



Resource Management Plan Massasoit State Park



Adopted by the DCR Stewardship Council **Month**, 2023

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

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. Chapter 21: Section 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.

Maura T. Healey, Governor

Kimberley Driscoll, Lieutenant Governor

Rebecca L. Tepper, Secretary

Brian M. Arrigo, Commissioner

The Massachusetts Department of Conservation and Recreation (DCR), 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 honors Indigenous communities 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@state.ma.us.



Massasoit State Park

South Region

South Coast District

Fall River Heritage Complex

PARK OVERVIEW

Date Established	1962
Location	Lakeville, Middleboro, Taunton
Landscape Designation (acres)	
Parkland	1,207.1
Reserve	0.0
Woodland	0.0
Park Size (acres)	1,207.1
Boundary Length (miles)	8.6
Annual Attendance (2019)	73,000
Regulatory Designations (acres)	
Priority Habitat (MESA)	290.1
Environmental Justice (acres)	0.0

LONG-TERM AGREEMENTS

None Identified	N/A
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CONCESSIONS

None	N/A
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PARTNERS & FRIENDS

[Friends of Massasoit State Park](#)

FEATURES OF INTEREST

- Big Bearhole Pond
- Cranberry Bog
- Campground
- Lake Rico
- Little Bearhole Pond
- Middle Pond, with waterfront area
- Playground
- Trails system

ACTIVITIES

- Biking
- Boating
- Camping
- Canoeing/kayaking
- Dog walking, on-leash
- Fishing, fin fish
- Hiking/walking
- Hunting
- Horseback riding
- Mountain biking
- Picnicking
- Playground use
- Running/jogging
- Skiing, Cross-country
- Swimming/Sunbathing
- Wildlife viewing

Contact Info:

c/o 1361 Middleboro Ave, East Taunton, MA 02718

<https://www.mass.gov/locations/massasoit-state-park>

NATURAL RESOURCES	
Elevation (feet above sea-level)	12.4–127.6
Water Resources	
Watershed(s)	Taunton
Rivers and Streams (miles)	1.7
Open Water (acres)	255.2
Wetlands (acres)	125.7
Certified Vernal Pools (#)	1
Potential Vernal Pools (#)	10
Threatened & Endangered Species	
State-Listed (# Regulatory Species)	5
State-Listed (# Non-Regulatory Species)	2
Federally Listed (#)	1
Forest Cover (acres)	810.8
Known Invasive Plants (# species)	
Aquatic	5
Terrestrial	9
CLIMATE CHANGE (By 2070)	
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
NATURAL HAZARDS (ACRES)	
Flood (1.0%–0.2%-chance)	336.0–336.4
Hurricane Inundation (Cat. 1–4)	N/A
FOREST MANAGEMENT	
(OBJECTIVE AND ACRES MANAGED, SINCE 2012)	
N/A	0.0

CULTURAL RESOURCES (#)	
Archaeological	8
Historic (total #)	0
National Register Listed	0
National Historic Landmark	0
RECREATION RESOURCES	
Amphitheater	1
Boat Launch	2
Camp Sites	98
Contact Station	1
Dumping Station	1
Interpretive Center	1
Middle Pond Waterfront Area	1
Picnic Areas	3
Playground	1
ROADS & TRAILS	
Roads (miles)	
Unpaved	0.2
Paved	4.1
Forest Roads (miles)	
Unpaved	9.3
Paved	0.0
Trails	
Unpaved (miles)	11.7
Paved (miles)	0.0
Unauthorized Trails (miles)	1.6
Trail Density (miles/acre)	0.02
Area of Impact (acres)	924.3
PARKING	
Lots (#)	10
Parking Spaces (#)	116
Accessible (HP)	13
Other	103
INTERPRETIVE PROGRAMMING	
(#PROGRAMS/#CONTACTS)	
Formal Programming (2019)	
DCR	0/0

INTRODUCTION

Massasoit State Park (Massasoit or the Park) is located in Bristol County, in the City of Taunton. It is situated approximately 30 miles south of Boston and 20 miles east of Providence, Rhode Island, and easily accessible from Routes 495 and 24. The Park takes its name from Ousamequin (ca. 1581–1661), whose honorific title (Massasoit) denoted his leadership of the regionally powerful Wampanoag Confederacy. The Park is located in a largely residential area. Exceptions to nearby residential development include active cranberry growing to the east and southwest, a golf course abutting the Park’s southeast corner, and Taunton Municipal Airport 500 feet west of the Park. The airport’s main runway is located approximately 1,400 feet from the Park and oriented so that air traffic passes over the park.

