dcr
Massachusetts

Resource Management Plan
Federation of Women's Clubs State Forest

Adopted by the DCR Stewardship Council Month, 2025

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 www.mass.gov/dcr. Contact us at mass.parks@mass.gov.

Federation of Women's Clubs State Forest

https://www.mass.gov/locations/federated-womens-club-state-forest

1. Property Overview

Characteristic	Value
Date Established	1930
Location	New Salem, Petersham
Ecoregion	Lower Worcester Plateau
Watershed	Chicopee, Millers
DCR Region	Central
DCR District	Central Highlands
DCR Complex	Erving
Management Forestry District	Mid-State
Fire Control District	North Worcester
Size (acres)	1,006.4
Boundary Length (miles)	6.9
Elevation - Minimum (feet)	561.5
Elevation - Maximum (feet)	855.6
Environmental Justice (acres)	0.0
Estimated Annual Attendance (2023)	5,000
Interpretive Programs (# programs, 2023)	0
Interpretive Programs (# attendees, 2023)	0

2. Landscape Designations

Designation	Acres
Parkland	0.0
Reserve	0.0
Woodland	960.0
No Designation	46.4

3. Regulatory Designations

Designation	Acres
Outstanding Resource Waters-Quabbin Reservoir	968.0
Priority Habitat (MESA)	66.2
Surface Water Supply Protection Zone A	14.2

4. Long-Term Agreements

Agreement	Expiration Year
None Identified	N/A

5. Concessions

Concession Type
None

6. Partners & Friends

Group(s)
None

7. Features of Interest

Feature
Access to Soapstone Hill
The Gorge
West Branch Fever Brook

8. Natural Resources

Resource	Value
Tree Canopy (acres)	933.5
Rivers and Streams (miles)	3.6
Open Water (acres)	0.0
Wetlands (acres)	93.9
Certified Vernal Pools (#)	0
Potential Vernal Pools (#)	3
State-Listed Species (# Regulatory)	4
State-Listed Species (# Non-Regulatory)	2
Federally Listed Species (#)	0
Aquatic Invasive Plants (# known species)	0
Terrestrial Invasive Plants (# known species)	4

9. Forest Management (Since 2012)

Management Objective	Acres
Maintain and enhance species and structural diversity	47.0

10. History of Wildfires and Conditions Influencing Future Wildfires

Wildfire Attribute	Value or Characteristic
Number of wildfires on property; 2019–2023	0
Acres burned by wildfires on property; 2019–2023	0.0
Number of wildfires in Fire Control District; 2019–2023	294
Acres burned by wildfires in Fire Control District; 2019–2023	1169.6
Type of Wildland-Urban Interface	Intermix
Predicted rate of spread, based on Fire Behavior Fuel Model 13	Rapid

11. Natural Hazards

Hazard Type	Acres
Flood (1.0%-chance)	80.8
Flood (0.2%-chance)	80.8
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	2
Historic - Total MACRIS Listed	1
Historic - National Register Listed	0
Historic - National Historic Landmark	0

14. Recreation Resources

Resource	#
Campground	1
Trails System	1

15. Recreation Activities

Activity
Bicycling, mountain
Camping
Dog walking, on-leash
Fishing, fin fish
Hiking/Walking
Hunting
Snowshoeing
Trapping
Wildlife viewing

16. Roads and Trails

Metric	Value
Roads - Unpaved (miles)	1.3
Roads - Paved (miles)	1.0
Forest Roads - Unpaved (miles)	1.7
Forest Roads - Paved (miles)	0.0
Trails - Unpaved (miles)	2.7
Trails - Paved (miles)	0.0
Trails - Unauthorized (miles)	0.2
Trail Density (miles/acre)	0.005
Area of Impact (acres)	346.3

17. Parking

Parking Resources	#
Lots	0
Parking Spaces - Total	0
Parking Spaces - Accessible (HP)	0
Parking Spaces - Other	0

INTRODUCTION

Federation of Women's Clubs State Forest (Federation or the Forest) is located in the Towns of New Salem and Petersham, just northeast of Quabbin Reservoir and approximately 30 miles northwest of Worcester and 3 miles west of the Petersham town center. Federation is mainly bordered by DCR Division of Water Supply Protection (DWSP) land for the Quabbin Reservoir Watershed and private property, some with conservation restrictions. Route 122/Petersham Road to the north provides the northernmost boundary and main access point for the Forest.

