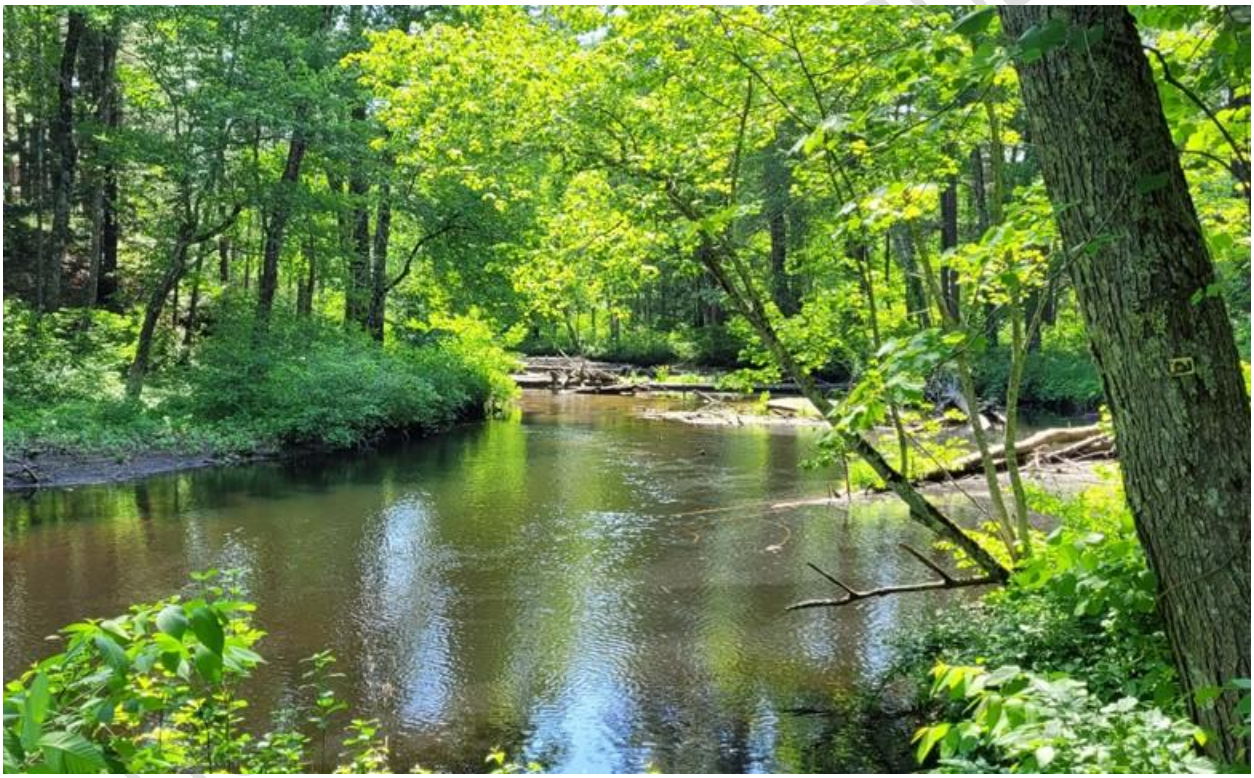
dcr
Massachusetts

Resource Management Plan
Squannacook Brook 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

Maura T. Healey, Governor
Kimberley Driscoll, Lieutenant Governor
Rebecca L. Tepper, Secretary
Nicole LaChapelle, Commissioner

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

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

Stewardship

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

To learn more about the DCR, its facilities, and programs please visit us at www.mass.gov/dcr. Contact us at mass.parks@mass.gov.

Squannacook Brook State Forest

https://www.mass.gov/locations/willard-brook-state-forest

1. Property Overview

Characteristic	Value
Date Established	1961
Location	Townsend
Ecoregion	Worcester Plateau
Watershed	Nashua
DCR Region	Central
DCR District	Central Highlands
DCR Complex	Otter River
Management Forestry District	Mid-State
Fire Control District	North Worcester
Size (acres)	319.8
Boundary Length (miles)	4.8
Elevation - Minimum (feet)	270.3
Elevation - Maximum (feet)	305.0
Environmental Justice (acres)	131.8
Estimated Annual Attendance (2023)	6,000
Interpretive Programs (# programs, 2023)	0
Interpretive Programs (# attendees, 2023)	0

2. Landscape Designations

Designation	Acres
Parkland	23.8
Reserve	297.0
Woodland	0.0
No Designation	0.0

3. Regulatory Designations

Designation	Acres
Area of Critical Environmental Concern - Squannassit	318.5
Outstanding Resource Waters-Squannacook River	319.8
Priority Habitat (MESA)	317.9
Squannacook and Nissitissit Rivers Sanctuary (MGL Chap. 132A, Sec. 17)	N/A