Approximately 38 acres of Massasoit is situated along the Taunton River, a Wild and Scenic River that extends 40 miles from Bridgewater to Fall River. Three other DCR properties are also located along the Taunton, they are Sweets Knoll State Park (16.5 miles downriver), Dighton Rock State Park (17.5 miles downriver), and Fall River Heritage State Park (25.5 miles downriver). All four parks are within the Bristol Lowlands/Narragansett Lowlands Ecoregion.

The Park is on land shaped by generations of Indigenous and non-Indigenous inhabitants. Past and present Indigenous residents embody fluid, relational connections to the places and spaces now known as Massasoit State Park. Indigenous groups and individuals, including peoples known as the Massachusetts, Pokanoket, and Wampanoag are recorded in available documentation as having relationships to this place over seasons and generations (Native Land Digital 2023). The Taunton area was capable of sustaining a moderate to large Native American population due to the presence of freshwater ponds, several rivers and streams, and direct access to the coast (Massachusetts Historical Commission 1981). The Town of Taunton “dates from 1638 when settlers from Plymouth purchased land from Native Americans in today’s East Taunton” (Stantec 2018); it was incorporated as a city in 1864. The land comprising Massasoit was purchased by the Commonwealth in 1962 because it was “believed to offer outstanding potential for public recreational use” (Massachusetts Department of Natural Resources 1962); a master plan soon followed. At the time of acquisition, Massasoit consisted of forested uplands, natural ponds, cranberry bogs in active cultivation, and reservoirs associated with these bogs. DCR and predecessor agencies have extensively modified the landscape since acquisition. A campground was established in the late 1960s. In 1973, Lake Rico was created, submerging cranberry bogs and associated reservoirs, low-lying upland areas, and Furnace and King’s Ponds. Swimming, picnicking, and day-use facilities were established along the new lake shore. In 2008, a lightning storm disabled the Park’s electrical infrastructure and forced closure of the campground and associated facilities. Major renovations, including installation of new signs and lighting, restoration of running water and electricity, renovation of the Middle Pond waterfront area, renovation of comfort stations, repair of the contact station, and repair of roadways began in 2015. After being closed for almost a decade, the campground at Massasoit officially reopened in August 2018.

Massasoit largely consists of rolling hills covered by a mixed oak and white pine forest that is typical of much of southeastern Massachusetts. The Park includes several natural ponds, a man-made lake, a campground with a camper-only swimming area, a playground, and multiple picnic areas. It has several miles of multi-use trails for passive recreation, and multiple waterbodies for fishing and boating.

PARK IDENTITY AND SIGNIFICANCE

Massasoit is known as an outdoor recreation destination in southeastern Massachusetts. It offers year-round day use and seasonal camping. Future uses and development of Massasoit should be consistent with this identity.

Massasoit is significant for the following reasons:

- It offers a large campground with modern, accessible facilities.
- Over 21% of the Park’s area is lakes and ponds.
- The Park is located in a cranberry producing region and retains evidence of its history of cranberry farming.

- It is within a one-hour drive of Boston, Providence, and Cape Cod.
- The Park's northern parcel, off Vernon Street, Middleborough, helps protect the Taunton River's natural resources and scenic qualities.

DEFINING RESOURCES AND VALUES

Resources that define the Park are associated with its overnight and day-use recreation opportunities. They include:

- A 98-site campground located among the pines and adjacent to several natural ponds and a man-made lake. In addition to typical campground amenities (e.g., fire rings, picnic tables, comfort station) campers are provided exclusive access to the Middle Pond waterfront area.
- An expansive day-use area near Big Bearhole Pond with an amphitheater, picnic sites, boat launch, fishing spots, and a universally accessible playground.
- Approximately 13 miles of trails for passive recreation, including hiking, mountain biking, and horseback riding.
- Several natural ponds and a man-made lake enhance the Park's aesthetics, increase ecological diversity, and provide opportunities for water-based recreation.
- The cranberry bog at Massasoit's entrance provides a unique attraction near the contact station, especially during fall when the plant's leaves are bright red. It harkens back to the Park's history of cranberry growing.
- Evidence of past residential, agricultural, and industrial use in the Park, including an extensive site near the entrance road, mill ruins near Big Bearhole Pond, and an iron foundry site.

INTERPRETIVE THEMES

Massasoit State Park tells the evolving story of people harnessing resources to survive and flourish from pre-history to the present, with a particular focus on the eighteenth, nineteenth, and twentieth centuries.

