



View of Great Blue Hill from across Ponkapoag Pond. (See Appendix K for photo information.)

## SECTION 2. BLUE HILLS RESERVATION

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### 2.1. INTRODUCTION

The Blue Hills Reservation (Blue Hills) is located approximately eight miles south of downtown Boston, at the intersection of Interstate 93 and Route 24. (Figure 2.1.1) It was one of the first reservations established by the Metropolitan Park Commission (MPC). Since its creation in 1893, the Blue Hills has been the largest protected open space in metropolitan Boston.

The Reservation is perhaps best known for its recreation facilities and activities. It has an extensive trails system that is well-used by the region's hikers and mountain bikers, and a guarded beach for public swimming. The park is also home to one of three downhill ski areas in Massachusetts' park system. There are also multiple athletic fields and ice rinks. This emphasis on recreation began in the early 1900s and continues today. Most recent capital projects have focused on creating or rehabilitating these facilities.

Less well known, but of equal significance, are the Reservation's natural and cultural resources. The park is home to 19 species on the Massachusetts Endangered Species List; some of which are known from only a few populations in the state. There are

well over one-hundred archaeological and historic resources that tell the story of the Blue Hills, from its native peoples to its role in Cold War era missile defense. One resource, the Blue Hills Meteorological Observatory, is a National Historic Landmark.

The Reservation's physical, political, and regulatory attributes are summarized in Table 2.1.1.

**Associated Properties.** The Blue Hills' previous RMP (DCR 2011a) included two properties not in this section: Town Brook Flood Control Site and Ponkapoag Golf Course. Town Brook Flood Control Site was never part of the Blue Hills Reservation; but was included in the 2011 RMP due to its proximity to the Reservation. Information on this property is provided in Section 1. Ponkapoag Golf Course is no longer administratively in the same Complex, District, or Region as the Blue Hills Reservation; it will be addressed in a future RMP for the Boston Complex. Because of this, resources and management practices unique to the golf course are not considered here; one shared resource, Indian Line Farm, is addressed.

**Table 2.1.1. Physical, political, and regulatory settings of Blue Hills Reservation.**

Setting	Name or Metric
<b>Location:</b>	Braintree, Canton, Milton, Quincy, Randolph
<b>Area (acres)<sup>a</sup>:</b>	5,782.20
<b>Perimeter (miles)<sup>a</sup>:</b>	55.16
<b>Landscape Designation(s)<sup>b</sup>:</b>	Parkland
<b>Legislative Districts:</b>	
House	First Norfolk Fifth Norfolk Sixth Norfolk Seventh Norfolk Twelfth Suffolk
Senate	Norfolk and Plymouth Norfolk, Bristol, and Plymouth
<b>Regulatory Designations:</b>	Priority Habitat Fowl Meadow and Ponkapoag Bog ACEC Outstanding Resource Waters - Farm River Great Pond - Ponkapoag and Houghton's ponds National Register District - Blue Hills Reservation Parkways National Register District - Ponkapoag Camp of Appalachian Mountain Club

a. Calculated using a Geographic Information System (GIS).

b. For a summary of DCR's landscape designations, see <http://www.mass.gov/eea/docs/dcr/lld/lld-factsheet-final.pdf>.

- **Indian Line Farm.** This former farm, and electronic manufacturing site, is adjacent to Route 138 and the western edge of Ponkapoag Golf Course. This area was designated as Land Stewardship Zone 3 in the previous RMP “to allow for the potential expansion of Ponkapoag Golf Course at some future date” (DCR 2011). In “the absence of administrative or recreation development” this area was to be managed as a Zone 2. The area has not been developed and is being managed as a Zone 2. Although administratively part of the Boston Region, it is included in this chapter because its management is the responsibility of the Blue Hills Complex Field Operations Team.

Blue Hills Reservation personnel also manage, as time and resources permit, Cutler Park Reservation (Section 3), Wilson Mountain Reservation (Section 4), and the Neponset River Reservation (Section 5).

**Relationship to Previous RMP.** This Section updates, rather than replaces, the previous Blue Hills RMP (DCR 2011a). Information is presented in the standard format and level of detail currently used for resource management planning. Extensive, detailed information on the park’s history and resources was included in the previous RMP and should be considered supplemental to this chapter. Applicable recommendations contained in the previous RMP remain valid unless otherwise indicated. (See **Recommendations** (Section 2.9) for additional information.)

In order to orient readers to the section of park under consideration, the Blue Hills has been divided into geographic sub-regions. The previous RMP (DCR 2011a) included 15 sub-regions, this RMP includes 16. This change in number reflects the acquisition of the Ponkapoag Brook parcel in 2010. (Figure 2.1.2)

## 2.2. NATURAL RESOURCES

### Physical Features

The Reservation ranges in elevation from approximately 60 to 635 feet above sea level. It is characterized by a range of East-West oriented hills. The tallest of these, Great Blue Hill, is the highest point in Metropolitan Boston. Information on the Blue Hills’ geology and soils is presented in DCR (2011a).

### Water Resources

The Reservation has modest water resources; only 994 acres (i.e., 17.2% of the Reservation) are wetlands or ponds. (Table 2.2.1) However, these surface waters contribute greatly to recreation resources and opportunities, wildlife habitat, park aesthetics, and sense of place. A network of streams, seasonal streams, and the Blue Hill River further enhance these values; they also contribute to occasional flooding.

*Place holder for Figure 2.1.1 (front)*

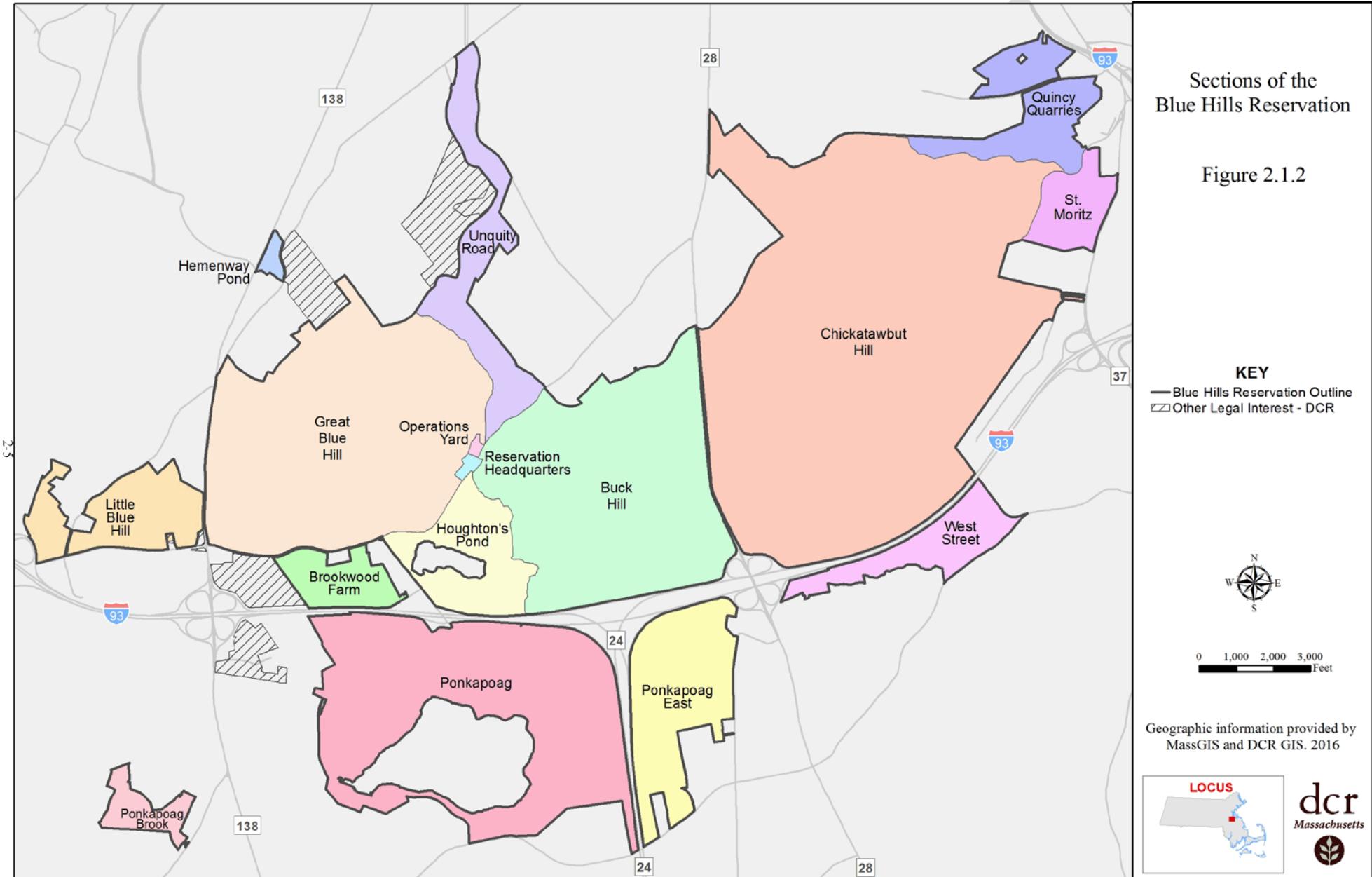
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*Place holder for Figure 2.I.1 (back)*