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 Federation of Women's Clubs State Forest. Groups and individuals, including Indigenous peoples known as the Nipmuc are recorded in available documentation (Native Land Digital 2023) as having relationships to this place over seasons and generations. Following Indigenous peoples' dispossession, the Town of Petersham was settled by Europeans around 1733 after the land was divided up among 71 service members, for their efforts in the Indian War. The "Volunteers Town" continued to grow and was incorporated as Petersham in 1754. The Town of Petersham has a strong history of agriculture. In the late 18th and early 19th century, wood products contributed largely to the local economy as the forests were cleared for agriculture and settlement. The cleared land then enabled land to be cultivated for crops or used as pasture. Approximately two-thirds of the Town's land was being used for hay and pasture by 1885. In 1907, Harvard University set up a campus for experimental forestry in Petersham, acquiring more than 2,000 acres for the establishment of Harvard Forest (Harvard Forest 2021). In preparation for the creation of Quabbin Reservoir, the Town of Dana was annexed into Petersham in 1927. Built infrastructure was removed from Dana and parts of Petersham by 1940. In 1938, at least half of the land that was considered Dana was lost when the area was flooded to create the reservoir, and some unflooded areas of Prescott and Greenwich were also incorporated into Petersham. The Commonwealth of Massachusetts conserved nearly a quarter of the Town of Petersham lands as watershed protection land, under the management of the Metropolitan District Commission (MDC) (Massachusetts Historical Commission (MHC) 1984).

The Forest was established in 1930, through an initial gift of 8 acres from the Massachusetts Federation of Women's Clubs. This civic organization, "following the example of the Daughters of the American Revolution," began "the acquisition of land for a state forest" (Massachusetts Department of Conservation (DOC) 1931). "The deed of the first parcel acquired was presented to the Commissioner on October 9, at Petersham, in the presence of a large number of club women and conservationists" (DOC 1931). This gift was made by the women's clubs in recognition of the Tercentenary of Massachusetts (Massachusetts State Federation of Women's Clubs 1988). Deeds from this gift designate a 140-acre "Wild Life Sanctuary" within the Forest. In total, the women's clubs donated 779.75 acres. Additional land was acquired through the State Forest Act and MDC. Civilian Conservation Corps (CCC) enrollees from camps based at nearby state forests built five waterholes and constructed Fever Brook Road (believed to follow the alignment of the current State Forest Road) in the Forest, though the road no longer retains any CCC features (Berg 1999). The Forest was previously managed under a 1996 Department of Environmental Management (DEM) Guidelines for Operations and Lands Stewardship (GOALS) plan for the Northeastern Connecticut Valley Region (DEM 1997). Adjacent DWSP lands are managed under a variety of watershed-specific plans (i.e., DWSP 2018a, 2018b, 2023a) and regulations.

Federation of Women's Clubs State Forest provides a quiet escape and access to hiking with rewarding views. A small campground offers a tranquil retreat for campers seeking a more secluded camping experience with walk-in campsites. Trails near the campground lead hikers onto adjacent Quabbin Reservoir Watershed property where hikers can take in the views from the top of Soapstone Hill. Other hikes accessed by small trailheads along State Forest Road wind past ponds fed by West Branch Fever Brook. The Forest contributes towards land conservation in Petersham and the protection of Quabbin Reservoir drainage basin.