VISITOR EXPERIENCE

Massasoit State Park provides a variety of visitor experiences, including the following:

- **Virtual Visitor Experience.** Potential visitors will find detailed information about Massasoit State Park on DCR's web site. The Park has its own web page that provides potential visitors information needed to plan a visit. (<https://www.mass.gov/locations/massasoit-state-park>).
- **Entering the Park.** As visitors enter Massasoit, they are greeted by a well-maintained and beautifully landscaped 0.3-mile-long entrance road, which leads them to the contact station and main parking lot. Day-use visitors may park adjacent to the contact station, or head 1.4 miles into the Park to the day-use facilities near Big Bearhole Pond. Campers travel to the campground entrance, 0.75 miles beyond the contact station. Some visitors choose to use parking areas located along Massasoit's western and southern perimeters.
- **Camping.** Campers set up their tent or RV in the Park's campground and then enjoy all that Massasoit has to offer including swimming and sunbathing at the unguarded waterfront on Middle Pond, hiking the Park's trails, fishing, boating. Some campers use Massasoit as a jumping-off point to explore tourist destinations in southeastern Massachusetts and Rhode Island.
- **Playground.** This large playground, located south of the campground, offers unconventional play structures and is a popular destination for both day-users and campers. Families can take a break from playing and enjoy lunch at one of the many nearby picnic tables.
- **Picnicking.** Tables are located at multiple scenic locations throughout Massasoit, allowing visitors the opportunity to relax and take in the sights of nature.

- **Trail-based Passive Recreation.** The trails system allows visitors to hike, bike, or horseback ride throughout the Park, often within view of a lake or pond.
- **Water-based Passive Recreation.** Boat launch sites on Lake Rico and Big Bearhole Pond provide visitors with easy access to non-motorized boating activities, such as canoeing or kayaking. Anglers can also take advantage of fishing opportunities from the shore, a boat, or from on top of a frozen pond.
- **Interpretive Programming.** Visitors gather at different locations throughout Massasoit, including the Interpretive Center, to explore the Park's ecosystems and history, participate in informative recreational hikes, and attend evening campfire sessions.
- **Special Events.** Massasoit is the site of several race events (mountain bike and trail running) and family events. Traditionally, a program of "Free Family Flicks" was offered. Visitors would bring their chairs, blankets, and snacks to relax and watch free movies under the stars in a grass field off the main park road. However, the presence of Eastern Equine Encephalitis in southeastern Massachusetts in recent years has led to the suspension of all evening events.

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 not considered a resource under statute (M.G.L. Part I, Title II, Chapter 21, Sections 2F), recreation is also included below because it is an important part of the park-going experience, helps define a park's values, and is a key part 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, page 18.

Natural Resources

Threats

- Approximately 27% of the Park is exposed to 0.1%-chance and 0.2%-chance flood events.
- User-created boat ramps and lake or pond access points, including an unauthorized boat ramp at Lake Rico, have been created throughout the Park and are causing erosion along pond and lake shores. Such access points present a threat of introduction of new/additional invasive aquatic species.
- Erosion and runoff into water bodies is prevalent in several areas of the Park, including along a resurfaced section of Middleboro Avenue and along trails near ponds. This results in the introduction of soils, excess nutrients, and occasionally stone dust, into water bodies.
- Parking in undesignated areas is increasing stormwater flow into wetlands, rutting, erosion, and promoting the spread of invasive plants.
- A network of unauthorized user-created trails run throughout the Park, including OHV, hiking, and mountain bike trails cutting through sensitive resource areas, such as Priority Habitat and wetlands. These vulnerable areas may be negatively impacted by alterations to soil structure, water flow, and vegetation.
- Some geocaches are located within sensitive resource areas, such as wetlands. Attracting visitors to these areas may cause negative impacts such as trampling.
- The section of the Taunton River adjacent to Massasoit is impaired by low Dissolved Oxygen and *E. coli* (Massachusetts Department of Environmental Protection (DEP) 2021).
- Identified impairments in Big Bearhole Pond include Eurasian Water Milfoil and Fanwort (DEP 2021).
- Identified impairments to Lake Rico include Eurasian Water Milfoil, Fanwort, and a Fish Passage Barrier (DEP 2021).