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Sections of the  
Blue Hills Reservation

Figure 2.1.2



**Table 2.2.1. Water resources of Blue Hills Reservation.**

Water Resource	Name or Metric
<b>Watershed:</b>	Neponset River Weir River
<b>Aquifer:</b>	
Medium Yield (acres)	183.61
High Yield (acres)	0.00
<b>Rivers and Streams (miles)</b>	7.12
<b>Vernal Pools</b>	
Certified (#)	63
Potential (#)	37
<b>Wetlands (acres)</b>	717.93
<b>Lakes and Ponds (acres)</b>	275.83

Ponkapoag Pond and three stream segments have impaired water quality (DEP 2013). Impairments to Ponkapoag Pond include:

- Eurasian water milfoil
- Mercury in fish tissue
- Non-native aquatic plants

The presence of mercury in fish tissue has resulted in a Public Health Fish Consumption Advisory for chain pickerel and large-mouth bass (HHS 2015). There are no signs around the pond cautioning against the consumption of these fish.

The streams with impaired water quality are Pine Tree Brook (MA 73-29), Furnace Brook (MA 74-10), and Ponkapoag Brook (MA73-27). Because affected stream segments extend well beyond the Reservation's boundaries, the sources and locations of impairment may be off the Reservation.

Pine Tree Brook, from the outlet at Hillside Pond to its confluence with the Neponset River, has the following impairments (DEP 2013):

- Aquatic plants - macrophytes
- Dissolved oxygen
- *E. coli*
- Fecal coliform
- Physical substrate habitat alterations
- Turbidity

Furnace Brook, from its headwaters near the Blue Hills Reservoir to its confluence with Black's Creek, Quincy, has the following impairment (DEP 2013):

- Dissolved oxygen

Finally, Ponkapoag Brook, from the dam to its confluence with the Neponset River, is considered impaired (DEP 2013) due to:

- *E. coli*
- Fecal coliform

There are presently no Fish Consumption Advisories for any of these streams.

Certified vernal pools are abundant and widely distributed, occurring in all sections of the Reservation except Hemenway Pond, Ponkapoag Brook, and West Street.

Floods are predicted to impact less than 10% of the Reservation. (Table 2.2.3) However, the full potential impacts of flooding are unknown, as flood data are unavailable for much of the park. Areas predicted to be impacted by a 100-year flood include wetlands and low elevation stretches of streams and rivers, such as Ponkapoag Pond and associated wetlands, Blue Hill River and associated wetlands, Great Cedar Swamp, Pine Tree Brook, Bouncing Brook, Furnace Brook, and Ponkapoag Brook. Areas predicted to be impacted by 500-year floods include the Blue Hill River at Brookwood Farm, Beech Run, wetlands on both sides of Route 28 south of its intersection with Chickatawbut Road, the upper reaches of Bouncing Brook, and Furnace Brook from Chickatawbut Road to Bunker Hill Lane. Within these areas are multiple trail segments. Potential flooding impacts to recreation facilities at Houghton's Pond is unknown, as this area is unmapped by the Federal Emergency Management Agency (FEMA). The road along the Massachusetts Water Resources Authority (MWRA) sewer easement in the Ponkapoag Brook section of the Reservation is entirely within the 100-year flood zone. (Table 2.2.2)

**Table 2.2.2. Potential impacts of flooding to Blue Hills Reservation.**

Type of Impact	Acres	%
<b>Flooding<sup>a</sup>:</b>		
100-year Storm	384.28	6.65
500-year Storm <sup>b</sup>	562.69	9.73

a. Partial information only; much of Reservation is not covered by either the 1997 or 2014 FEMA flood data.

b. Cumulative value; includes 100-year storm impacts.

The Reservation's steep slopes with high-gradient streams contribute to the rapid runoff of rainwater and snow melt into surface waters. Much of the Blue

Hills within the Weir River Watershed serves as a recharge area for Great Pond Reservoir in Braintree and Randolph; this area has been designated as Outstanding Resource Waters (ORWs).

## Rare Species

### State-listed Species

Nineteen state-listed species are known from the Reservation. (Table 2.2.3) Many are associated with acidic bogs and swamps, or dry oak woodlands including those with rock outcrops. Others, such as the Blanding's turtle and state-listed salamanders may use a variety of wetland types and adjacent uplands.

**Table 2.2.3. State-listed species of Blue Hills Reservation, as identified by the NHESP.**

Species <sup>a, b</sup>	Type <sup>c</sup>	MESA <sup>d</sup>
Attenuated bluet	I	T
Blanding's turtle	R	T
Coastal swamp mettarranthis	I	SC
Comet darner <sup>e</sup>	I	SC
Copperhead	R	E
Data sensitive animal	-	T
Eastern pondmussel	M	SC
Eastern red-bellied (i.e., Hentz's) tiger beetle	I	T
Eastern whip-poor-will	B	SC
Gypsywort	P	E
Hessel's hairstreak	I	SC
Lesser snakeroot	P	E
Lion's Foot	P	E
Marbled salamander	A	T
Oak hairstreak	I	SC
Pitcher plant borer	I	T
Pod-grass	P	E
Scarlet bluet	I	T
Timber rattlesnake	R	E

a. Presented alphabetically, by common name.

b. Fact sheets are available at:

<http://www.mass.gov/eea/agencies/dgf/dfw/natural-heritage/species-information-and-conservation/mesa-list/list-of-rare-species-in-massachusetts.html>.

c. Types of state-listed species include: A = Amphibian; B = Bird; I = Insect; M = Mussel; P = Plant; and R = Reptile.

d. Status of species listed under the Massachusetts Endangered Species Act (MESA): E = Endangered, SC = Special Concern; and T = Threatened.

e. The Massachusetts Fisheries & Wildlife board has approved the removal of this species from the MESA list; this process has not yet completed.