PARK IDENTITY

Federation of Women's Clubs State Forest is strongly identified with the Federation of Women's Clubs' contribution to land conservation in Massachusetts and nationally. Located within the Quabbin Reservoir drainage basin, the Forest contributes towards protecting the water quality in perhaps Massachusetts' most significant water resource. The cultural remnants at the Forest, including cellar holes in the campground area add to the historical context and overall visitor experience. All future activities and improvements should be consistent with the Forest's identity as a Woodland with an emphasis on resource protection, trails-based recreation, and areas of concentrated recreation.

DEFINING RESOURCES AND VALUES

Resources and values that define the Forest are related to its connection with Quabbin Reservoir and DWSP land, contribution to watershed protection, and overall land conservation with the Town of Petersham. They include:

- The campground provides the anchor for recreational activity at the Forest and a unique camping experience. The walk-in campsites provide campers with a more secluded camping experience than is available in most other DCR campgrounds while keeping a vehicle nearby and providing access to a nearby bathroom.
- Approximately 968 acres of the Forest is within the Quabbin Reservoir Watershed, contributing to Surface Water Protection for the Quabbin Reservoir. The Forest also directly borders Water Supply Protection land, creating a large, contiguous land block for protecting water supply.
- The small trail system connects visitors to trails on neighboring DWSP land, where hikers can further explore the gorge, hike up Soapstone Hill, and take-in views of the Quabbin Reservoir.
- The Forest contributes to nearly 62% of the permanently protected conservation land within the town of Petersham. Over 15,000 acres within Petersham is owned by Massachusetts DCR or Division of Fisheries and Wildlife (DFW). Another 3,524.9 acres is permanently protected private land, including land held by The Trustees of Reservations, the Massachusetts Audubon Society (Mass Audubon), and Harvard University (Town of Petersham 2014).

STATEMENTS OF SIGNIFICANCE

Statements of Significance describe the importance or distinctiveness of a place and its resources (National Park Service (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. Significance statements cover the following categories of information:

- The property's significance at the time of its establishment.

- How the property, or society's 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 Federation of Women's Clubs State Forest. The sequence of these statements does not reflect their level of significance.

- The Massachusetts Federation of Women's Clubs donated the property as part of an initiative to sponsor a state forest in each state. Their goals included promoting both conservation and recreation. This initiative illustrates the role of women in promoting conservation in the late 19th and early 20th centuries.
- The area in the southwest corner of the property, including along the power line, is designated as Priority Habitat (PH1673). This indicates 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.

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 Federation of Women's Clubs State Forest is:

> Conservation does not need to be a governmental function; individuals and groups can make an impact.

VISITOR EXPERIENCE

Federation of Women's Clubs State Forest provides a variety of visitor experiences, including the following:

- **Virtual Experience.** Potential visitors will find information about Federation of Women's Clubs State Forest on DCR's web site. The Forest has its own web page that provides potential visitors information needed to plan a visit. (https://www.mass.gov/locations/federated-womens-club-state-forest)
- **Entering the Park.** The Forest lacks a formal gateway. Visitors enter the Forest from Petersham Road/Rt 122, greeted by a small roadside sign. State Forest Road guides visitors through woodlands to informal roadside parking and trailheads, with the entrance to the campground at the end of State Forest Road. Glimpses of West Branch Fever Brook and a pond are visible from the State Forest Road.
- **Camping.** Visitors may reserve a primitive campsite by contacting staff or visiting the Erving State Forest headquarters. Each of the Forest's 16 wooded walk-in campsites provide visitors a secluded

camping experience. Currently closed, the campground will reopen once permitting issues with the new comfort station are resolved.

- **Hunting.** With the exception of areas within 500-feet of campsites and the 140 acre Wild Life Sanctuary, Federation is open to all legal hunting (302 CMR 12.11(3)(ll)).
- **Trail-based Passive Recreation**. Visitors seeking other recreational opportunities may access a modest trails network. Over 4 miles of official trails extend through the Forest, providing visitors the opportunity for a light hike and park exploration. A loop trail, starting from the campground, leads hikers onto adjacent Mass Wildlife land where they may take in views of Quabbin Reservoir from The Gorge Outlook at Soapstone Hill.

