest designated as Reserve. A shared use path conflicts with the Management Guidelines for Reserves as laid out in the Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines (DCR 2012; FRCG 2009a: 27; Town of Erving 2025; WOSC & FRCG 2023: 17, 211).
- There is an opportunity to decrease depreciative behaviors at Bear Mountain and on Perry Farm Road and Saxons Bridge Road, and to improve DCR relationships with the Town, by installing gates on forest roads. Installations of gates will also enhance winter trail experiences for visitors by keeping unauthorized vehicles off groomed winter sports trails.
- The compelling, high quality, and easily accessible characteristics of historical-archaeological resources in the Forest may offer opportunities for enhanced interpretive programming or signage in the future.
- There may be opportunities to enhance NET stewardship and resolve specific threats noted in this RMP by working with the AMC, as follows:
  - Request that AMC modify the NET website to include specific stipulations about parking on DCR property, such as notification of DCR Operations staff.
  - Work with the AMC on notification and bookings systems for the Wendell lean-to, such as modifications to the NET website that would prompt overnight through-hikers to reserve the lean-to or notify field operations staff of their presence at the time of their stay.
  - Clarify lines of responsibility for maintenance of the lean-to shelter and associated grounds.

- The location of the Forest in close proximity to the Mohawk Trail National Scenic Byway creates grant and marketing opportunities for DCR (Federal Highway Administration 2022; FRCG 2009b; Western Massachusetts Scenic Byways Marketing Committee 2023).
- There may be future opportunities to partner with the Town and Millers River Watershed Council on water quality issues and a Blue Trail (not yet extant) for the stretch of Millers River that passes the Forest.
- The Town has a strong interest in open space protection and remaining a rural, sparsely developed community, which makes it a strong partner DCR in open space protection. In particular, residents have expressed an interest in expanding protected greenways for wildlife and trail use that would build upon existing patterns of protected land in town (WOSC & FRCG 2023: 190).
- The Emergency Action Plan for Ruggles Pond Dam (Dam No. MA01266), classified as a Significant Hazard Potential structure, provides detailed information on how field operations personnel are to respond to dam safety issues, from minor issues to impending failure (Pare Corporation 2018). There is opportunity to increase awareness of this plan among agency staff and local first responders, thereby increasing public safety.

### **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 2023b).

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***

Eight of the Forest's streams have been identified as Coldwater Fish Resources by MassWildlife: Lyons Brook (including Ruggles Pond), Wickett Brook (including Wickett Pond), Mormon Hollow Brook, Gate Hill Brook, Osgood Brook, Whetstone Brook, the West Branch of the Swift River, and Red Brook. The entire lengths of the streams within the Forest are classified as Coldwater Fish Resources. 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 (Massachusetts Bureau of Geographic Information 2021). The ecological connectivity of Mormon Hollow Brook has been negatively affected by culverts, a condition that is likely to worsen with exposure to a changing climate. Culverts are also affecting the connectivity of a stream that is not classified by MassWildlife as a Coldwater Fish Resource; a changing climate is also likely to worsen the connectivity of this stream.

One plant species is present in the Forest that is an NHESP Species of Special Concern protected under the MESA. This plant is at the southern limit of its range in Massachusetts and may be exposed to changing temperature regimes that result from climate change.

The Forest's two known Priority Natural Communities (Kettlehole Level Bog and Red Spruce Swamp) are vulnerable to alterations to hydrology. Changes in precipitation, such as may occur in a changing climate, have the potential to impact these communities.

Multiple salamander species (i.e., eastern newt, eastern red-backed salamander, northern two-lined salamander, and spotted salamander) have been reported in the Forest. Populations of these amphibians may be threatened by the impacts of climate change.

Two MESA-protected Species of Special Concern in the Forest, an aquatic invertebrate and an amphibian, have been identified as being particularly sensitive to the impacts of climate change.

Climate change may cause some vernal pools to dry earlier in the season than they have historically, potentially interfering with amphibian life cycles (Cartwright et al. 2022). Because of this, some of the Forest's pools and associated wildlife may be negatively impacted. Similar impacts may occur at potential vernal pools that function as vernal pools. 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 Wendell 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 Wendell 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, hockey, snowmobiling, and snowshoeing). Warming temperature regimes may make the outdoor ice-skating rink at Wendell unusable and threaten UAP programming associated with this infrastructure. Anecdotal data indicates that there have been fewer opportunities to use the rink recently than in previous years.

## **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. Most of Wendell State Forest is designated as Woodland and Reserve. Developed recreation areas in the Forest are designated Parkland. Identification of Land Stewardship Zones within Wendell 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 32 and 33, and the Land Stewardship Zoning layer on DCR's Stewardship Map: <https://dcrsgis-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 Wendell has been designated Zone 1.