4. Long-Term Agreements

Agreement	Expiration Year
None Identified	N/A

5. Concessions

Concession Type
None

6. Partners & Friends

Group(s)
Massachusetts Division of Fisheries and Wildlife
Squannacook Greenways

7. Features of Interest

Feature
Bixby Brook
Squannacook River

8. Natural Resources

Resource	Value
Tree Canopy (acres)	230.4
Rivers and Streams (miles)	2.0
Open Water (acres)	9.0
Wetlands (acres)	61.7
Certified Vernal Pools (#)	0
Potential Vernal Pools (#)	5
State-Listed Species (# Regulatory)	3
State-Listed Species (# Non-Regulatory)	0
Federally Listed Species (#)	0
Aquatic Invasive Plants (# known species)	0
Terrestrial Invasive Plants (# known species)	9

9. Forest Management (Since 2012)

Management Objective	Acres
Reduce the risk and long-term impacts of severe disturbances	2.2

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	253
Acres burned by wildfires in Fire Control District; 2019–2023	250.0
Type of Wildland-Urban Interface	Intermix
Predicted rate of spread, based on Fire Behavior Fuel Model 13	Rapidly Spreading

11. Natural Hazards

Hazard Type	Acres
Flood (1.0%-chance)	204.8
Flood (0.2%-chance)	226.8
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	0
Historic - Total MACRIS Listed	0
Historic - National Register Listed	0
Historic - National Historic Landmark	0

14. Recreation Resources

Resource	#
Fishing Area	1
Trail System	1

15. Recreation Activities

Activity
Bicycling, mountain
Canoeing/Kayaking
Dog walking, on-leash
Fishing, fin fish
Hiking/walking
Hunting
Nature study/Photography
Orienteering
Picnicking
Running/Jogging
Skiing, cross-country
Snowmobiling
Snowshoeing
Wildlife viewing

16. Roads and Trails

Metric	Value
Roads - Unpaved (miles)	<0.1
Roads - Paved (miles)	0.2
Forest Roads - Unpaved (miles)	4.0
Forest Roads - Paved (miles)	0.0
Trails - Unpaved (miles)	1.3
Trails - Paved (miles)	0.0
Trails - Unauthorized (miles)	<0.1
Trail Density (miles/acre)	0.016
Area of Impact (acres)	207.21

17. Parking

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

INTRODUCTION

Squannacook Brook State Forest (Squannacook Brook or the Forest) is located along the Squannacook River (the River) in the Town of Townsend, approximately 34 miles north of Worcester and less than half a mile south of downtown Townsend. The Forest lies in the Southern New England Coastal Plains and Hills Ecoregion and is approximately six-tenths of a mile south of Townsend State Forest and three miles east of Willard Brook State Forest and Pearl Hill State Park. The Squannacook River Rail Trail borders the Forest along much of its northern boundary, with the Townsend Rod and Gun and the Squannacook River Wildlife Management Area (WMA) bordering to the south and east, respectively. Residential properties, light industry, and the downtown area of Townsend also abut Squannacook Brook.

The Squannacook River has been recognized both nationally and at the state level for its scenic and ecological values. The river was designated a Scenic River under the U.S. Wild & Scenic Rivers Act (Public Law 90-542; 16 U.S.C. 1274(a), 1968), as amended by Public Law 111-9, §1303 (March 12, 2019). The Scenic River is managed under the Nashua River Wild and Scenic River Study Committee's Nashua, Squannacook, and Nissitissit Rivers Stewardship Plan (2018). The Squannacook River is also situated in the Squannassit Area of Critical Environmental Concern (ACEC), which covers 37,450 acres across nine towns. Established in 2002, the Squannassit ACEC contains lands representing unique landscapes and rare species habitat and includes parts of the Nashua River corridor. Squannacook Brook State Forest contributes toward land protection within this ACEC (Durand 2002).

The Forest 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 Squannacook Brook State Forest. Indigenous groups and individuals, including peoples known as the Wabanaki (Dawnland Confederacy), Pennacook, Agawam, Nipmuc, and N'dakina (Abenaki/Abenaquis), are recorded in available documentation (Native Land Digital 2023) as having relationships to this place over seasons and generations. Following Indigenous people's dispossession, the Town of Townsend was incorporated in 1732, with additional land annexed from neighboring communities between 1799 and 1879 (MHC 1984).