- An unauthorized OHV trail extends into rare species habitat along the Vernon Street parcel.
- All of the Park's state-listed species (both Regulatory and Non-Regulatory) are associated with wetlands, ponds, or the Taunton River. Activities that result in alterations to natural hydrologic regimes, changes in water quality or quantity (e.g., nutrient enrichment, sedimentation), the introduction of non-native and invasive species, or alterations to shorelines and riverbank may negatively affect these species.
- Terrestrial and aquatic invasive plants have been identified throughout Massasoit and pose a threat to native vegetation by outcompeting for resources.
 - Terrestrial species include Autumn olive, garlic mustard, Japanese barberry, Japanese knotweed, multiflora rose, Norway maple, Oriental bittersweet, reed canarygrass, and winged euonymus.
 - Aquatic species include Carolina fanwort, common reed, Eurasian water, purple loosestrife, and yellow iris. Carolina fanwort is present in all four ponds; purple loosestrife and common reed are present in Lake Rico, Little Bearhole Pond, and Middle Pond; and Eurasian watermilfoil is present in Middle Pond. Yellow iris is present in some of the Park's wetlands.
- The steep slopes for Middle Pond Dams #3 and #4 create a mowing hazard for staff and have become overgrown.
- The existing wildflower field, near Middle Pond Dam 2, may not be receiving proper care and could become overwhelmed by existing terrestrial invasive plants at Massasoit.
- A boundary survey of the Vernon Street, Middleborough portion of the Park verified multiple encroachments from adjacent residences, including one abutter mowing Park property. This location is within Priority Habitat and such activity may threaten state-listed wood turtles that occur in the area and are known to be adversely affected by mowing (NHESP, 2015).
- Potential encroachment issues were identified north of Lake Rico. Private property owners abutting the Park have created unauthorized OHV trails, removed understory vegetation, and caused erosion in sensitive resource areas. The Taunton Conservation Commission has issued a cease-and-desist order to an abutter, but until the boundary is surveyed, ownership of the impacted area and responsibility to remediate remains unclear.
- Potential encroachment issues were identified along the Massasoit boundary along Turner Street, with abutters potentially storing items on state land as well as graveled areas and fences extending into the Park.

Opportunities

- Suitable habitat exists in the Park for a state and federally listed animal. Surveying for this species may confirm its presence in the Park.
- Surveying for the presence and abundance of invasive species throughout the Park would allow field operations personnel and/or volunteers to better manage this threat to the Park's resources.
- Establishing pollinator fields in sections of the dam or adjacent to the cranberry bog, as part of DCR's Growing Wild Massachusetts initiative, would enhance pollinator habitat in Massasoit.
- Some of the 10 potential vernal pools may provide additional breeding habitat for the Park's amphibians. Surveying these pools, and certifying them as appropriate, may help better protect these animals.
- Installing wash stations and informational signs near boat launches and popular fishing spots could help educate visitors and reduce the spread of aquatic invasive species.
- Installing fishing line disposal apparatus near boat launches and popular fishing spots could help avoid wildlife entanglement in fishing gear.
- Rerouting trails that lead to, or go through, wetlands, coastal plain pondshores, and other sensitive natural areas would increase protection of these areas.

- Engaging abutters around the Vernon Street parcel could help eliminate encroachments and increase protection of rare species habitat.
- Undeveloped parcels near the Vernon Street parcel present an opportunity for additional land protection.
- Increased contact and coordination with the geocaching community could help protect the Park's sensitive natural features.
- DCR's Lakes and Ponds Program is in the process of inventorying aquatic invasive plants in the Park, This information creates an opportunity to establish and implement a management plan to help native aquatic species thrive.
- If Massasoit's cranberry bog cannot be maintained in active agriculture, the opportunity exists to restore the bog to natural wetlands.

Cultural Resources

Threats

- Maintenance or other activities with below ground impacts could adversely affect archaeological resources.
- Identified threats to the Furnace Brook Historic Site include the presence of a heavily used unauthorized trails, vandalism to the site, and the lack of interpretive signs.

Opportunities

- Furnace Brook Historic Site currently has a kiosk that could be used for a permanent interpretive panel about the site.
- Additional information on the Park's archaeological and industrial histories would better inform their preservation and interpretation.
- Keeping Massasoit's one remaining cranberry bog in production would keep alive the Park's cranberry growing history. An opportunity exists to partner with an agricultural school or cranberry grower to manage the bog.

Recreation

Threats

- During Massasoit's closure (2008–2018), illegal OHV use became common in the Park; it continues today in the Park's south section.
- The trails system consists of authorized trails, illegal OHV trails, and unauthorized mountain bike trails. Visitors may have difficulty differentiating official and unofficial trails.
- The trails system lacks adequate trail markings and signage to meet DCR's standards (DCR 2019).
- Discarded bags of dog waste are common throughout Massasoit, creating an unsightly and smelly experience for visitors.
- Some trails used by mountain bikes pass near, or through, the campground leading to negative encounters between campers and cyclists.
- All comfort stations at Massasoit are in the campground area, possibly increasing non-camper visitation to the camping area, accessibility issues, and confusion for day-users about which facilities they are allowed to use.
- The playground is in direct sunlight, leading to surfaces becoming hot and less useable during the day.
- The Interpretive Center needs repairs and would benefit from the addition of electricity.
- The campground loops have been renamed on the campsite map provided to campers, but the name changes are unofficial and need to be updated.