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 25).

Natural Resources

Threats

- Any potential trail, road, campground, or picnic area projects in or impacting Priority Habitats, as this site has many rare plant and wildlife species present in habitats with recreational use.
- The hemlock at Federation has experienced decline, especially in areas near Fever Brook, potentially threatening the hydrology in the area.
- The language regarding hunting restrictions at the Forest in 302 CMR 12.11(3)(ll) misidentifies the property as "Federated Women's Clubs State Forest."
- There are at least three unapproved geocaches in the Forest. Inappropriately located geocaches may threaten sensitive natural resources.
- Unauthorized OHV use occurs within Priority Habitat at the Forest, threatening habitat of Massachusetts Endangered Species Act (MESA) protected species.
- The following eight species of invasive plants have been identified in the Forest: Asiatic bittersweet, common buckthorn, common reed, glossy buckthorn, Japanese barberry, Morrow's honeysuckle, and reed canary grass (BSC 2017). One Likely Invasive species (Tatarian honeysuckle) is also present. Invasive species may negatively impact both ecological integrity and biodiversity of the Forest.

Opportunities

- Some of the Forest's three potential vernal pools may provide additional breeding habitat for the Forest's amphibians. Surveying and certifying these pools (Massachusetts Division of Fisheries and Wildlife (MassWildlife) 2009), as appropriate, may help better protect these animals.

- Increasing patrols by Environmental Police Officers and other staff presence may help reduce unauthorized OHV use at Federation, including in areas of Priority Habitat.
- In addition to Priority Habitat (i.e., Regulatory Habitat), there is also Non-Regulatory Habitat for three MESA-protected species. Non-Regulatory Habitat is based on the presence of suitable habitat for state-listed species; there is no associated mapped Priority Habitat. On state lands, both Regulatory and Non-Regulatory Habitat are protected under the Massachusetts Endangered Species Act (MESA; 321 CMR 10.00). Requesting pre-filing consultation with the Massachusetts Natural Heritage and Endangered Species Program (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.
- Review and adjust mowing to avoid stream banks, and leaving an undisturbed buffer to all streams, wetlands, and ponds.
- There is an opportunity to protect the Forest's biological health and aesthetic qualities through targeted removal of invasive plant species.
- Approximately 46.4 acres of the Forest has no Landscape Designation (DCR 2012). Assigning Landscape Designations to these portions of the Forest could help with management of associated natural resources and ensure management consistent with other DCR properties statewide.
- 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 organizational partnerships, grants, and land acquisitions in support of DCR's and Q2C's mutual conservation and recreation goals (Q2C 2023).

Cultural Resources

Threats

- Portions of the Forest lie within the Federal Emergency Management Agency (FEMA) 1.0%-chance flood zone (MassGIS 1997. Because a cultural and archaeological resources survey of the Forest has not been completed, it is unknown whether any significant cultural resources are exposed to flood damage. (These data are derived from the FEMA's paper Flood Insurance Rate Maps, or FIRMS, dating to 1979. Because of their age, FIRMS may only be used to portray zones of uncertainty and possible risks associated with flooding, not the absolute delineation of flood boundaries (Massachusetts Bureau of Geographic Information (MassGIS) 1997).)
- Archaeological resources in the Forest may be threatened by natural and/or man-made erosion associated with natural weather events, recreational activities (e.g., hiking, hunting, camping, Off Highway Vehicle (OHV) usage), and management activities related to water-level changes in the Quabbin Reservoir and feeder streams.
- Vegetation threatens many stone walls and cellar holes at the Forest.
- Many cultural resources, cellar holes, stone walls, and a water hole, exist within the campground area and may be disturbed by campers and other visitors to the campground area.
- There are at least three unapproved geocaches in the Forest. Inappropriately located geocaches may threaten sensitive cultural resources.