There are several differences between the state-listed species listed in Table 2.2.3 and those identified in the previous RMP (DCR 2011a). Two species in the 2011 RMP, Nantucket serviceberry and the New England bluet, are no longer state-listed. One species documented in the previous RMP (i.e., the eastern whip-poor-will) has been added to the MESA list. Two additional species, both plants, have been recently documented in the Reservation. Although lion's foot was documented in the prior RMP, information on its occurrence had not yet made it to the NHESP for confirmation. Gypsywort, a member of the mint family that is associated with wetlands, was only recently documented. Finally, there have been no observations of the waxed sallow-moth on the Reservation in recent years; NHESP now considers its occurrence on the Reservation historic.

### Priority Habitat

Much of the Blue Hills Reservation and adjacent Ponkapoag Golf Course (77.52%) has been designated Priority Habitat under MESA. Major exceptions include:

- the western half of the Little Blue Hill section
- Hemenway Pond
- Brookwood Farm
- most (not all) of the Houghton's Pond Recreation Area
- Reservation Headquarters
- Operations Yard
- most (not all) of the Unquity Road section
- Quincy Quarries, north of Ricciuti Drive
- Ponkapoag Brook section
- Indian Line Farm
- northeast corner of the Ponkapoag section
- West Street section

Although some of the park's infrastructure and recreation facilities (e.g., Trailside Museum, skating rinks) are outside of areas designated Priority Habitat, much is not (e.g., William F. Rogers Ski Area, Curry ball field). Because of this, the most current Priority Habitat maps should be consulted for site-specific information.

## Vegetation

The Reservation's plants have been well documented; approximately 770 species have been recorded (Appendix H of DCR (2011a)).

In general, the park's upland vegetation is a variable mixture of oaks (white, northern red, scarlet, black, and chestnut) and white pine, with hickory, hemlock, beech, and maples locally abundant in the canopy. Highbush blueberry, viburnums, witchhazel, black cherry, black birch, and sassafras are common in the shrub layer. On ridges with rock outcrops, scrub oak with a graminoid and heath understory may be locally abundant. Both forested and unforested wetlands are present at lower elevations; the former dominated by red maple or Atlantic white cedar, and the latter dominated by shrubs or herbaceous vegetation.

The Reservation's vegetation has been highly modified by deer browse. This has reduced the abundance of ground cover and shrub layer vegetation.

The Reservation's vegetative history is presented in Appendix E of the previous RMP (DCR 2011a).

### Invasive Species

Forty-four species characterized as Invasive or Likely Invasive (MIPAG 2005) have been reported. (Table 2.2.4) This is 10 more species than identified in the previous RMP (DCR 2011a). Eleven additional species, with invasive-like life histories but not currently listed by MIPAG (2005), have also been documented (Salicicola 2015a).

Invasive plants have been identified as a potential threat to the persistence of populations of State-listed plants (e.g., lesser snakeroot and pod-grass) in the Blue Hills (NHESP 2007). They may also pose a threat to priority natural communities at Ponkapoag Pond and Bog (NHESP 2007).

**Table 2.2.4. Known invasive plants of Blue Hills Reservation.<sup>a</sup>**

Species <sup>a</sup>	Status <sup>b</sup>
Amur corktree	L
Amur peppervine	L
Ash willow	I
Asiatic tearthumb	I
Autumn olive	I
Bishop's goutweed	I
Black locust	I
Border privet	L
Brazilian waterweed	L
Carolina fanwort	I
Coltsfoot	L
Common barberry	L
Common buckthorn	I
Common reed	I
Creeping buttercup	L
Creeping Jenny	I
Curly reed	I
Cypress spurge	L
Dames rocket	I
Eurasian watermilfoil	I
Fig buttercup	I
Garlic mustard	I
Glossy buckthorn	I
Hair fescue	L
Japanese barberry	I
Japanese honeysuckle	I
Japanese knotweed	I
Japanese stiltgrass	L
Louise's swallowwort	I
Morrow's honeysuckle	I
Norway maple	I
Multiflora rose	I
Oriental bittersweet	I
Purple loosestrife	I
Reed canarygrass	I
Rusty willow	I
Spotted knapweed	L
Sycamore maple	I
Tatarian honeysuckle	L
Tree of heaven	I
Twoleaf watermilfoil	I
Wild chervil	L
Winged euonymus	I
Yellowfruit sedge	I

a. Based on DCR (2011a; Appendix H) and Salicicola (2015a).

b. Presented alphabetically, by common name.

c. Plants are classified as being either Invasive (I) or Likely Invasive (L) according to MIPAG (2005).

## Natural Communities

There are 20 known natural communities. (Table 2.2.5) The rarest are associated with the park's acidic wetlands or ridgeline communities. Additional community types are likely present.

**Table 2.2.5. Known natural communities of Blue Hills Reservation.<sup>a</sup>**

Community Type <sup>b, c</sup>	System <sup>d</sup>	State Rank <sup>e</sup>
Acidic Rock Cliff	T	S4
Acidic Rocky Summit/Rock Outcrop	T	S4
Atlantic White Cedar Bog	P	S2
Cultural Grassland	T	NR
Deep Emergent Marsh	P	S4
Highbush Blueberry Thicket	P	S4
Inland Acidic Pondshore/Lakeshore	P	S4
Inland Atlantic White Cedar Swamp	P	S2
Level Bog	P	S3
Mixed Oak Forest	T	S4
Oak-Hemlock-White Pine Forest	T	S5
Oak-Hickory Forest	T	S5
Open Talus/Coarse Boulder Community	T	S2
Ridgetop Chestnut Oak Forest/Woodland	T	S4
Ridgetop Pitch Pine-Scrub Oak	T	S2
Red Maple Swamp	P	S5
Shrub swamp	P	S5
Successional White Pine	T	S5
White Pine-Oak Forest	T	S5
Woodland Vernal Pool	P	S3

- a. From DCR (2011a)
- b. Classified according to Swain and Kearsley (2011).
- c. Natural community fact sheets are available at <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/natural-communities/natural-community-fact-sheets.html>
- d. E = Estuarine, NR – Not Ranked; P = Palustrine, T = Terrestrial.
- e. The NHESP ranks communities from most rare (S1) to the most common (S5). Cultural Grasslands have no state rank (NR).



The Reservation's only Level Bog community type (pictured) is part of Ponkapoag Bog. (See Appendix K for photo information.)

## Forests

Much of the Blue Hills (4,791.31 acres, 82.86%) is forested. Non-forested areas include utility rights-of-way, roads and parking areas, open water, rock outcrops, and athletic fields. No harvests have occurred since 1987 (Moulton 1987).

Historically, CFI plots were established on DEM and not MDC properties. Because of this, there are no CFI plots in the Blue Hills. In 2015, 400 vegetation monitoring plots were established along deer survey routes in order to characterize current conditions and monitor for changes in tree regeneration (DCR 2016). The following vegetation types were identified from these plots:

- White pine - Oak
- Oak - Hardwoods
- White pine - Hardwoods
- Mixed oak
- White pine
- Hemlock - Hardwoods
- Chestnut oak
- Beech - Maple - Birch
- Other; includes northern red oak, Norway maple, red maple, American beech, white pine - hemlock, meadow, and abandoned orchard.

Trees less than one inch diameter at breast height (DBH) were primarily white pine (46.7% to 78.8% of stems per acre, depending on size class). White pine stems were less common (22.7%) for trees with DBHs of one to five inches (DCR 2016). This indicates that oak regeneration was more common in the recent past. Despite 72% of the overstory having an oak component, oak regeneration is lacking in the Blue Hills. Continued browsing of regeneration could stop development patterns that promote diversity of species and forest structure.