Squannacook Brook was established in 1961, Under Chapter 132 of the Massachusetts General Laws, as amended by Chapter 656 of the Acts of 1958. The initial acquisition included 14 parcels, totaling approximately 319 acres, which were acquired from the B. and A. D. Fessenden Company. Fessenden was a cooperage, lumber yard, and sawmill operation that was once the largest employer in Townsend (Townsend Historical Society n.d.). Portions of the Forest had been woodlots that supplied raw materials for Fessenden's cooperage. The company closed in 1960, and the Commonwealth acquired the land the following year. The Forest expanded in 1964, and again in 1970.

Throughout the twentieth century, the River was the focus of intense fisheries interest and management. In 1932, the Commonwealth acquired fishing leases along the River to provide angler access (Cardoza 2015). In 1954–1955 the River received "very heavy fishing pressure", which resulted in the Massachusetts Division of Fisheries and Game (now the Massachusetts Division of Fisheries and Wildlife (MassWildlife)) increasing efforts to lease more streambank for public access (Cardoza 2015: 111). Leases of public fishing grounds continued throughout the early 1960s, when the Division's emphasis turned to land acquisition. These acquisitions became part of the Squannacook River WMA, which is located both upstream and downstream of the Forest. It is likely that one of the public benefits of establishing the Forest in 1961 was that it provided additional river access for fishing.

Although Squannacook Brook is a relatively small State Forest, the presence of the River, running the length of the Forest, makes for a memorable visitor experience. The River provides opportunities for fishing its trout-stocked waters, canoeing and kayaking, viewing wildlife, or taking in scenic views of the River as you hike the Forest's trails. Squannacook Brook, and adjoining permanently protected open space, help protect the River corridor, provide habitat for rare species, and provide greenspace in downtown Townsend within walking distance of an Environmental Justice community.

PARK IDENTITY

Squannacook Brook State Forest is strongly identified with its namesake feature, the Squannacook River. The Forest provides flood control to surrounding areas and protects crucial fish and wildlife habitat. It is one of a series of State-owned lands, primarily WMAs, that provide access to the Squannacook River for fishing and other water-based recreation. The Forest is increasingly becoming associated with the nearby Squannacook River Rail Trail, a non-profit managed rail trail located just outside the Forest. All future activities and improvements should be consistent with protecting and enhancing the Forest's natural and cultural resources while providing passive recreation opportunities within a flood zone under the Forest's Parkland and Reserve Landscape Designations.

DEFINING RESOURCES AND VALUES

Resources and values that define the park are related to its location along the Squannacook River and recreational uses. They include:

- The Squannacook River is the Forest's main natural feature and helps shape the surrounding landscape. The Forest contributes to conservation of the Squannacook River riparian corridor, which provides important ecosystem services through floodplain protection, and is protected through multiple state and federal legislative designation or programs, including:
  - Designation as a Scenic River under the U.S. Wild & Scenic Rivers Act (Public Law 90-542; 16 U.S.C. 1274(a), 1968), as amended by Public Law 111-9, §1303 (March 12, 2019). (The River is managed under the Nashua River Wild and Scenic River Study Committee's Nashua, Squannacook, and Nissitissit Rivers Stewardship Plan (2018)).
  - Designation as Outstanding Resource Waters (314 CMR 4.06).
  - Protection within the Squannacook and Nissitissit Rivers Sanctuary (M.G.L. Ch. 132A, §17) created in 1975 (Massachusetts General Court 1975).
  - Identification as a Coldwater Fish Resource (MassWildlife 2022).
- The Forest helps protect unique habitat as part of a larger land conservation block in association with Squannacook River WMA and within the Squannassit ACEC.
- Endangered or uncommon natural resources.
  - The presence of three species protected under the Massachusetts Endangered Species Act (MESA), two of which are associated with the River and the third is associated with the Forest's wetland-adjacent early successional uplands.
- The trail system facilitates most recreational activities at the Forest, with over five miles of forest roads and trails to explore.

- The Forest provides recreational amenities to, and enhances environmental quality and equity for, an Environmental Justice (EJ) community.

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 Squannacook Brook State Forest. The sequence of these statements does not reflect their level of significance.

- The entire site is classified as Priority Habitat (PH 2035) indicating 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. The immediate area around the river is classified as Core Habitat Aquatic Core.
- As part of the larger Petapawag and Squannassit ACECs, the site has been identified as part of a broader area of special recognition because of the quality, uniqueness, and significance of its natural and cultural resources.

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 Squannacook Brook State Forest is:

> Unfragmented landscapes support ecosystem connections and health among different habitats, making the whole greater than the sum of the parts.

VISITOR EXPERIENCE

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

- **Virtual Experience.** Potential visitors will find little information about Squannacook Brook State Forest on DCR's web site. The "Find a Park" tool (https://www.mass.gov/info-details/find-a-park) identifies the Forest's location and lists Hiking/Walking as activities that visitors may enjoy here.