- A Kettlehole Level Bog Community, classified as Imperiled in the state due to rarity and designated an NHESP Priority Natural Community, that is sensitive to dispersed recreation, particularly trampling (Swain 2020: 217–219, 319).

### **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 Wendell 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 Wendell are currently developed, appropriate for potential future development, or intensively used for recreation. They have been designated Zone 3.

- Existing developed recreation and maintenance facilities, including:
  - Headquarters and the field behind headquarters that is used for winter sports programming.
  - The Ruggles Pond day use area, including the structural footprint of the Ruggles Pond Dam and the apron, spillway, and any access areas needed to operate, maintain, or repair this dam.
  - The winter/event parking lot off of Montague Road.
  - Wickett Pond boat launch and parking area.
  - Peripheral developed parking areas.

### **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 Overlays were developed for Wendell:

- **Deed Restriction Overlay.** This overlay covers a 13.197-acre parcel off of Farley Road referred to as Phelps Lot 42a. The Town conveyed this parcel to the DCR with two restrictions:

- “Any proceeds from wood and timber cut and sold from said Premises shall be conveyed to the town of Wendell to be used for the support of Common Schools in said town of Wendell and for no other purposes.”
- “No wood or timber may be cut from said Premises without the written approval of Grantee’s Division of Forest and Parks and unless pursuant to the Wendell State Forest Management Plan and a Massachusetts Forest Cutting Plan” (Franklin County Registry of Deeds Book 3188, Page 92 and Plan Book 95, Plan 33).
- **Surface Water Supply Protection Zone A Overlay.** Uses and activities within this overlay should be consistent with Massachusetts’ Drinking Water Regulations to protect surface water supplies. Refer to 310 CMR 22.20B and 310 CMR 22.20C for specific guidance.
- **Watershed Protection Act Overlay.** Land uses and activities within this overlay should be consistent with Massachusetts Watershed Protection Act (WsPA) regulations. Overlay boundaries on map encompass WsPA Primary and Secondary Protection Zones and are approximate, other geographic areas may be regulated under the WsPA. See 313 CMR 11.00 for regulations and the associated guidance document (DCR 2017) for details on the processes used for implementation of the act.
- **Wellhead Protection Overlay.** This overlay includes the Zone I Wellhead Protection Area at the Forest’s headquarters. 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-eoea.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-eoea.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 34.)

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**

Thirty-two priority management recommendations were developed for this property. They are presented in Table 19, page 37. 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 37) 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: Wendell State Forest