### **Wildlife**

Recent wildlife surveys have largely been limited to the certification and monitoring of vernal pools, or quantifying the density of white-tailed deer. In 2013, personnel from the DCR and Massachusetts Division of Fisheries and Wildlife (MassWildlife) conducted surveys to estimate the density of deer in the Reservation; the resulting estimate of 67 deer/mi<sup>2</sup> was “well-above DFW’s deer density goal of 6–8 deer/mi<sup>2</sup> of forest” (MassWildlife and DCR 2013). The Reservation is a birding hotspot, and as of July, 2016, birders had reported 181 total species at four locations (i.e., Blue Hills Reservation, Buck Hill, Trailside Museum, and Ponkapoag Pond; eBird

2012). Information on the Reservation’s mammals, reptiles, amphibians, fish, butterflies, and dragonflies was presented in Appendices L–Q of DCR (2011a).

### **2.3. CULTURAL RESOURCES**

This section describes the known and potential cultural resource areas, including pre-Contact and post-Contact archaeological resources, and historic landscapes, buildings, structures, and objects. An overview of significant events in the history of the Blue Hills Reservation is presented in Table 2.3.1. Cultural Resources are identified in Table 2.3.2.

Eighty-six archaeological resources are listed by the MHC; two are also listed in the National Register. Because the MHC does not make information on archaeological resources available to the general public, most resources are not included in Table 2.3.2. Only those resources listed in the National Register are identified.

**Table 2.3.1. Significant events in the history of Blue Hills Reservation.**

<b>Year(s)</b>	<b>Events</b>
1893	The Metropolitan Park Commission (MPC) is established to “acquire, maintain, and make available to inhabitants of said district open spaces for exercise and recreation.”
1893–1894	Blue Hills Reservation is established with a 933 acre acquisition. Additional acquisitions bring the Reservation’s size to 3,953 acres.
1895	Development of park infrastructure begins at Houghton’s Pond with the construction of two bath houses; picnic tables are soon added. Over time, additional recreation infrastructure is added at this site, including a small building and bicycle stand (1889), a sanitary (1910), ball field (1911), concession (1930), bath house and beach (1935), and baseball diamonds and tennis courts (1937).
1897–1907	Initial development of Great Blue Hill for park purposes begins with the construction of a superintendent’s house at the western base of the hill. This is soon followed by a street car waiting room and platform, sanitary, refectory, Eliot Memorial Bridge, and a bandstand.
1898	Reservation expands south of the Blue Hill River, with the donation of the 697 acre Henry L. Pierce estate located to the east, north, and west of Ponkapoag Pond.
1899	A strip of land along Randolph Avenue, Milton is granted to the Norfolk County Commissioners for streetcar tracks. Additional land transfers for public projects continue throughout the reservation’s history.
1899–1905	Development of administrative facilities at Hillside Street, including a stable (1899), superintendent’s house (1900), and a combined police station and superintendent’s office (1904). An existing farm house is renovated for use as a police and employee dormitory (1905).
1911–1923	Permission is granted for the Newsboy’s Association, Boy Scouts of America, Appalachian Mountain Club, and the Young Men’s Christian Association to establish camps. The AMC and YMCA camps continue today.
1919	The Metropolitan District Commission (MDC) is created by the combining of the MPC with the Metropolitan Water and Sewer Commission.
1933–1937	Civilian Conservation Corps is active on the reservation, constructing recreational facilities, improving infrastructure, and conducting forestry activities.
1937	Acquisition of the Little Blue Hill area expands the reservation westward, toward the Neponset River Reservation. (See Chapter 5).
1949	Blue Hills Reservoir is constructed from an existing wetland and surrounding uplands, requiring re-alignment of a portion of Chickatawbut Road. The reservoir is again reconstructed in 2008–2009.
1954–1958	Portions of reservation taken by the state for the construction of Routes 128 and 24.
1954–1966	U.S. Army uses portions of the reservation for the Nike Battery BO-55 Launcher Area (Ponkapoag East) and the Nike Battery BO-55 Integrated Fire Control Area (Chickatawbut Hill).
1959	Trailside Museum opens to educate the public about the nature of the Blue Hills.
1959	Blue Hills Ski Area opens; it is soon renamed the William F. Rogers Ski Area. A major expansion takes place in 1962–1964.
1964	A small piece of the Quincy Quarries (i.e., the northern rail terminus) is protected by the MDC; this land is transferred to the City of Quincy in 1968. Additional land protection efforts at the quarries follow.
1976	Brookwood Farm (70 acres), the former estate of Henry Saltonstall Howe, is donated to the MDC.
1980’s	Renewed emphasis on land protection through acquisition of land and conservation restrictions.
1984	Indian Line Farm is acquired by eminent domain; investigation and remediation of contaminants occur for more than a decade.
1997	Water is pumped from former quarries north of Ricciuti Drive in Quincy. These quarries are subsequently filled, and multi-purpose recreation fields are established.
2010	Fifty-six acre Ponkapoag Brook parcel acquired.

**Table 2.3.2. Cultural resources of Blue Hills Reservation.**

<b>Location and Resource<sup>a</sup></b>	<b>Type<sup>b</sup></b>	<b>Date<sup>c</sup></b>	<b>Condition<sup>d</sup></b>	<b>Integrity<sup>e</sup></b>	<b>In Use<sup>f</sup></b>	<b>Utilities<sup>g</sup></b>	<b>MHC #<sup>h</sup></b>	<b>Guidance<sup>i</sup></b>
<b>RESERVATION-WIDE</b>								
<b>Interior Parkways</b>	LA	1897–1939	-	M	-	-	CAN.AG MLT.AL MLT.AM MLT.V QUI.AR	1
Green Street	ST	1930s	3	M	-	-	CAN.925 MLT.967	1
Blue Hill River Road - segment one	ST	ca. 1900	3	M	-	-	CAN.924	1
Blue Hill River Road - segment two	ST	ca. 1900	3	M	-	-	MLT.966	1
Hillside Street	ST	1897	4	M	-	-	MLT.964	1
Unquity Road	ST	1897	3	M	-	-	MLT.963	1
Pine Tree Brook culvert <sup>j</sup>	ST	1902	2	M	-	-	MLT.968	1
Chickatawbut Road	ST	1897	3	M	-	-	BRA.927 MLT.965 QUI.9077	1
Chickatawbut Overlook	ST	1935	3	H	-	-	-	1
Chickatawbut Road entrance gates	ST	ca. 1939	4	H	-	-	BRA.929	1
Wampatuck Road	ST	1905	3	M	-	-	QUI.9078	1
<b>Blue Hills Reservation culvert system</b>	ST	1920	3	M	-	-	BRA.928 CAN.926 MLT.969 QUI.9079	1,2
<b>Blue Hills Reservation stone wall system</b>	ST	-	3	M	-	-	-	2
<b>LITTLE BLUE HILL</b>								
<b>Stone Paddock</b>	ST	-	5	M	-	-	-	2
<b>Hemenway Bench and Vista</b>	OB	ca. 1931	-	H	-	-	-	3
<b>Royall Street House</b>	BU	-	4	H	Y	E, S, W	-	4
<b>Green Hill Site</b> <i>(National Register)</i>	AR	-	-	H	-	-	19.NF.43	6
<b>HEMENWAY POND</b>								
<b>Retaining wall</b>	ST	-	4	M	-	-	-	2
<b>Entrance pillars</b>	ST	-	4	M	-	-	-	2
<b>GREAT BLUE HILL</b>								
<b>Trailside Museum</b>	LA	1898–1959	-	M	-	-	-	2,3
Museum and two additions	BU	1898, 1956, 1975	3	M	Y	E, H, I, P, W	-	4
Turtle enclosure	ST	1959	4	H	-	W	-	2
River otter enclosure	ST	1959	4	H	-	W	-	2
Blue Hills Reservation Comfort Station <i>(National Register)</i>	BU	1904	2	H	Y	E, H, W	MLT.399	4
<b>William F. Rogers Ski Area Landscape</b>	LA	1935–1963	-	M	-	-	-	2,3
Compressor Building (mid-slope)	BU	ca. 1962	4	H	S	E, W	-	4
First Aid Building foundation	ST	ca. 1963	3	M	-	-	-	2
Ski school	BU	ca. 1963	3	M	S	E, H	-	4
Lodge	BU	ca. 1963	3	M	S	E, H, I, P, S, W	-	4
Maintenance Garage	BU	ca. 1963	4	M	S	E, H	-	4