There is no additional information to help potential visitors plan a trip. The Willard Brook State Forest web page does not list Squannacook Brook as being one of its "related parks."

- **Entering the Park.** There is no formal forest gateway and minimal signage identifying the property or orienting visitors. Although there is no parking at the Forest, three parking areas are available on adjacent lands. Two small parking areas at the adjacent Squannacook River WMA may be used by visitors to access the Forest. The first is north of the River on Old Meeting House Road and the second is south of the River on South Row Road. Visitors may also park at the Squannacook River Rail Trail parking area at the intersection of Depot and Center Streets and walk or bicycle down the rail trail to the Forest.
- **Trails-based Passive Recreation.** Visitors seeking other recreational opportunities may access a modest trails network. Over 5 miles of forest roads and trails meander through the Forest's woodlands, providing visitors the opportunity for a light hike and park exploration or access to the River.
- **Fishing**. With a peaceful view and water access, Squannacook Brook provides a fishing destination.
- **Hunting**. The Forest is open to all legal hunting during hunting season.

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 26).

Natural Resources

Threats

- The Massachusetts Department of Environmental Protection (MassDEP) has identified several water quality impairments in the Squannacook River (MA81-18) within the Forest (MassDEP 2023), resulting in this stretch of the river being classified as not suitable habitat for sustaining a native, naturally diverse community of aquatic flora and fauna (MassDEP 2021). Because MassDEP updates its Integrated List of Waters on a regular basis, readers are directed to refer to the most recent version of that document for current information.
- Some abutters along the newly constructed Squannacook River Rail Trail may be encroaching on DCR boundaries, potentially maintaining areas or storing items on state land and negatively affecting natural resources at the Forest.
- Numerous areas of privately held lands are depicted as existing within the park boundary in the OpenSpace GIS data layer, some with insufficient survey data, potentially impeding efforts to protect natural resources at Squannacook Brook.

- All three of the Forest's state-listed species are associated with water resources, including a state Endangered aquatic plant, a Threatened animal that requires a mixture of wetlands and uplands, and a Species of Special Concern that occurs in sandy soils but depends on wetlands for its amphibian prey base. Changes in wetland abundance and diversity, water quality, and alterations to natural hydrologic regimes have the potential to impact these species both directly and indirectly.
- The Species of Special Concern requires early successional habitat for nesting and is threatened by plant succession.
- The following nine species of terrestrial invasive plants have been identified in the Forest: Asiatic bittersweet. autumn olive, burning bush, garlic mustard, Japanese barberry, lesser celandine, multiflora rose, Norway maple, and reed canary grass. One Likely Invasive species (Tatarian honeysuckle) is also present. Invasive species may negatively impact both the ecological integrity and biodiversity of the Forest.
- There are at least three unapproved geocaches in the Forest. Inappropriately located geocaches may threaten sensitive natural resources.
- Increased recreation along the new Squannacook River Rail Trail may lead to creation of new unauthorized trails from the Squannacook River Rail Trail path into the Forest.
- Unauthorized Off Highway Vehicle (OHV) use at Squannacook Brook, mainly in the portion south of the Squannacook River, increases erosion on existing trails and creates new unauthorized trails.

Opportunities

- In 2018, invasive species were actively managed in rare species habitat in the Forest for the purpose of maintaining or enhancing habitat for the benefit of rare species (Land Stewardship, Inc. 2018, Regosin 2019). Additional invasive species management may be appropriate in the future to maintain the benefits to rare species habitat realized through the 2018 management actions.
- Some of the Forest's five potential vernal pools may "support rich communities of vertebrates and invertebrates" (MassWildlife 2009) and serve as important habitat components for other wildlife. Such pools are important core features for one of the Forest's state-listed species. Surveying and certifying these pools (DCR (n.d.) and MassWildlife (2009)), as appropriate, may help better protect these animals.
- Within the Forest are occurrences of two types of rare species habitat, Regulatory and Non-Regulatory. Regulatory habitat is based on verified records of state-listed species and has associated mapped Priority Habitat. Non-Regulatory habitat is based on the presence of suitable habitat for state-listed species; there is no associated mapped Priority Habitat. On state lands, both are protected under the Massachusetts Endangered Species Act (MESA; 321 CMR 10.00). Requesting pre-filing consultation with the 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.
- Verifying potential encroachments in the field would better protect natural resources at Squannacook Brook State Forest.
- Updating the Forest's boundaries in OpenSpace GIS will improve DCR management of the property and the public's understanding of the true extent of the Forest.