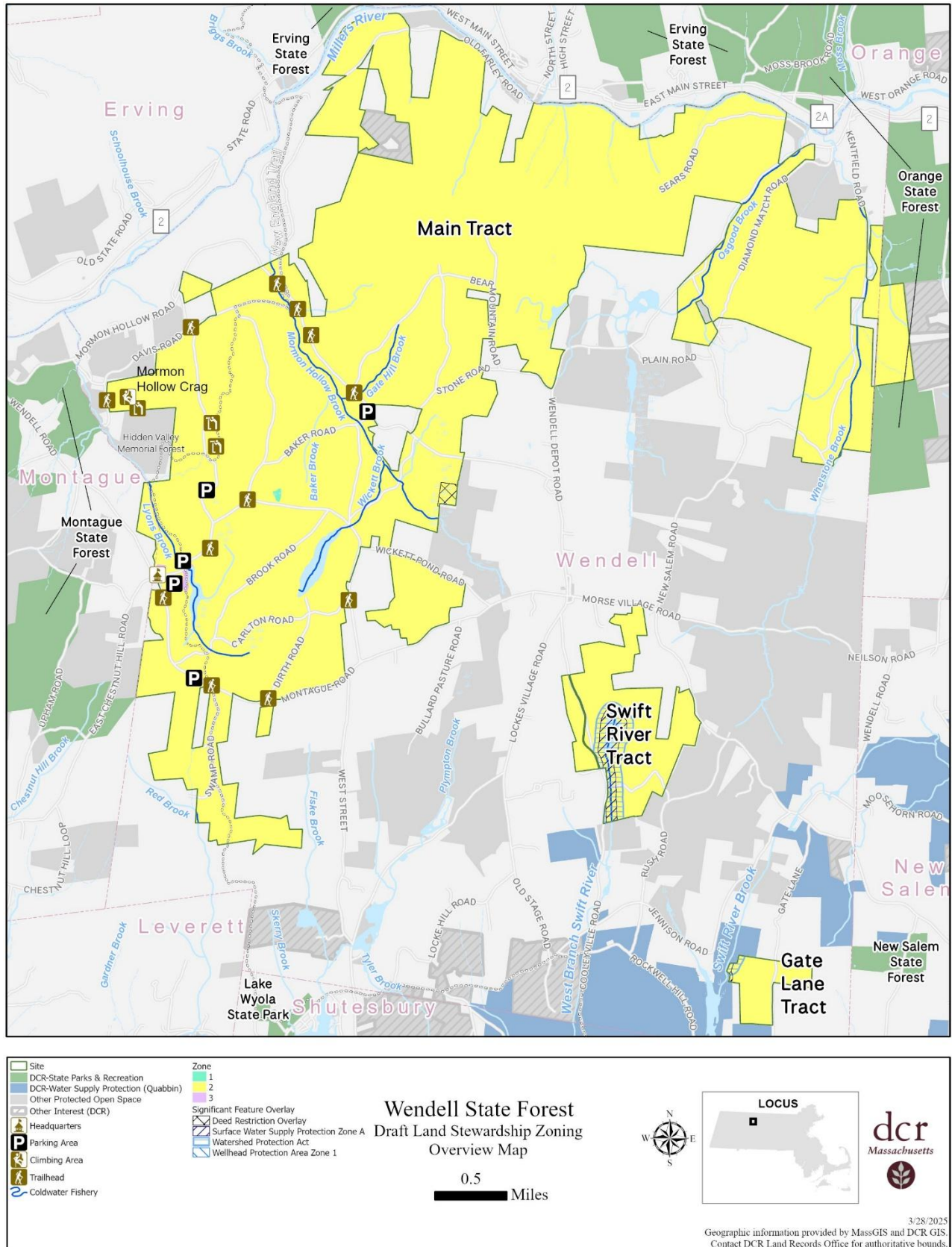


Figure 1. Land Stewardship Zoning Map.