<b>Location and Resource<sup>a</sup></b>	<b>Type<sup>b</sup></b>	<b>Date<sup>c</sup></b>	<b>Condition<sup>d</sup></b>	<b>Integrity<sup>e</sup></b>	<b>In Use<sup>f</sup></b>	<b>Utilities<sup>g</sup></b>	<b>MHC #<sup>h</sup></b>	<b>Guidance<sup>i</sup></b>
<b>Canton/Milton Town Boundary Marker</b>	OB	-	-	H	-	-	-	2
<b>Blue Hill Meteorological Observatory Landscape</b>	LA	1885–1960	-	M	-	-	-	2,3
Blue Hills Meteorological Observatory <i>(National Register and National Historic Landmark)</i>	BU	1885	4	H	Y	E, H, I, P, S, W	MLT.931	4
Rotch Memorial	ST	1914	3	M	-	-	-	2
Blue Hill Meteorological Observatory wall	BU	1905	3	H	-	-	-	2
Blue Hill Meteorological Observatory shed	BU	-	4	M	Y	-	-	4
WGBH Building <sup>j</sup>	BU	1953	2	H	Y	E, I, P	-	-
Summit Road	ST	-	3	H	-	-	-	2
Great Blue Hill pump house	BU	1913	5	M	N	-	-	4, 5
<b>Eliot Memorial Landscape</b>	LA	1904–1939	-	M	-	-	-	2,3
Eliot Pavilion ( <i>National Register</i> )	ST	1937–1939	4	M	-	-	MLT.929	3, 4
Eliot Memorial Bridge ( <i>National Register</i> )	ST	1906	2	M	-	-	MLT.930	3, 4
Charles Eliot Memorial Path	ST	1904	3	M	-	-	-	3
<b>House site (Hillside Street and Blue Hill River Road)</b>	AR	pre-1895	-	M	-	-	-	6
<b>Stone Well – Base Path</b>	ST	ca. 1935	3	H	-	-	-	2
<b>BROOKWOOD FARM</b>								
<b>Brookwood Farm Landscape (<i>National Register</i>)</b>	LA	1710–1960	-	H	-	-	-	2,3
Stone walls	ST	-	3	H	-	-	-	2
Gate Keeper's Cottage (Caretaker's Cottage)	BU	ca. 1790	4	H	N	E, W	CAN.61	4
Gardener's Cottage foundation	ST	ca. 1800	3	M	-	-	-	2
Garage (tractor shed)	BU	1997	3	N/A	Y	E	-	4
Old barn (i.e., First Period barn) <i>(National Register)</i>	BU	ca. 1710–1750	2	M	-	E	CAN.62	4
Barn	BU	early 20 <sup>th</sup> century mid-20 <sup>th</sup> century 2011	3	M	N	-	-	4
Culvert	ST	1840–ca. 1950	3	H	-	-	-	2
Entrance pillars	ST	-	2	H	-	-	-	2
Fields	LA	1710–1960	-	H	-	-	-	3
Henry Saltonstall Howe House landscape	LA	1957	-	H	-	-	-	2, 3
Henry Saltonstall Howe House	BU	1957	3	H	Y	E, H, P, S, W	CAN.58	4
Specimen trees	LA	-	-	H	-	-	-	3
Allée - maple trees along drive	LA	-	-	H	-	-	-	3
<b>HOUGHTON'S POND</b>								
<b>Houghton's Pond Landscape</b>	LA	1910–1930	-	H	-	-	-	2, 3
Visitor Center (Sanitary)	BU	1910	3	H	S	E, W	-	4
Concession (Refreshment pavilion) <i>(National Register)</i>	BU	1930	3	H	S	E, W	MLT.398	4
Granite stairs	ST	-	4	M	-	-	-	2
Stone retaining wall	ST	1929	3	H	-	-	-	2
Lawn	LA	-	-	H	-	-	-	3
Beach	LA	-	-	M	-	-	-	2
<b>Water fountain – Bugbee Path</b>	OB	-	-	M	-	-	-	2

Location and Resource <sup>a</sup>	Type <sup>b</sup>	Date <sup>c</sup>	Condition <sup>d</sup>	Integrity <sup>e</sup>	In Use <sup>f</sup>	Utilities <sup>g</sup>	MHC # <sup>h</sup>	Guidance <sup>i</sup>
<b>HEADQUARTERS AREA</b>								
<b>Blue Hills Headquarters Landscape (National Register)</b>	LA	1899+	-	H	-	-	-	2, 3
Blue Hills District Office	BU	pre-1895	3	H	Y	E, H, I, P, W	-	4
Brian T. Broderick (MDC) Stables (National Register)	BU	1899	5	H	N	E, W	MLT.397	4
Police Headquarters - Original building, addition, and garage	BU	1904, 1916, 1939	3	H	Y	E, H, I, P, W	MLT.396	4
Captain's House - Former Regional Office	BU	1900	3	H	Y	E, H, I, P, W	-	4
Water Fountain	OB	-	-	H	-	W	-	2
Drive	LA	-	-	H	-	-	-	2
Lawn	LA	-	-	H	-	-	-	3
Mature trees	LA	-	-	H	-	-	-	3
Hydrant	OB	-	-	M	-	-	-	2
<b>Quincy/Milton town boundary marker</b>	OB	-	-	H	-	-	-	2
<b>OPERATIONS YARD</b>								
<b>Operations Yard Landscape</b>	LA	1932+	-	M	-	-	-	2
Blue Hills Maintenance Garage	BU	1932	4	H	Y	E, H	-	4
Carpenter Shop	BU	1941	3	H	Y	E, H, W	-	4
Office - Operation Supervisor	BU	1960+	3	H	Y	E, H, I, P, W	-	4
Repair Shop/Lawn Mower #1	BU	1937	3	H	Y	E	-	4
Repair Shop/Lawn Mower #2	BU	1937	3	H	Y	E	-	4
<b>UNQUITY ROAD</b>								
<b>Max Ulin Memorial Skating Rink</b>	BU	1962	3	H	Y	E, P, S, W	-	4
<b>Pine Tree Brook</b>								
Pine Tree Brook Reservoir Dam (MA00824), with spillway	ST	1905	4	M	-	-	-	2
Harling Mill site	AR	ca. 1795	-	M	-	-	-	6
Pine Tree Brook culvert <sup>j</sup>	ST	1902	3	H	-	-	MLT.968	1
<b>BUCK HILL</b>								
<b>Cellar hole – Bugbee path</b>	AR	Pre-1895	-	H	-	-	-	6
<b>Stable – Randolph Avenue Stable</b>	BU	1908	4	H	N	E	-	4
<b>CHICKATAWBUT HILL</b>								
<b>CCC Camp SP-1</b>	LA	1933–1937	-	L	-	-	-	-
Finished walls	ST	1933–1937	3	M	-	-	-	2
Raised foundation	ST	1933–1937	3	M	-	-	-	2
Mess Hall foundation	ST	1933–1937	4	M	-	-	-	2
Concrete bunker	ST	1933–1937	3	M	-	-	-	2
<b>Pakomet Spring</b>	LA	1936–1937	-	L	-	-	-	2
<b>Glover site</b>	AR	Pre-1895	-	L	-	-	-	5
<b>Norman Smith Environmental Education Center at Chickatawbut Hill; former Nike Battery BO-55 Integrated Fire Control Area.</b>	LA	1953–1954	-	M	-	-	-	-
Dining Hall	BU	1953–1954	3	H	Y	E, H, P, S, W	-	4
Office	BU	1953–1954	3	H	Y	E, H, P, S, W	-	4
Dormitory	BU	1953–1954	3	H	Y	E, H, P, S, W	-	4
Tank House	BU	1953–1954	3	H	Y	E, W	-	4
Radar Pad	ST	1953–1954	4	L	-	-	-	2