- Several aspects of the Park, including the paths to the Interpretive Center and access to informational kiosks, were not constructed or positioned in a manner consistent with the universal accessibility standards (Institute for Human Centered Design (IHCD) 2020).
- As a park with multiple ponds, a large man-made lake, and frontage on the Taunton River, much of Massasoit is exposed to flooding. Approximately 27.8% of the Park is exposed to 1.0%-chance flood events; the same area is also exposed to 0.2%-chance flood events. Areas exposed to flooding include wetlands, ponds, adjacent upland areas, and the bank of the Taunton River. Although no buildings are within the area of exposure, the entire waterfront area on Middle Pond, sections of paved roads, and approximately 1.3 miles of trails are within this area. Water levels in Big Bearhole Pond, Middle Pond, and Lake Rico are regulated via a series of dams, which may reduce this infrastructure's flooding exposure.
- Campers often swim outside the signed and roped-off designated swim area in Middle Pond.
- The presence of Eurasian watermilfoil, an invasive aquatic plant in Middle Pond, poses a threat to primary recreation, such as swimming, due to threat of entanglement.
- The presence of Eurasian watermilfoil, in Lake Rico and Big Bear Hole may preclude the ability to conduct paddle sports safely.
- The viewing station accessible pathway by Middle Pond Beach is no longer universally accessible due to erosion and increasing slope.
- Wooden seating surfaces at the amphitheater have become dry, cracked, and splintered, rendering some seating surfaces unusable.
- The Park lacks comprehensive internal navigation signage, potentially leading to confusion as to how to reach destinations within the Park.
- Locations of many recreational resources are incorrectly identified in both maps and spatial data sets.
- The number of vehicles associated with day-use visitors often exceeds available parking.
- Parking in undesignated areas along roads, due to limited parking, is destroying the asphalt edges of roads.
- The Turner Street parking lot is small, leading to visitors parking along the road and in undesignated areas when the lot is full. In addition, the lot has a designated accessible spot without access to any accessible facilities or activities.
- The operations yard and building are small, with insufficient space for employees, parking, or equipment and materials storage.
- Mosquitos carrying vector-borne diseases such as eastern equine encephalitis have forced the Park to cancel all nighttime events, such as the "Free Family Flick," which is part of the Summer Nights Initiative.
- Groups or individuals participating in depreciative activities, such as illegal drug activity, unauthorized gatherings, and after-hours visitation create an unwelcoming environment for day-use visitors and campers.

Opportunities

- Although there are numerous kiosks in the Park, there is no Welcome Wayside panel that identifies the Park's resources and associated recreational opportunities. Developing a Welcome Wayside panel and installing it at major kiosks in the Park would better educate the public about this property.
- Adding electricity and better access to potable water in all campsite loops will provide campers with an overall improved camping experience.
- Adding electricity to the interpretive center would allow for evening programming and the use of audio/visual equipment in programming.
- Water quality at Camper's Beach is monitored for *Enterococci* weekly during the summer. Conducting additional monitoring in all water bodies used for secondary contact recreation (e.g., boating, paddle boarding) would ensure that the Park's lakes and ponds are safe for these activities.

- Replacing seating surfaces at the amphitheater would increase available seating, making it a more suitable location to hold events.
- Implementing recommendations in the recent Universal Access assessment (IHCD 2020) has the potential to increase universal access to resources and recreational opportunities.
- Potential exists for the creation of a universally accessible loop trail.
- Funding for trails closures, reroutes, and repairs may be available through DCR's Bicycle/Pedestrian Trail Repair Capital Program.
- Members of local Boy Scouts and the Student Conservation Association have participated in trails maintenance in the past. Opportunities exist to expand their role in trail maintenance throughout the Park.
- Removing Eurasian watermilfoil, an invasive aquatic plant, would allow visitors to engage more safely in primary contact recreation at Middle Pond and secondary contact recreation at Lake Rico, Middle Pond, and Big Bear Hole.
- Establishing a formal Friend's group agreement could promote the Park, increase routine trail maintenance, and more actively engage community members.
- Installing comprehensive interpretive and directional signage could improve the visitor experience.
- Installing a vehicle counter for the main entrance road or implementing a pay-to-park system could provide data on visitation.
- Developing a portion of the campground for a group campsite would provide more opportunities for different groups to hold overnight events at Massasoit.
- Developing and implementing an interpretive assessment and signage plan could enhance visitor awareness and understanding of the Park's historic resources such as home sites and mills.
- An old, unused dirt parking lot near Turner Road could be restored as parking area to help alleviate current parking shortages.
- Park Operations are currently housed in a building shared with Trade Operations. Regional and Massasoit staff have indicated that the space is insufficient for Park Operations.