# Resource Management Plan: Wendell State Forest

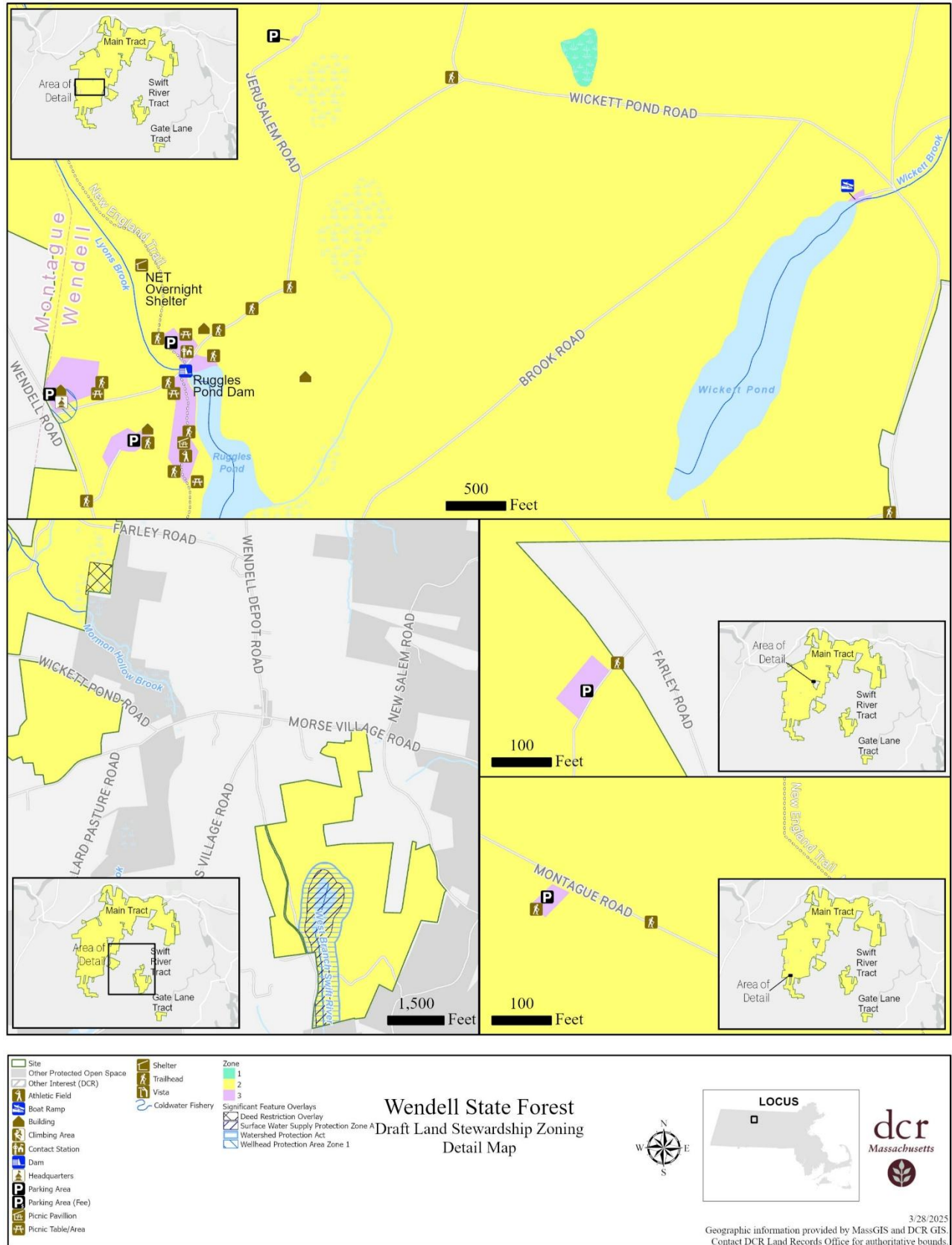


Figure 2. Land Stewardship Zoning Map (continued).

**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.	Yes
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.	No
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

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<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.	Yes
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

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<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.)	Yes
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 2023); 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 Wendell 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	Conduct desktop survey to identify locations where DCR Forest boundaries do not align with Town assessor data. Perform deed research or instrument surveys as necessary to determine legal boundaries. If potential encroachments are identified through this process, document and resolve potential encroachments in accordance with Agency-wide Guidance and Best Management Practices (DCR 2019b).	Contractor, GIS Program, Management Forestry (Lead), Office of the General Counsel, Park Operations
Natural Resources	Explore opportunities to partner with the Town and non-profit partners on land acquisition projects that meet goals for connectivity and greenways, habitat preservation, and landscape-scale conservation values.	Land Protection Program
Natural Resources	Apply Landscape Designations to those portions of the Forest currently lacking such designations.	Management Forestry (Lead), GIS Program
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
Natural Resources	Assess the three culverts (ID nos. 24563, 24579, 24590) 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 structures 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 culverts.	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

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<b>Category</b>	<b>Recommendation</b>	<b>Implementation</b>
Natural Resources	Document the presence of the Kettlehole Level Bog community through survey and (if appropriate) completion of a Natural Community Field Form for submittal to the Natural Heritage & Endangered Species Program.	Management Forestry, Office of Natural Resources (Lead)
Natural Resources	Install sign at car top boat launch on preventing the spread of aquatic organisms.	Lakes and Ponds Program
Natural Resources	Survey, document, and submit documentation to certify the eight potential vernal pools within the Woodland portion of the Forest, in accordance with DCR (n.d.a) and MassWildlife (2009), as warranted.	Office of Natural Resources (Lead), Volunteers
Natural Resources	After appropriate review, remove invasive knotweed adjacent to the Mormon Hollow industrial-archaeological site.	Management Forestry (Lead), Office of Cultural Resources, Office of Natural Resources, Trails and Greenways Section
Natural Resources	Determine whether unauthorized maple sugar tapping activities are occurring within agency land on Farley Road. If confirmed, identify and work with maple syrup producer(s) that are tapping DCR trees to bring this activity into compliance with DCR regulations.	Management Forestry, Park Operations
Natural Resources	Install gates (six total) on forest roads on the Main Tract at the Bear Mountain area and Perry Farm and Saxons Bridge roads.	Forest Fire Control, Park Operations, Trails and Greenways Section (Lead)
Cultural Resources	Conduct an archaeological reconnaissance survey (950 CMR 70) in cooperation with municipal, tribal and non-profit partners, including the Town of Wendell and the Church of Jesus Christ of Latter-day Saints. Complete appropriate Massachusetts Historical Commission archaeological site forms for identified archaeological resources. Based on available background information, possible priority areas for survey could include Mormon Hollow Brook corridor, Bear Mountain vicinity, and Ruggles Pond area.	Consultant, Office of Cultural Resources (Lead), Partners