Location and Resource <sup>a</sup>	Type <sup>b</sup>	Date <sup>c</sup>	Condition <sup>d</sup>	Integrity <sup>e</sup>	In Use <sup>f</sup>	Utilities <sup>g</sup>	MHC # <sup>h</sup>	Guidance <sup>i</sup>
<b>Chickatawbut Overlook</b>	LA	1935–1937	-	M	-	-	-	2, 3
Chickatawbut Overlook <sup>j</sup>	ST	1935	3	M	-	-	-	1, 3
Stairs	ST	ca. 1935	3	H	-	-	-	2
Grills (2)	OB	ca. 1935	-	M	-	-	-	2
Pavilion	ST	1934	3	H	-	-	-	4
Observation Tower ( <i>National Register</i> )	ST	1935	4	H	-	-	QUI.918	4
<b>Mass Hornfels – Braintree Slate Quarry</b>	LA	1936–1937	-	L	-	-	19.NF.106	2
( <i>National Register</i> )								
<b>QUINCY QUARRIES</b>								
<b>Quincy Quarries Landscape</b>	LA		-	M	-	-	-	2
Granite Rail Company Compressor House	BU	ca. 1900	5	M	N	-	QUI.311	4, 5
Granite Rail Quarry 1a	ST	-	3	M	-	-	-	2
Granite Rail Quarry 1b	ST	-	3	M	-	-	-	2
Granite Rail Quarry 1c	ST	-	3	M	-	-	-	2
Swingle's Quarry	ST	-	3	M	-	-	-	2
Berry's Quarry	ST	-	3	M	-	-	-	2
Grotto Ruin	ST	-	6	L	-	-	-	2
Bunker Hill Quarry	ST	-	3	M	-	-	-	2
Granite Railway terminus ( <i>National Register – part of Quincy Granite Railway listing</i> )	ST	ca. 1826	3	M	-	-	QUI.932	2
Elevated railway fill ( <i>National Register – part of Quincy Granite Railway listing</i> )	ST	ca. 1826	3	M	-	-	-	2
<b>SAINT MORITZ</b>								
<b>Saint Moritz ski jump</b>	ST	ca. 1935	5	L	-	-	-	2
<b>Mayor William T. Shea Memorial Rink</b>	BU	ca. 1952	3	H	Y	E, H, P, W	-	4
<b>St. Moritz Pond Dam (MA03373)</b>	ST	pre-1935	3	M	-	-	-	2
<b>PONKAPOAG</b>								
<b>Indian Line Farm stone walls</b>	ST	-	3	M	-	-	-	2
<b>Randolph Street cellar hole</b>	AR	-	-	L	-	-	-	6
<b>Fisherman's Beach foundation pad</b>	AR	1900+	-	M	-	-	-	6
<b>AMC Ponkapoag Camp (<i>National Register</i>)</b>	LA	1921–1960	-	H	-	-	RAN.C	2, 3
Cottage #1 - cabin 1 - Spang <sup>k, l</sup>	BU	1922	-	-	S	-	RAN.20	-
Cottage #2 - cabin 2 - Hickey <sup>k, l</sup>	BU	1926	-	-	S	-	RAN.21	-
Cottage #3 - cabin 3 - Bourbeau <sup>k, l</sup>	BU	1929	-	-	S	-	RAN.22	-
Cottage #4 - cabin 4 - Stose <sup>k, l</sup>	BU	1930	-	-	S	-	RAN.23	-
Cabin 5 - Wilkie <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 6 - Gorlin <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 7 - Folsom <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 8 - Godfrey <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 9 - Dienes <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 10 - Duncan <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 11 - Sheldon <sup>k</sup>	BU	-	-	-	Y	-	-	-
Cabin 12 - Hamfmann <sup>k</sup>	BU	1929	-	-	S	-	-	-
Cabin 13 - Lakeview <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 14 - Turner <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 15 - Marian <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 16 - Jones <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 17 - Rogers <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 19 - Nunn <sup>k</sup>	BU	-	-	-	S	-	-	-

<b>Location and Resource<sup>a</sup></b>	<b>Type<sup>b</sup></b>	<b>Date<sup>c</sup></b>	<b>Condition<sup>d</sup></b>	<b>Integrity<sup>e</sup></b>	<b>In Use<sup>f</sup></b>	<b>Utilities<sup>g</sup></b>	<b>MHC #<sup>h</sup></b>	<b>Guidance<sup>i</sup></b>
Cabin 20 - Smith <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 21 - Pine <sup>k</sup>	BU	-	-	-	S	-	-	-
Cabin 22 - North <sup>k</sup>	BU	1926	-	-	S	-	-	-
Cabin 23 - Main lodge <sup>k</sup>	BU	-	-	-	S	-	-	-
Spring house <sup>k</sup>	BU	Pre-1949	-	-	-	-	-	-
Former ice house - tool shed <sup>k</sup>	BU	Pre-1949	-	-	-	-	-	-
<b>Boy Scout Camp</b>	AR	ca. 1953	-	L	-	-	-	6
<b>Ponkapoag Cabin Site A</b>	AR	-	-	L	-	-	-	6
<b>Ponkapoag Cabin Site B</b>	AR	-	-	L	-	-	-	6
<b>YMCA Ponkapoag Outdoor Center (former Camp Dorchester)</b>	LA	1923+	-	M	-	-	-	2
<b>PONKAPOAG EAST</b>								
<b>Nike Battery BO-55 Launcher Area</b>	LA	1953–1954	-	L	-	-	-	2
Silos (3)	ST	1953–1954	5	M	-	-	-	4