- Adding a permeable barrier, like large rocks or fencing, between the Squannacook River Rail Trail and the Forest could help limit the creation of new unauthorized trails, while still allowing wildlife to move freely and maintaining a couple of trailheads from the rail trail.
- Squannacook Brook is located in a watershed with a Total Maximum Daily Load (TMDL) report required to address water quality impairments (per MassDEP 303d list). Although segment MA81-18 is listed as requiring a TMDL (Category 5 of the 303d list), a TMDL has not yet been developed. Designers of future projects in the Forest should focus on addressing identified impairments, in accordance with the DCR Stormwater Design Handbook (VHB 2022).
- Increasing the presence of Environmental Police Officers, DCR rangers, and other DCR staff could help deter unauthorized activities like OHV use and dumping.
- 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

- Known and unknown cultural resources may be vulnerable to erosion due to flooding from the Squannacook River and recreational activities, like geocaching or unauthorized OHV use.
- Three areas identified in DCR's Cultural Resource Inventory have not been confirmed in the field, potentially hindering appropriate management of those sites.
- A lack of knowledge concerning archaeological resources in the Forest threatens their effective management and protection.
- There are at least three unapproved geocaches in the Forest. Inappropriately located geocaches may threaten sensitive cultural resources.

Opportunities

- 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.
- Confirming the three areas identified in the Cultural Resource Inventory in the field would better inform management practices at Squannacook Brook.

Recreation

Threats

- There is limited official information available on Squannacook Brook State Forest. DCR's web page does not include information on the Forest, making it difficult for potential visitors to become aware of the property and its recreational opportunities.

- An accessible fishing platform along the north bank of the Squannacook River was lost due to riverbank erosion, potentially limiting accessibility and inclusivity of fishing at Squannacook Brook State Forest.
- Approximately 64% of the park is within the 1.0%-chance flood zone and 71% is within the 0.1%-chance flood zone. There is approximately 1.7 miles of forest roads and trails within the flood zones that may be damaged by flood events (Massachusetts Bureau of Geographic Information (MassGIS) 2023).
- The recommended trail density for Reserves is 0.007 miles/acre (3 km/km^2; DCR (2019)). Trail density in the Reserve portion of Squannacook Brook is 0.017 mile/acre, more than twice the recommended density. Such a density may negatively affect the values of the Reserve.
- Completion of the Squannacook River Rail Trail along the Forest's northern boundary brings with it the potential for recreationists creating unauthorized trails, through Priority Habitat, from the rail trail to the river.
- Unauthorized OHV use within the Forest detracts from visitor experience at Squannacook Brook and increases erosion on trails.
- The boundaries of a 0.42-acre parcel with frontage along Main Street (0 Main Street, Parcel ID 51 135 0) are poorly known and the parcel is not marked as state forest, potentially preventing the public from using this parcel to access the State Forest.

Opportunities

- Adding a Squannacook Brook State Forest web page to DCR's web site would allow potential visitors to become aware of the Reservation, its resources, and associated recreation opportunities.
- Installing a Main Identification Sign would better communicate to the public who is responsible for the operation and maintenance of the Forest.
- Working with the Squannacook Greenways, Inc. and MassWildlife to provide better access and information about Squannacook Brook State Forest at kiosks and parking areas would help improve Forest visitor experience.
- Adding a picnic area, with accessible picnic tables, on DCR property along the rail trail would add another recreation resource for visitors to Squannacook Brook and provide a place for recreationists to rest along the rail trail.
- An opportunity exists to create authorized river access to the Squannacook River along 750-feet of existing trails that originate at the intersection of the powerlines and rail trail, and end at a scenic overlook along the Squannacook River. Provision of a well-signed and well-maintained trail to the River may decrease the likelihood of recreationists along the rail trail creating unauthorized trails to the river.
- Replacing the accessible fishing platform would increase recreational opportunities at the Forest.
- Improving the condition of the Forest's existing roads and trails and adding DCR trail signs and markings (DCR 2019), would enhance passive trail-based recreation at Squannacook Brook.
- The opportunity exists to decrease trail density to a level consistent with the Reserve Landscape Designation through the closure and/or restoration of existing trails.

- Increasing the presence of Environmental Protection Officers, DCR rangers, and other DCR staff could help deter unauthorized activities like OHV use and dumping.
- Adding barriers, such as gates or large rocks, at trail heads to prevent access with OHVs could help lower trail degradation and improve visitor experience at the Forest.
- Developing and installing displays describing the Forest's natural landscape would contribute to interpretation of the area in the absence of interpretive staff.
- Surveying the 0 Main Street parcel and setting permanent monuments would allow DCR to better manage the parcel, and the public to access and enjoy the Forest.
- Portions of the Forest are within and contiguous with an EJ tract. There may be opportunities to advance environmental justice and equity via DCR's Environmental Justice Strategy (see pages 79–88 in Massachusetts Executive Office of Energy and Environmental Affairs (EEA) 2024a), in alignment with the EEA's EJ Policy (Massachusetts Executive Office of Energy and Environmental (EEA) 2021) and the Executive Order on Environmental Justice (No. 552) (Patrick 2014).