Opportunities

- Additional information on the park's archaeological resources would inform and enhance management of these resources.
- Vegetation management could help stabilize features such as cellar holes and stone walls.
- Approximately 46.4 acres of the Forest has no Landscape Designation (DCR 2012). Assigning Landscape Designations to these portions of the Forest could help with management of associated cultural resources and ensure management consistent with other 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.

Recreation

Threats

- Approximately 8% of the park is within the 1.0%-chance flood zone and the 0.2%-chance flood zone. There is approximately 0.35 miles of trails system within the flood zones that may be damaged by flood events (MassGIS 1997). (These data are derived from the FEMA's paper Flood Insurance Rate Maps, or FIRMS, dating to 1979. Because of their age, FIRMS may only be used to portray zones of uncertainty and possible risks associated with flooding, not the absolute delineation of flood boundaries (Massachusetts Bureau of Geographic Information (MassGIS) 1997).)
- Property signs, lead-in signs on Route 122, and multiple online resources, including those on DCR's webpages, reference the Forest as "Federated Women's Club State Forest." This name does not reflect the official name of the property, which honors the organization that donated the land to the Commonwealth, and may confuse potential visitors.
- Current visitation is approximated at 5,000 per year. However, the Forest lacks daily staff or infrastructure for counting visitors, making annual attendance counts and visitation patterns approximate and unclear.
- The Forest lacks sufficient directional signage on roads and trails to allow for easy navigation.
- The campground's self-contained toilet building has been out of service since its installation in 2021 due to a lack of compliance with Massachusetts's Sanitary Code. Because of this, the campsites cannot be used.
- The Forest lacks formal parking areas, resulting in parking along road shoulders and an unknown parking capacity.
- According to the Open Space Plan for the Town of Petersham, a dam is located on West Branch Fever Brook retaining water and creating a pond. This dam is not in the Mass GIS Dam Hazard layer and holds unknown threats to property infrastructure and surrounding community in the event of a breach.
- The roads within the Forest, West Street and State Forest Road, are included as part of the Forest in GIS OpenSpace, however ownership and therefor management of the roads is not clear.
- The recently paved State Forest Road may encourage increased speeds from motorists entering the forests, potentially creating a hazard for visitors and staff at the Forest.

- A culvert over West Branch of Fever Brook is compromised, threatening adequate access to the Forest for staff, visitors, and emergency access.
- West Street is in poor condition potentially limiting access and increasing emergency response time to the Forest.
- Unauthorized activity within the forest, including OHV use and unauthorized gatheirngs, may negatively impact visitor experience at the Forest.

Opportunities

- Establishing a formal park gateway, with parking and park information, would create a destination for visitors and inform them of the key resources, rules, and recreation opportunities within the Forest.
- Installing car counters at the two vehicle access points and trail counters at trailheads would provide better estimates for property visitation and better inform future planning efforts.
- Developing a solution to bring the newly installed self-contained toilet in the campground up to code would allow the campground to reopen for campers.
- Formalizing parking areas and providing visitors improved information on parking could improve the visitor experience.
- A universally accessible campsite was added in 2022. Improving Universal Access to the site would allow more individuals the opportunity to camp at the Forest.
- Increasing patrols by Environmental Police Officers and other staff presence may reduce unauthorized activities, like unauthorized gatherings and OHV use, at Federation.
- Working with the Town of Petersham to determine jurisdiction of West Street and and State Forest Road would better inform Park Operations and future planning efforts at the Forest.
- Replacing the culvert over West Branch of Fever Brook and improving conditions on West Road will help maintain appropriate access to the Forest for staff, visitors, and emergency response.

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 (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 2022 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 Climate Change Vulnerability Assessment (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 Resource Management Plans 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_2 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).