- a. Geographic sub-regions of the park are identified in DCR (2011a). Listing on the National Register of Historic Places (i.e., National Register) or designation as a National Historic Landmark are identified after the resource name, if applicable.
- b. Resource types include the following: AR = Archaeological; BU = Building; BG = Burial Ground; LA = Landscape; LHD = Local Historic District; NRHD = National Register Historic District; OB = Object; RD = Residential District; and ST = Structure.
- c. Date of construction provided, when known.
- d. Preliminary condition assessment of buildings and structures using the building system and equipment condition codes as used in the Massachusetts Capital Asset Management Information System (CAMIS). The following codes are used: 1 = Excellent-easily restorable to like new condition; 2 = Good-routine maintenance required; 3 = Adequate-some corrective and preventative maintenance required; 4 = Fair-excessive corrective maintenance and repair required; 5 = Poor-renovation needed; and 6 = Fail.
- e. Integrity is a relative assessment of the condition of a resource's retention of its historic character-defining features; H = High; L = Low; M = Medium; and U = Unknown.
- f. Use categories include N = No, building is not in use; S = Building is used on a seasonal basis; and Y = Yes, building is in use year-round.
- g. The following codes are used to identify utilities associated with buildings: E = Electric, H = Heat; I = Internet; S = Septic system; T = Telephone; W = Water; and W(S) = Water is available on a seasonal basis. This information is included for all buildings.
- h. Massachusetts Historical Commission inventory number; does not include Historic Archaeological numbers.
- i. The following guidance is offered for the ongoing maintenance of these cultural resources:
  1. Refer to *Historic Parkway Preservation Guidelines* (DCR 2007a)
  2. Refer to *Historic Landscapes - Built Features BMP* (DCR n.d.d).
  3. Refer to *Vegetation in Historic Landscapes BMP* (DCR n.d.e).
  4. Refer to *Historic Building Maintenance BMP* (DCR n.d.f).
  5. Refer to *Archaeological Features BMP* (DCR n.d.g).
  6. Refer to *Mothballing Historic Buildings BMP* (DCR n.d.h).
  7. Refer to *Quarries BMP* (DCR n.d.i).
- j. Resource is also listed under Reservation-wide, Interior Parkways.
- k. Infrastructure located on DCR property, but not owned or controlled by the DCR. Its condition is not assessed.
- l. Only these Appalachian Mountain Club cottages are included in the "Ponkapoag Camp of the Appalachian Mountain Club" listing.

## ARCHAEOLOGICAL RESOURCES

### Pre-Contact Archaeological Resources

Numerous pre-Contact sites are documented in the Reservation, clearly demonstrating the importance of the Blue Hills Range. Native American use of the entire Neponset River (from its headwaters in Foxborough to its estuary at Dorchester Bay) is well recorded at the MHC. Within this river basin, are marine and estuarine resources, large and small rivers, tributary streams, brooks, wetlands, ponds, and lakes. Ponkapoag Brook, which drains Ponkapoag Pond and flows west to the Neponset, was probably an important anadramous fish run during prehistoric times. Besides an abundant and diversified food supply, the Blue Hills served as a source of stone. Blue Hills felsites can be found in outcrops or as cobbles in glacial deposits. Braintree Slate from a known Native American quarry (19-NF-42) was used since the Middle Archaic times, and easily weathered Braintree Hornfels was popular during the Middle Woodland period. Artifacts made from materials quarried in the Blue Hills have been recovered at sites throughout Massachusetts and attest to the areas' importance in prehistoric times.

Many systematic archaeological surveys have been conducted within the Reservation, and it is highly sensitive for pre-Contact sites. Such sites can range from a "find-spot" of a singular artifact, to a Contact Period or Praying Indian Village. MHC files record at least one site near the intersection of Unquity Road and Harland Street (19-NF-282); there appears to be no information on this site. Directly east of this site, on the small knolls at the north margins of a swamp, amateur collectors have excavated several large areas; leaving them open to this day. Records for these sites are with the Fred Carty Collection at the R.S. Peabody Museum, Andover. Two other sites (19-NF-207 and 19-NF-208) are located next to Hillside Pond on Hillside Street. Middle and Late Archaic components have been collected from these sites. Any proposed below ground impacts must be reviewed by the DCR Archaeologist.

### Post-Contact Archaeological Resources

Initially, development of the Neponset River core area was largely based on agriculture. An industrial base in shipbuilding and milling soon led to expansion of settlement inland and up-river. The development of transportation routes and links, and

the intensification of commercial and industrial growth, made the Blue Hills area important regionally.

Historic archaeological resources in this area are associated with a wide variety of eras of development. Archaeological remains include domestic, agricultural, industrial, institutional, commercial, military, ecclesiastical, social, transportation and recreational sites/complexes, landscape features, and structures. Landscape features include such resources as roads and boundary markers, quarries, farmsteads, fields, historic treelines, and recreation sites. Structures may include farms or homesteads (and associated outbuildings), civic or commercial buildings, industrial structures (e.g., kilns, holding tanks), transportation complexes institutional (e.g., hospital) facilities, military facilities, and recreational structures.

Most of the Reservation's historic archaeological resources are associated with either farms or homesteads that pre-date the Reservation, or with early recreation development. Among the former are house sites and cellar holes (e.g., Glover site, Bugbee Path cellar hole) located along historic roads and current trails. Often, only stone walls and foundations remain. Among the latter are the remnants of cabins associated with youth groups (e.g., Boy Scouts). (See DCR 2011a for additional information on these historic archaeological resources.)

Due to the abundance and significance of archaeological resources at the Blue hills, any proposed below ground impacts must be reviewed by the DCR Archaeologist.

### **Historic Resources**

The Blue Hills' historic resources are associated with the following three eras of development:

- **Pre-Reservation; Contact 1892.** Resources from this period are associated with the farms and estates developed before the creation of the Reservation.
- **Metropolitan Park Commission (MPC); 1893–1919.** Resources from this period are associated with the initial development of the Reservation by the MPC.

- **Metropolitan District Commission (MDC): 1920–1960.** Resources from this period are largely associated with the development of recreation infrastructure by the MDC and Civilian Conservation Corps (CCC). It also includes resources related to Cold War era missile defense.

The Reservation contains an eclectic variety of historic resources. (Table 2.3.2) Most are part of broader, thematically-related landscapes. The following information briefly describes these landscapes and their contributing elements. Detailed descriptions may be found in DCR (2011a). Non-historic buildings and structures associated with these resources are identified in Table 2.5.1

### Historic Landscapes

**Internal Parkways.** The Reservation's internal parkways include the following roads:

- Green Street
- Blue Hill River Road
- Hillside Street
- Unquity Road
- Chickatawbut Road
- Wampatuck Road



Evening commuter traffic on Hillside Street, a historic parkway. The cars are backed up from a stop sign over 3,400 feet down the road. (See Appendix K for photo information.)

These Reservation-wide resources and their associated contributing elements (e.g., overlooks, vegetative elements, and other objects) are listed in the National Register. They provide transportation links and recreational experience within the park's historic and natural landscapes. This parkway

system is significant for having first been developed by Eliot, Olmsted and Olmsted in 1893, and later enhanced by the CCC in 1933.

**Culverts.** Associated with the parkways are culverts, which channel and direct run-off at strategic points in system. They are called out in the National Register Nomination as a contributing element to the Reservation's parkways.

**Stone Walls.** Common throughout the park, stone walls were almost entirely built in the Pre-Preservation era. These walls are a direct link to the area's agricultural past. Their purpose was to help identify property lines, separate fields and pastures, and contain livestock.

**Hemenway Pond.** A dry laid 370-foot-long stone retaining wall, a pair of granite entrance pillars, and a carriage road are the only known resources in this landscape. Their construction dates are unknown.

**Trailside Museum.** Located at the base of Great Blue Hill, this landscape includes a building constructed by the MPC as the residence of the park superintendent, as well as a Comfort Station designed by the Boston based architectural firm of Stickney and Austin. The Trailside Museum, which has been expanded and repurposed over the years, contains displays, meeting rooms, and private office and work areas. This landscape includes two historic concrete pens that date to the late 1950s (i.e., MDC era). The otter pen no longer meets animal husbandry standards; a new pen and exhibit is currently planned. A variety of non-historic animal pens and buildings are also present. (See Table 2.5.1 for information on non-historic buildings.)

**William F. Rogers Ski Area.** This small ski area is located on the western slope of Great Blue Hill. Its use dates to the mid 1930's; but the majority of its historic buildings date from the early 1960s. This area is most significant for being initially developed by the CCC, and also as a location where artificial snowmaking technology is believed to have been pioneered. The buildings retain much of their historic integrity. The ski trails have been modified and expanded over time, most recently in 2015. A variety of non-historic elements, such as sheds and structures associated with various lifts are present throughout the landscape.