CLIMATE CHANGE

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

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

DCR manages its forests to provide a range of ecosystem services such as recreation, clean water, wood commodities, and wildlife habitat (DCR 2020). For ecosystems under its management, DCR carefully considers both their vulnerability to climate change and their ability to mitigate the effects of climate change by storing carbon in ecosystems and harvested wood products. Several approaches are used to monitor DCR forests and to design forest management strategies to adapt to climate change and provide ecosystem services. (See Swanston et al. (2016) for information on adaptation strategies and approaches associated with DCR's forest management.) Established in 1957, DCR's Continuous Forest Inventory (CFI) system uses a network of more than 2,000 permanent plots on which repeated measurements are taken on an ongoing basis. The CFI measures the status, size, and health of over 100,000 trees; other vegetation; down woody material; and the forest floor. (See DCR 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 (EEA 2024b). For additional information on the relationship between DCR's forest management practices and climate change, please see pages 77–85 in Massachusetts Forest Action Plan 2020 (DCR 2020) and Managing Our Forests…For Carbon Benefits (DCR 2023).

The Department is actively assessing and addressing the vulnerability of its properties and facilities to the impacts of climate change. In 2022, DCR conducted a 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). In addition, 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 climate change and that all state-listed species will be negatively affected by hydrologic changes, changes in water, soil, and air temperature, and changes in forest composition.

Natural Resources—Property-Specific Exposure and Impacts

Squannacook Brook has been identified as a Coldwater Fisheries Resource by MassWildlife. Such streams provide important habitat for coldwater species, which are typically more sensitive than other species to alterations in stream flow, water quality, and temperature (MassGIS 2021). The entire lengths of these streams within the Forest are exposed to climate impacts.

Climate change may cause some vernal pools to dry earlier in the season than they have historically, potentially interfering with amphibian life cycles (Cartwright et al. 2022). Because of this, some of the Forest's pools and associated amphibians may be negatively impacted, which may in turn impact the Species of Special Concern that requires an amphibian prey base.

The Forest's state-Endangered plant is threatened by alterations to natural hydrologic regimes. Changes in hydrology, associated with climate exposure, may negatively impact this plant.

Climate change will negatively impact garlic mustard, reducing "establishment of a currently prolific invader…driven by poor demographic performance in warmer climates" (Merow et al. 2017: E3276). Projected future climate change "may mitigate" garlic mustard's "invasion in southern New England while reducing otherwise prolific population growth in some parts of northern" New England (Merow et al. 2017: E3279). Because of this, it is anticipated that garlic mustard populations at Squannacook Brook will decrease under climate change.

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 Squannacook Brook.

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 2024). 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 and other water-based activities may experience increased participation due to the anticipated increase in temperature (i.e., more than 30 additional days with temperatures over 90° F; Table 12).

Trail segments located within the most recent FEMA flood zones (MassGIS 2023), including portions of the Mid-State Trail, are exposed to the anticipated increase in precipitation (i.e., a greater than 10-inch increase in maximum daily rainfall; Table 12). (Precipitation changes due to climate change (see EEA 2022 and Weston and Sampson 2022) are not factored into FEMA flood plain modeling. Climate change may result in additional exposure to and impacts from flooding for cultural resources in the future. A FEMA-contracted report (AECOM 2013) finds that: "For the riverine environment, the typical 1% annual chance floodplain area nationally is projected to grow by about 45%, with very large regional variations ... approximately 70% of the 45% (or 31.5%) growth in the 1% annual chance floodplain is due solely to climate change" (AECOM 2013: ES6–ES7). Site-specific projections for future floodplain areas were not available at the time this RMP was prepared.)

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. Squannacook Brook State Forest was designated Parkland and Reserve. Identification of Land Stewardship Zones within Squannacook Brook was performed in the context of the Parkland and Reserve Landscape Designations.

The following Land Stewardship Zoning is recommended to guide management and any future development. (See Figure 1. Land Stewardship Zoning Map, page 22.)

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 Squannacook Brook have been designated Zone 1.

- Banks of the Squannacook River extending 200 feet inland from the shoreline (as represented by the Open Water features of the MassDEP Wetlands GIS layer). Where MassDEP Wetlands are present

that are coterminous with the Squannacook, Zone 1 encompasses the entirety of these wetlands. This Zone 1 designation is intended to help preserve the river as a Coldwater Fish Resource, to perpetuate natural and recreational values recognized in the Squannassit ACEC, to protect habitat of species designated under the MESA, and to maintain the river's character as a Wild and Scenic River.