Natural Resources—Property-Specific Exposure and Impacts

It is the position of the Massachusetts Natural Heritage and Endangered Species Program that state-listed species and Priority Natural Communities are likely to be highly sensitive to the anticipated impacts of 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.

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 common reed, Asiatic bittersweet, and Japanese barberry. Lineages of common reed in New England exhibit strong growth and photosynthetic response to elevated temperature and increased levels of CO_2, such as those associated with climate change (Eller et al. 2017). Because of this, it is anticipated that common reed will further expand at Federation and throughout Massachusetts. "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 the Forest in response to climate change. Additionally, 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 Federation.

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 at al. 2016; Commonwealth of Massachusetts 2023: 5.1-31–5.1-61).

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

Cultural Resources—Property-Specific Exposure and Impacts

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

Recreation—General Impacts

Outdoor recreation and park visitation are dependent on weather and climate and will be affected by a warming climate (Wilkins and Horne 2024). Higher temperatures positively affect participation in most outdoor activities, except snow-based activities (Wilkins and Horne 2024). "Winter is warming substantially faster than other seasons, and winter warming is especially pronounced in the...Northeastern United States" (Wilkins and Horne 2024: 15). Exposure to this climate change phenomenon is projected to significantly reduce the length of winter recreation seasons for downhill skiing, cross-country skiing, and snowmobiling, decreasing recreational opportunities and causing

substantial economic impacts (Wobus et al. 2017). Whitewater rafting, primitive area use, and hunting are also projected to be negatively impacted by exposure changing weather patterns associated with climate change (Askew and Bowker 2018). Although "coldwater fishing habitat is expected to decline under a warming climate, which will likely result in fewer fishing days," overall fishing participation in the Northeast is projected to rise "due to the more favorable temperatures" (Wilkins and Horne 2024: 11). Horseback riding on trails, boating, swimming, and visiting interpretive sites are also expected to see higher participation in the Northeast under climate change (Askew and Bowker 2018). Temperature preferences of campers indicate that the "number of ideal days" for camping will also increase (Wilkins and Horne 2024: 13). Participation in biking is also projected to increase, especially in the winter and shoulder months (Wilkins and Horne 2024: 13). Climate change may also impact outdoor recreation through increased impacts to recreation infrastructure (e.g., flooding impacts), and increased exposure to disease vectors (e.g., mosquitoes and ticks), longer pollen seasons, and heat-related illnesses (O'Toole et al. 2019).

Recreation—Property-Specific Exposure and Impacts

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

APPLIED LAND STEWARDSHIP ZONING

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

Landscape Designation

In 2012, DCR engaged in a comprehensive system-wide assessment of lands managed by its Division of State Parks and Recreation, designating them as Reserve, Woodland, or Parkland. (See Landscape Designations for DCR Parks & Forests: Selection Criteria and Management Guidelines (DCR 2012) for details.) Multiple Landscape Designations may apply to individual properties with diverse resources and levels of development. All of Federation of Women's Clubs State Forest was designated Woodland. Identification of Land Stewardship Zones within Federation was performed in the context of the Woodland Landscape Designation.

The following Land Stewardship Zoning is recommended to guide management and any future development. (See Figure 1. Land Stewardship Zoning Map, page 21.)

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 areas of Federation have been designated Zone 1.

- No areas within the park have been designated Zone 1.

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 Federation have been designated Zone 2.

- All areas not identified as 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 Federation of Women's Clubs are currently developed, appropriate for potential future development, or intensively used for recreation. They have been designated Zone 3.

- An area that includes all campsites, bounded mainly by the property line, West Street, and trail.

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 Federation.