Climate Change

Climate change impacts nearly every aspect of DCR's properties, from ecosystem health, to infrastructure, to recreation. The Department is actively working to mitigate and adapt to current and future impacts through such actions as forest management, decarbonizing DCR's buildings and vehicles, 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.

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 System (CFI) 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 2014 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. 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* (<https://www.mass.gov/info-details/managing-our-forests-for-carbon-benefits>).

The Department is actively assessing the vulnerability of its properties and facilities to the anticipated impacts of climate change. A Climate Change Vulnerability Assessment (CCVA) will be 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, buildings, facilities, and other infrastructure. Property-specific climate change information derived from the CCVA is included in the RMP dashboard (see Climate Change (by 2070)).

Climate Exposure

During the preparation of Resource Management Plans some resources may be identified as having particularly high exposure to the anticipated impacts of climate change. When this occurs, these resources are described in the RMP.

Spring Brook, which originates in the southern section of the park and flows northward into Lake Rico, has been identified by the Mass Wildlife as a Coldwater Fisheries Resource. It may be affected by exposure to increasing air and water temperatures.

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.

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 parks with diverse resources and levels of development. All of Massasoit State Park was designated Parkland. Identification of Land Stewardship Zones within Massasoit was performed in the context of the Parkland Landscape Designation.

The following Land Stewardship Zoning is recommended to guide management and any future development. (See Land Stewardship Zoning map, page 15.)

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 Massasoit have been designated Zone 1.

- The northern 40-acre parcel along the Taunton River.
- Undeveloped sections of the Middle Pond and Lake Rico shorelines to protect existing and potential populations of Plymouth gentians, a Special Concern plant typically associated with the Coastal Plain Pondshore natural community. This species is sensitive to trampling and cannot support dispersed recreation (Swain 2020).
- Three occurrences of the Kettlehole Level Bog natural community. Because trampling by humans affects the integrity of this community's peat mat, these sites cannot support dispersed recreation (Swain 2020).

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 Massasoit have been designated Zone 2.

- All portions of the Park not specifically designated as Zones 1 or 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 Massasoit are currently developed, appropriate for potential future development, or intensively used for recreation. They have been designated Zone 3.

- The maintained, landscaped entrance to Massasoit State Park.
- The operations yard, maintenance building, and adjacent areas appropriate for future park operations needs.
- Main parking lot, contact station, and adjacent areas appropriate for the potential future expansion of the parking lot.
- Cranberry bog and associated uplands; to the existing tree line.
- Grassy area along Massasoit Park Road currently used for picnicking and as site of large special events.
- Dump station.
- Campground, including the Middle Pond waterfront area.
- Playground.
- Big Bearhole Pond Recreation Area, including amphitheater, boat ramp, picnic area, fire pit, shelter, and Big Bearhole Pond Dam.
- Middle Pond dams 1–4, including all aprons, spillways, access roads, and other existing development needed to operation, maintain, or repair these dams.
- Lake Rico Dam and adjacent developed area between Middleboro Avenue and Lake Rico.
- Turner Street parking area.

Significant Feature Overlay

Significant Feature Overlays provide precise management guidance to maintain or preserve recognized resources features regardless of the Land Stewardship Zone in which they occur.

- There are no Significant Feature Overlays associated with this park.

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://dcrgis-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. Part 1, Title II, Chapter 21, Section 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 Consistency Assessment, page 16.)

Indicators are applied during the RMP planning process 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, 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.