- Bogs, identified as being vulnerable to trampling, bounded by the existing tree line.

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

- An approximately 19,000-square-foot area adjacent to the south shoulder of the Squannacook River Rail Trail, for the potential future development of a small rest area with infrastructure commonly associated with rail trails, such as picnic tables, kiosks, and benches.

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 Squannacook Brook.

- **Area of Critical Environmental Concern (ACEC) Overlay.** The Squannassit ACEC, designated 2002, encompasses over 37,000 acres of the Nashua River's watershed (Secretary of Environmental Affairs 2002). All of Townsend State Forest falls within the ACEC. Projects and activities within ACECs must minimize adverse effects on sensitive resources and are guided by a variety of regulations and programs that are summarized in the ACEC Guide to State Regulations and Programs (DCR 2017).

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 Natural Heritage and Endangered Species Program (NHESP) 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 23.)

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

Eleven priority management recommendations were developed for this property. They are presented in Table 19, page 26. 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 26) 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.

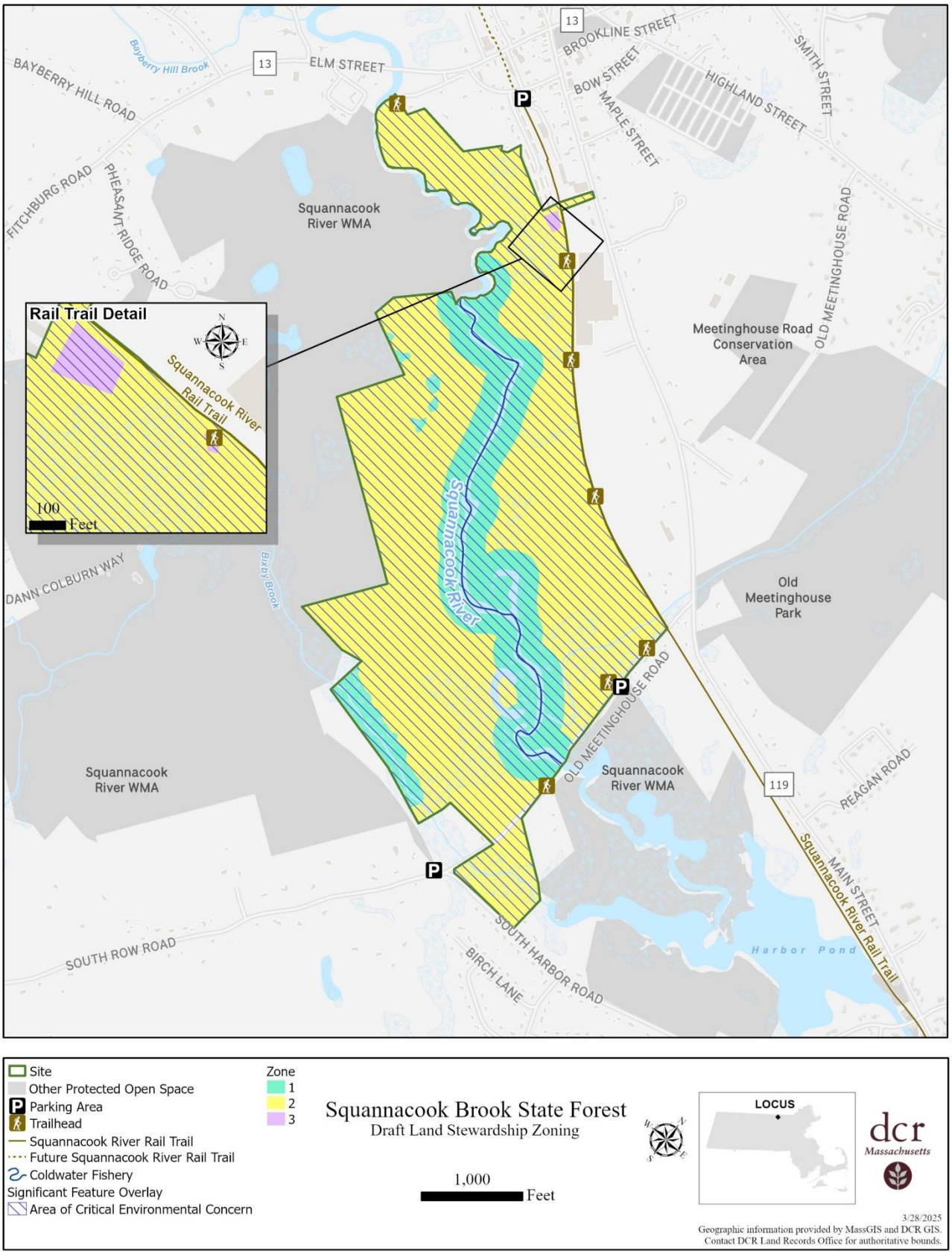


Figure 1. Land Stewardship Zoning Map.