- **Surface Water Supply Protection Zone A Overlay**. Land 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 Zone 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**.** Geospatial data for this overlay are drawn from Watershed Protection Act (WsPA) Buffers – Primary & Secondary Zones (MassGIS 2024).
- **Wildlife Sanctuary Overlay**. This overlay covers a 140-acre parcel. This parcel was donated by the Federation of Women's Clubs with deed restrictions designating a "Wild Life Sanctuary" and states "Within the exterior limits of said sanctuary the preservation and propagation of all useful wild life shall be the primary objective and the cutting and removal of trees or other woods growth shall at no time be of such a nature or to such an extent as to be detrimental to said wild life." Hunting is prohibited through the CMR. See deed (Book 2539, Page 21; Book 2555, Pages 43 and 44) and 302 CMR 12.11 for additional details.

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 Best Management Practices for resource stewardship, are located on the Stewardship Map site: https://dcrsgis-mass-eoeea.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's 2022 Guidance Codes for DCR Trail

Maintenance Map. (https://mass-eoeea.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 Best Management Practices (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 22.)

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

Nine priority management recommendations were developed for this property. They are presented in Table 19, page 25. 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 25) 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.

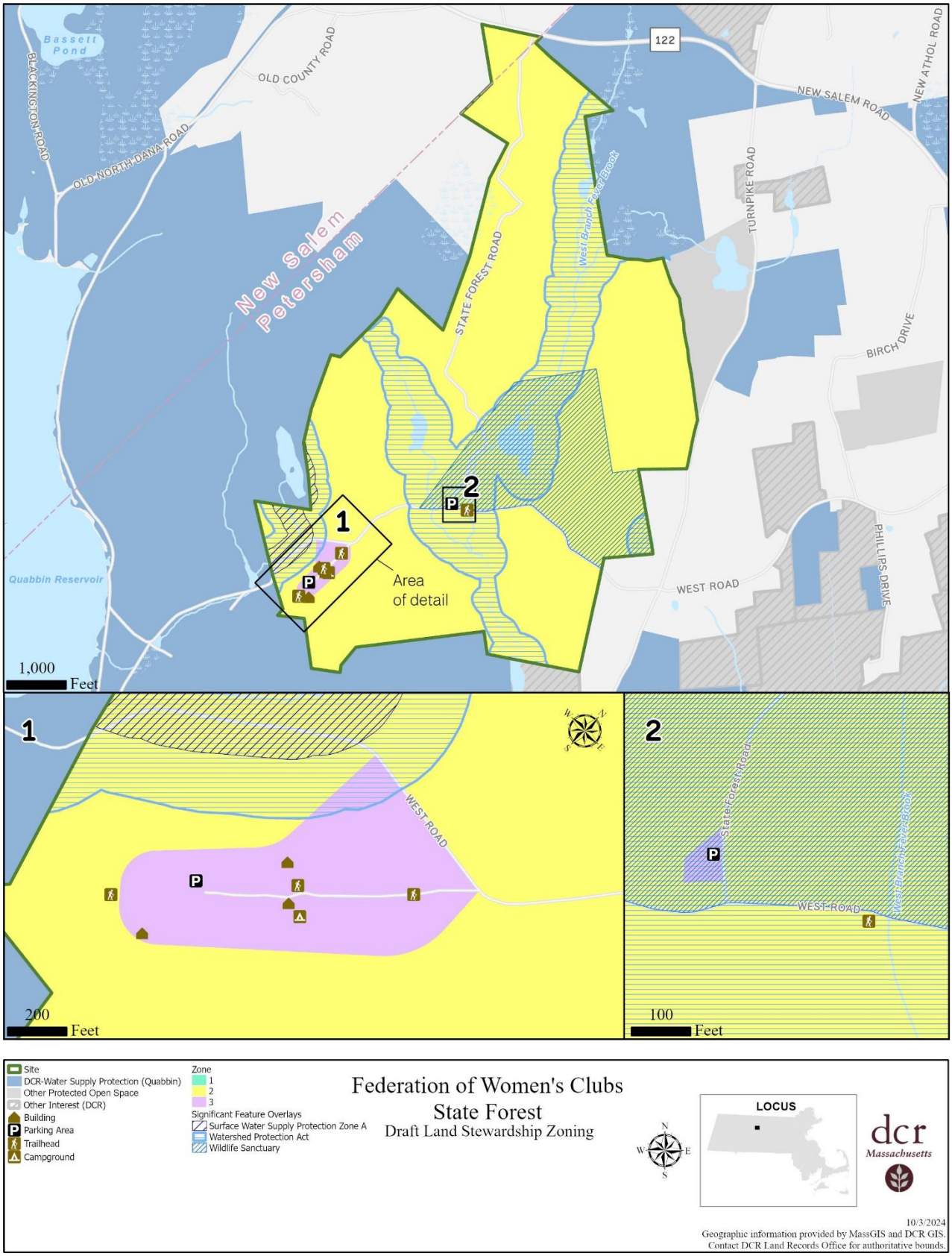

Figure 1. Land Stewardship Zoning Map.

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.)	N/A
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.	N/A

Category	Metric	Status
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.)	N/A
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.	Yes
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

Category	Metric	Status
Recreation	2. Trail density is consistent with the park's Landscape Designation(s). (See Trails Guidelines and Best Practices Manual (DCR 2019) for density thresholds.)	Yes
Recreation	3. All authorized trail construction was performed in accordance with an approved Trail Proposal Form.	No
Recreation	4. Over 90% of the park's official trails network is classified as being in Fair or better condition.	Yes
Recreation	5. Recurring use by OHVs is restricted to authorized trails. (As assessed by property manager.)	No
Recreation	6. There is a high level of compliance with dog leash regulations and policies. (As assessed by property manager.)	No