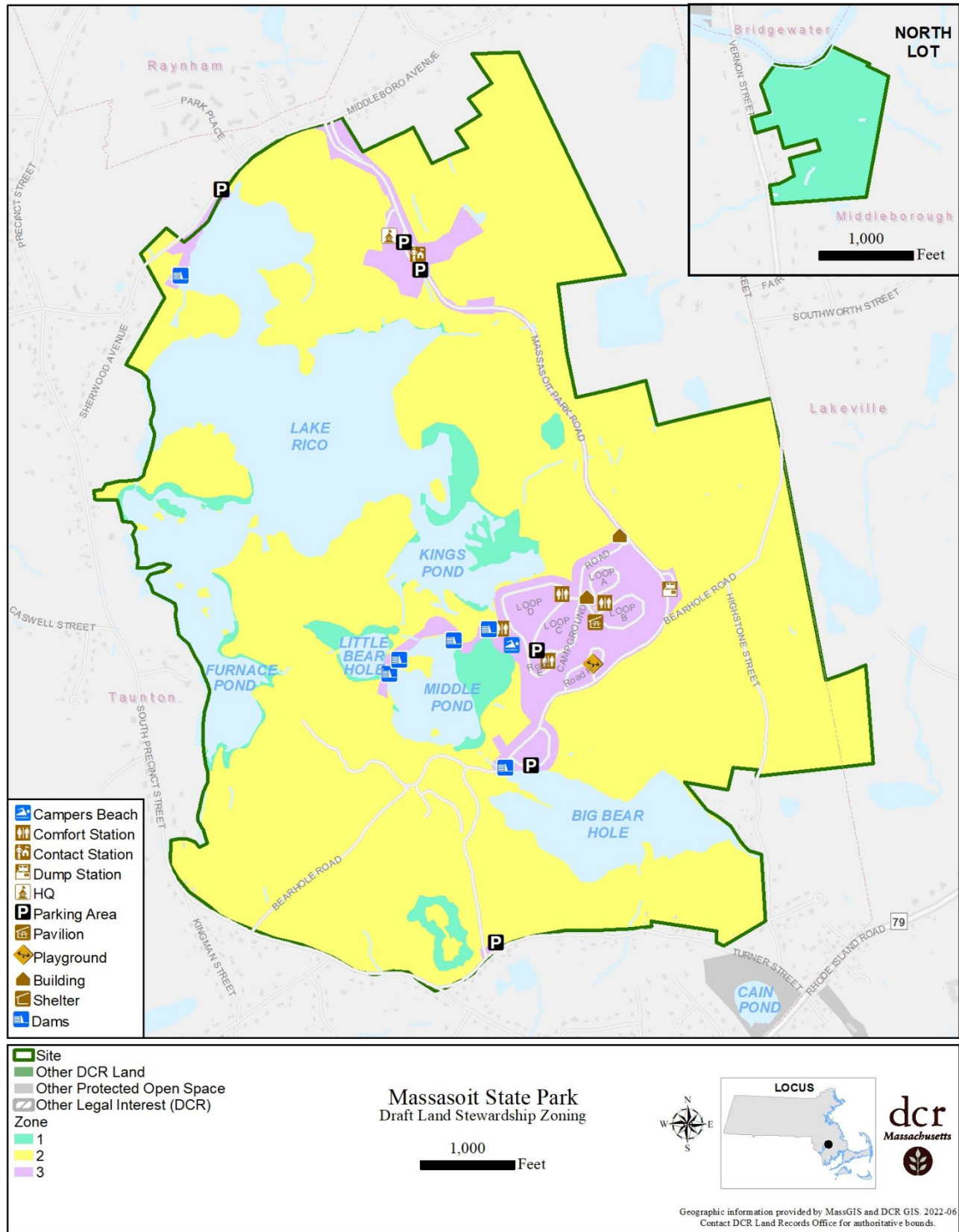
Management Recommendations

Eighteen priority management recommendations were developed for Massasoit State Park. They are presented in the table Priority Recommendations for Massasoit State Park, page 18. 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.



CONSISTENCY ASSESSMENT			
<i>This assessment represents a snapshot in time and may not reflect future conditions.</i>			
	Yes	No	N/A
Landscape Designation			
G.1. All development and uses of the park since 2012, or currently planned for the park, are consistent with its Landscape Designation(s).	X		
Natural Resources			
N1. 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.		X	
N2. 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.		X	
N3. 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.		X	
N4. Aquatic areas adjacent to beaches, boat ramps and launches, roads, and hiking trails are free of eroded sediments.		X	
N5. The extent of exposed soil in campground and/or picnic sites is stable or decreasing.*	X		
N6. The extent of native vegetation in campground and/or picnic sites is stable or increasing.*	X		
N7. Area of trail impacts in Reserves is less than 50% of total park area. (See Naughton (2021) for information on primary area of trail impacts.)			X
N8. Congregations of breeding, migratory, or wintering wildlife are protected from disturbance by temporary (e.g., seasonal) restrictions on recreational access.			X
N9. 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.*		X	
N10. Zone I wellhead protection areas are free of vehicle parking, chemical storage, or concentrated recreation.			X
N11. All boat ramps and launches have cleaning stations and/or educational signs and materials on preventing the spread of aquatic invasive organisms.*		X	
N12. 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.			X
Cultural Resources			
C1. 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.	X		
C2. 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.			X
C3. 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.			X
C4. 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.			X
C5. Geocaches, letterboxes, and other discovery destinations are located away from sensitive cultural resources, and their locations have been reviewed and approved by park personnel.		X	
C6. 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.	X		

Consistency Assessment continues on next page.