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).	No
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.	N/A
Natural Resources	6. The extent of native vegetation in campground and/or picnic sites is stable or increasing. (As assessed by property manager.)	N/A
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.)	No
Natural Resources	8. Congregations of breeding, migratory, or wintering wildlife are protected from disturbance by temporary (e.g., seasonal) restrictions on recreational access.	Unknown
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.	Unknown
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.	N/A
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.	N/A
Cultural Resources	4. Recreational activities such as hiking, biking, and boating are not eroding cultural properties such as archaeological sites or historic landscapes through creation of desire lines, rutting in the landscape, damage to historic built features, or excessive scouring (erosion) of coastal and shoreline areas.	No
Cultural Resources	5. Geocaches, letterboxes, and other discovery destinations are located away from sensitive cultural resources, and their locations have been reviewed and approved by park personnel.	No
Cultural Resources	6. Historic buildings, structures, landscapes, archaeological sites, and concentrations of historic resources are located outside of areas predicted to be subject to flooding, storm surge, or sea-level rise.	Unknown
Recreation	1. Types of recreation, levels of recreational use, and types and extent of recreation infrastructure are consistent with the park's identity statement.	No

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

Table 19. Priority Recommendations for Squannacook Brook 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	As warranted, and following appropriate review, control invasive species in state-listed species habitat in accordance with guidance in the Invasive Plant Management Plan: Central Region (BSC 2017) and or project-specific Habitat Management Plan.	Contractor, Office of natural Resources (Lead)
Natural Resources	Resolve potential encroachment along the Forest's northern boundary in accordance with draft Agency-wide guidance and Best Management Practices (DCR 2019b).	Contractor, Management Forestry (Lead), Office of the General Counsel, Park Operations
Cultural Resources	Conduct an archaeological reconnaissance survey (950 CMR 70) in cooperation with municipal, tribal and non-profit partners, including the Town of Townsend. Complete appropriate Massachusetts Historical Commission archaeological site forms for identified archaeological resources	Consultant, Office of Cultural Resources (Lead), Partners
Recreation	Establish a DCR web page for Squannacook Brook State Forest.	Interpretive Services, Regional Staff (Lead), Park Operations, Web Content Creator
Recreation	Add accessible picnic tables, cantilevered identification sign, and kiosk along the boundary with the Squannacook River Rail Trail.	Interpretive Services (Co-Lead), Park Operations (Co-Lead)
Recreation	Work with the geocaching community to ensure that caches located in sensitive natural and cultural resources are relocated out of those areas and that 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)

Category	Recommendation	Implementation
Recreation	Resolve trail-related threats and opportunities identified in this RMP, in accordance with Trails Guidelines and Best Practices (DCR 2019a, or update), through the following actions: • Maintain authorized trails, as identified in the DCR Trail Data Layer provided to the Natural Heritage and Endangered Species Program in 2021, and in accordance with the Recreational Trail Maintenance and Biodiversity Conservation 2021 update. • Evaluate trail segments for discontinuation or active closure, including those that are: unauthorized, unsafe, connecting to privately-owned property, located in environmentally or culturally sensitive areas, or otherwise inconsistent with DCR Trails Guidelines and Best Practices. Provide an updated trail data layer to the Natural Heritage and Endangered Species Program. • Establish new trails, as warranted, following regulatory review. Provide an updated trail data layer to the Natural Heritage and Endangered Species Program.	Office of Cultural Resources, Office of Natural Resources, Park Operations (Co-Lead), Partners, Trails and Greenways Section (Co-Lead)
Recreation	Provide an authorized trail connection between the Squannacook River Rail Trail and the Squannacook River through the following actions: • Maintain approximately 750-feet of existing trail segments between the power lines and scenic overlook along the Squannacook River in accordance with DCR (2019a). Determine feasibility of making this trail accessible. • Install destination and wayfinding signs in accordance with DCR (2019a). • Install a kiosk and bike rack along the Forest's boundary with the rail trail, near the trailhead along the powerlines.	Office of Natural Resources, Park Operations (Co-Lead), Trails and Greenways Program (Co-Lead)
Recreation	Survey questionable property boundaries, update Open Space GIS layer for Squannacook Brook State Forest, and create trail map.	GIS Program (Lead), Management Forestry, Office of External Affairs

Category	Recommendation	Implementation
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	Following field staff review of OHV use in the Forest, add barriers, such as gates, as appropriate, to deter OHV use.	Park Operations

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