Recreation	7. Athletic fields are free of recreation-caused impacts (e.g., bare spots) to turf. (As assessed by property manager.)	N/A
Recreation	8. Water-based recreation is consistent with "Uses Attained" designation as identified by Massachusetts Department of Environmental Protection (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.	Yes
Recreation	9. Recreation facilities are located outside of areas subject to flooding, storm surge, or sea-level rise.	Yes
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.Ch. 132, §§ Sections 40–46).	Yes

Table 19. Priority Recommendations for Federation of Women's Clubs 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	Survey, document, and submit documentation to certify potential vernal pools that are in NHESP habitat of MESA-protected vernal pool obligate species or in Woodland portions of the Forest, in accordance with MassWildlife (2009), as warranted.	Office of Natural Resources (Lead), Volunteers
Natural Resources	Following appropriate review and permitting, implement the Invasive Plant Management Plan: Central Region (BSC Group 2017) for aquatic and terrestrial invasive plants. Maintain actions as needed.	Office of Natural Resources (Lead), Park Operations, Partner
Cultural Resources	Conduct an archaeological reconnaissance survey (950 CMR 70) in cooperation with municipal, tribal and non-profit partners, including the Town of New Salem and Petersham. Complete appropriate Massachusetts Historical Commission archaeological site forms for identified archaeological resources.	Consultant, Office of Cultural Resources (Lead), Partners
Recreation	As appropriate, update the Forest name to "Federation of Women's Clubs State Forest" where the Forest name is incorrect on print and electronic publications, and signs.	External Affairs, Interpretive Services, Park Operations (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 locations of 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	Ensure that the campground's bathrooms fully conform to the State's sanitary code.	Facilities Engineering

Category	Recommendation	Implementation
Recreation	Establish a Forest gateway area with parking, Main Identification Sign, Welcome Wayside, and kiosk.	Design & Project Management (Lead), Facilities Engineering, Interpretive Services, Park Operations
Recreation	Increase the presence of Environmental Police Officers, DCR Rangers, and Forest operations staff, as appropriate and available, in areas with high OHV use.	Ranger Bureau (Co-Lead), Regional Staff (Co-Lead), Park Operations
Recreation	Work with the Town of Petersham to determine ownership of West Street and State Forest Road.	GIS Program, Land Acquisitions, Management Forestry (Lead), Park Operations

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