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<b>Category</b>	<b>Recommendation</b>	<b>Implementation</b>
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	Upon completion of Mormon Hollow Brook archaeological survey, develop an updated Land Stewardship Zoning strategy to balance cultural resources protection with recreational use in the historic archaeological district.	Office of Cultural Resources (Lead), Trails and Greenways Section
Cultural Resources	<p>In accordance with the Secretary of the Interior’s Standards for the Treatment of Historic Properties, conduct requisite studies of and complete repairs to the Civilian Conservation Corps Laurel Drive Bridge as follows:</p> <ul style="list-style-type: none"> <li>• Historic architecture survey and completion of Massachusetts Historical Commission Form F–Bridge form.</li> <li>• Masonry evaluation and rehabilitation plan.</li> <li>• Preservation, rehabilitation, or restoration of masonry and other condition problems if any.</li> </ul>	Consultant, Facilities Engineering, Office of Cultural Resources (Lead)
Cultural Resources	Maintain Civilian Conservation Corps water holes in accordance with the DCR Best Management Practices for these resources (DCR n.d.b).	Forest Fire Control (Lead), Office of Cultural Resources, Park Operations
Recreation	Implement Key Recommendations from the 2022 Program Accessibility Assessment (IHCD 2022). Where appropriate, coordinate implementation with master planning effort for day use area.	Architecture Section, Contractor, Universal Access Program (Lead)
Recreation	Design, permit, and construct improvements to the existing accessible trail in the Forest to meet most recent accessibility standards. If feasible, convert trail from an out-and-back to a loop configuration during improvement project.	Management Forestry, Park Operations, Trails and Greenways Section, Universal Access Program (Lead)
Recreation	Replace Main Identification Sign with new sign conforming to DCR graphic standards. Locate new sign in a site more visible to motorists on Montague Road.	Park Operations (Lead), Sign Shop

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<b>Category</b>	<b>Recommendation</b>	<b>Implementation</b>
Recreation	Develop and install two accessible Welcome Waysides: one each at Ruggles Pond and Wickett Pond.	Interpretive Services (Lead), Park Operations
Recreation	Install Rules and Regulations sign and “No Swimming” regulation sign at Wickett Pond boat launch and at the former Ruggles Pond waterfront.	Park Operations
Recreation	Prepare updated trail map that incorporates authorized mountain biking trails and parking areas, removes Kentfield Road as a paved route, and indicates the location of the Healthy Heart Trail.	GIS Program, Interpretive Services, Trails and Greenways Section (Lead)
Recreation	Manage the trails network in accordance with DCR Best Practices (DCR 2019a).	Park Operations (Lead), Trails and Greenways Section
Recreation	After completion of Mormon Hollow Brook archaeological survey, evaluate potential of site for interpretive programming. Naturalize the de-authorized sections of the New England National Scenic Trail that formerly passed through the site and are not needed for potential interpretive programming.	Interpretive Services (Co-Lead), Office of Cultural Resources (Co-Lead), Trails and Greenways Section (Co-Lead)
Recreation	Identify all mountain bike trails constructed between 2005 and 2021, as well as any unauthorized trails, that fall within Priority Habitat. Consult with the NHESP (possibly through an after the fact filing) on appropriate management activities (e.g., discontinuation, active closure, rerouting) for these trails (Leddick 2024).	Management Forestry, Office of Natural Resources, Park Operations (Co-Lead), Partners, Trails and Greenways Section (Co-Lead)



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<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	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 (Lead)
Recreation	Renew partnership with Western Mass Chapter of the New England Mountain Bike Association to minimize unauthorized mountain bike trail construction and to create new Volunteer Stewardship Agreement for trail maintenance.	Trails and Greenways Section
Recreation	Work with the Appalachian Mountain Club to address Park Operations concerns relating to: overnight parking, lean-to upkeep, and overnight stays at the lean-to.	Park Operations, Partner, Trails and Greenways Section (Lead)

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<b>Category</b>	<b>Recommendation</b>	<b>Implementation</b>
Recreation	Conduct environmental review of rock climbing at Mormon Hollow Crag, including a plant survey (MassWildlife n.d.) of the crag for a plant Species of Special Concern that thrives in rocky clefts and cool, moist, and shady conditions. If appropriate, work with the Western Massachusetts Climber's Coalition to renew the expired Volunteer Stewardship Agreement and finalize a Mormon Hollow Crag management plan.	Office of Cultural Resources, Office of General Counsel, Office of Natural Resources (Co-Lead), Park Operations, Partner, Trails and Greenways Section (Co-Lead)
Recreation	Post 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> ) (due to polychlorinated biphenyls (i.e., PCBs) in fish tissue) at Forest kiosks and fishing access locations along the Millers River, Lyons Brook, Mormon Hollow Brook, and Whetstone Brook.	Park Operations
Recreation	Increase awareness of the Emergency Action Plan for Ruggles Pond Dam (Pare Corporation 2018) among Forest staff and local first responders.	Office of Dam Safety, Park Operations (Lead)

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