CONSISTENCY ASSESSMENT <i>This assessment represents a snapshot in time and may not reflect future conditions.</i>				Yes	No	N/A
Recreation						
R1. Types of recreation, levels of recreational use, and types and extent of recreation infrastructure are consistent with the park's identity statement.				X		
R2. Trail density is consistent with the park's Landscape Designation(s). (See <i>Trails Guidelines and Best Practices Manual</i> (DCR 2019a) for density thresholds.)				X		
R3. All authorized trail construction was performed in accordance with an approved Trail Proposal Form.					X	
R4. Over 90% of the park's official trails network is classified as being in Fair or better condition.				X		
R5. Recurring use by OHVs is restricted to authorized trails.*					X	
R6. There is a high level of compliance with dog leash regulations and policies.*				X		
R7. Athletic fields are free of recreation-caused impacts (e.g., bare spots) to turf.*						X
R8. Water-based recreation is consistent with: "Uses Attained" designation as identified by Mass DEP in its most current list of integrated waters (e.g., DEP 2021); DPH fish consumption advisories; and/or water quality testing at waterfront areas.				X		
R9. Recreation facilities are located outside of areas subject to flooding, storm surge, or sea-level rise.					X	
Sustainable Forest Management						
F1. Forestry activities are consistent with Landscape Designation and associated forestry guidelines.				X		
F2. Forestry activities are consistent with current Forest Resource Management Plan.						X
F3. Tree cutting is performed in accordance with an approved cutting plan, if required under the Massachusetts Forest Cutting Practices Act (M.G.L. Ch. 132, Sections 40–46).						X

* As assessed by property manager.

Priority recommendations for Massasoit State Park. All recommendations are of equal importance.

Category	Recommendation	Implementation^a
Natural Resources	Resolve potential encroachments in accordance with draft Agency-wide guidance and Best Management Practices (DCR 2019b).	Management Forestry , Contractor, Office of the General Counsel, Park Operations
Natural Resources	Develop a monitoring program for rare species populations at Massasoit.	Office of Natural Resources
Natural Resources	Following appropriate review and permitting, implement the <i>Invasive Plant Management Plan: South Region</i> (BSC Group 2017) for aquatic and terrestrial invasive plants. Maintain actions as needed.	Office of Natural Resources , Park Operations, Volunteers
Natural Resources	Develop a comprehensive management plan for the Big Bearhole Pond–Middle Pond–Lake Rico system to address hydrological, chemical, and physical inputs from both outside and within the Park, and outputs leaving the Park via Furnace Brook.	Contractor, Lakes and Ponds Program
Natural Resources	Develop and implement an aquatic invasive species management plan, either as a component of the comprehensive water body management plan or as a stand-alone plan.	Contractor, Lakes and Ponds Program , Park Operations
Natural Resources	Install informational signs near boat launches and popular fishing spots to help control the spread of aquatic invasive species.	Lakes and Ponds Program , Park Operations
Cultural Resources	Develop interpretive panel for the Furnace Brook Historic Site that provides information on the site’s history.	Interpretive Services , Office of Cultural Resources
Cultural Resources	Assess the condition of the Park’s remaining cranberry bog and determine whether it is better suited for active agriculture or for ecological restoration.	Office of Natural Resources, Park Operations, Partner, Regional Staff
Recreation	Implement key recommendations from the 2020 Universal Access assessment (IHCD 2020).	Contractor, Engineering, Universal Access Program
Recreation	Redesign road segments and parking around the Contact Station to improve traffic flow, enhance park operations, and increase safety.	Landscape Architecture Section
Recreation	Develop and install an accessible trail associated with the Five Pond Loop Trail.	Contractor, Trails and Greenways Section , Universal Access Program
Recreation	Review all trail signs and markings to ensure consistency with DCR Trail Signage Standards (DCR 2019); remove non-standard signs and add standard signs and markings as warranted.	Park Operations , Sign Shop, Volunteers
Recreation	Close all trail segments leading out of the Park and onto private property.	Park Operations , Volunteers
Recreation	Close trail segments through the campground.	Park Operations , Volunteers
Recreation	Inventory all internal information signs. Add new signs, as warranted, in accordance with DCR standards for Internal Park Information Signs (DCR n.d.).	Park Operations , Sign Shop
Recreation	Develop a Welcome Wayside panel and install at kiosk near the contact station and at other day use parking lots.	Interpretive Services , Park Operations
Recreation	Assess the need for a new restroom building specifically for use by day-use visitors.	Contractor, Facilities Engineering

Category	Recommendation	Implementation^a
Recreation	Install electricity at the interpretive center to allow for evening programming.	Contractor, Facilities Engineering

a. The lead party responsible for implementation is identified in bold.

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