**Blue Hills Meteorological Observatory.** The observatory landscape is located at the summit of Great Blue Hill. It consists of a variety of features associated with conducting meteorological observations and research on Great Blue Hill. The heart of the landscape is the Blue Hills Meteorological Observatory, the Reservation's only National Historic Landmark. Other landscape components include the landscape's wall and grounds, adjacent outbuildings, the Rotch Memorial, Summit Road, and Great Blue Hill Pumphouse. This last resource, which once pumped water to the observatory, is located on Hillside Street opposite Brookwood Farm.

The observatory consists of a concrete tower connected to a granite building. A recent structural assessment identified large cracks in both the interior and exterior surfaces of the tower, resulting in portions of the tower falling away (DCR and Turowski2 Architecture, Inc. 2015a). The assessment included eight "Life Safety" and nine "Asset Protection" recommendations to be implemented immediately or in the very near term (i.e., three to five years). An additional 23 recommendations were for actions to be taken in the next five to ten years, and 12 recommendations for actions to be taken in the next 10 to 20 years. Despite its condition, the meteorological observatory building retains a high level of integrity; its associated landscape less so.

**Eliot Memorial Landscape.** A memorial path, stone bridge, and stone pavilion on the summit of Great Blue Hill were developed between 1904 and 1939 in honor of Charles Eliot, landscape architect to the MPC. A seat on the bridge historically afforded views eastward along the Blue Hills, while the pavilion's observation tower offered a 360-degree view. A recent conditions assessment of the bridge and pavilion included 19 recommendations, eight of which "should be scheduled for replacement immediately" (DCR and Turowski2 Architecture, Inc. 2015b). An additional four recommendations were for actions to be taken in the next five to ten years, and seven recommendations for actions to be taken in the next 10 to 20 years. One recommendation, to repoint the entire Eliot Bridge with water repellent mortar, was implemented in June 2016. Despite the remaining structural needs and long-term changes to the viewshed, the landscape retains much of its integrity.



View of Eliot Bridge in 1907; note the height of the vegetation on the summit of Great Blue Hill. (See Appendix K for photo information.)

**Brookwood Farm.** This extensive historic agricultural landscape, which predates the Reservation, includes residential buildings, various barns, and other agricultural features. The most historically significant resources are the Gatekeeper's Cottage and associated old barn. Both are listed on the National Register. Since the previous RMP (DCR 2011a), both buildings have undergone extensive renovation performed by the North Bennet Street School. Repairs to the Gate Keeper's Cottage include: demolition of the rear ell; construction of a new rear ell and foundation; and repairs to the main cottage's sheathing. The cottage still needs siding, a roof, and repairs to the chimney to prevent water penetration; it is presently covered by tarps. The "old barn" listed in the 2011 RMP (DCR 2011a) consisted of a two-bay barn constructed ca. 1710–1750, with alterations and additions. The barn was moved to the Brookwood Farm location in 1840 and a third bay added at that time. Additions were constructed in the early and mid-1900s. In 2009, the original barn was deconstructed; in 2011 it was re-assembled approximately 60 feet southwest of its previous location. A new addition, in the same style as the 1900s additions, was constructed in its place. This addition was constructed atop a concrete slab, and incorporates some framing members from the 1840 expansion. A variety of historic (e.g., entrance pillars) and non-historic (e.g., sugar shack) resources are also present in this landscape.



This ca. 1710–1750 English style barn was reconstructed at Brookwood Farm in 2011. It may be the sole remaining example of this barn type in New England. (See Appendix K for photo information.)

In 2006, Brookwood Farm was returned to active agricultural use by the non-profit organization Brookwood Community Farm. This organization occupies one of the landscape's non-historic buildings and farms approximately three acres of fields.

Within the Brookwood Farm landscape is another, smaller historic landscape associated with the Henry Howe House. It includes the house, its specimen trees, and other ornamental vegetation. The house is used as the Reservation's conference center. It is also currently used to store power equipment (e.g., mowers, trimmers) and associated oil, fuels, and supplies.

**Houghton's Pond.** This landscape contains buildings, structures, and landscape elements associated with recreational use of the pond. These resources were developed in the early 1900's by the MPC and MDC. The visitor center (originally a "sanitary," i.e., a comfort station) was designed by Stickney and Austin in 1910. This building is a one story side-gabled building with projecting bays and a distinctive cedar shingled roof designed to look like thatch. The basement of the visitor center, which is used to store equipment and supplies, is periodically flooded by the waters of Marigold Marsh. The concession stand is a stone, side gabled, open air pavilion with an enclosed area for food service. It was designed in 1930 by the architectural firm of Putnam and Cox, and is listed on the National Register. Other buildings and features have been added over time to provide amenities to the Reservation's beach goers. The landscape retains a

high level of integrity as an example of a late MPC-early MDC park recreation area.

**Blue Hills Headquarters.** The headquarters landscape includes the District Office, Brian T. Broderick Stables, Captain's House, and State Police barracks; it was developed by the MPC between 1899 and 1904. The District Office, an early 19<sup>th</sup> century Cape Cod style building, predates creation of the Reservation. The other three buildings were designed by Stickney and Austin for the purpose of creating an administrative center. They were laid out in a deliberate hierarchical system with the Captain's house being the most elevated center piece. A 2007 study of the stable identified significant structural problems with the integrity of the west wall and recommended that the building not be used until after repairs are performed (Structures North 2007). Approximately \$598,000 in structural repairs took place in 2014 and 2015. An estimated \$120,000 in repairs are still needed to address structural problems with the north and west walls. Additional repairs and upgrades are needed for the building to be used as originally intended; a functioning horse stable. The building is currently used for storage of lawn mowers, associated oil and fuel, a rescue OHV, and bathroom supplies. This landscape retains its integrity as an example of an MPC park headquarters.



Repair to the courtyard area of the Broderick Stable in 2014. Significant structural repairs are still needed to stabilize the building. (See Appendix K for photo information.)

**Operations Yard.** This area includes a cluster of utilitarian structures, both historic and non-historic, around a central work area. There are four historic buildings: a maintenance garage, Repair Shop #1, Repair Shop #2, and the Carpenter's Shop. The first

three are constructed of brick and mortar; all have cracked mortar and/or damaged bricks. The fourth building is wood framed and shingled. All were developed by the MDC between 1932 and 1941. The integrity of this landscape has been reduced by the construction of non-historic buildings in the central work area. The Operations Yard Landscape and adjacent Blue Hills Headquarters Landscape jointly form the administrative center of the Reservation.

**Pine Tree Brook.** This landscape contains historic and non-historic water control structures including two dams (one historic), a mill site, and a culvert associated with Unquity Road.

The Pine Tree Brook Reservoir Dam is located on the south side of Canton Avenue, Milton. This concrete dam is non-jurisdictional, meaning that it has a height of less than six feet or a storage capacity of less than 15 acre-feet. Because of this classification, its Hazard Potential has not been assessed. The Neponset River Watershed Association has identified this dam and the dam at the Harling Mill Site for removal in order to restore flow and enhance brook trout habitat (<https://www.neponset.org/happenings/new-small-dam-projects-in-the-pipeline/>).

The Harling Mill Site is located along Pine Tree Brook, just west of Unquity Road. Thomas Harling purchased this plot of land from Jabez Sumner in 1782 and constructed a saw/grist mill powered by the brook. Harling was an experienced millwright who was active in the trade at Lower Mills on the Neponset. He was also a revolutionary who produced gun powder in Stoughton and sold it to forces of the Massachusetts Militia. After Harling's death in 1810 the mill passed through many hands, and was further developed and used until the late 19<sup>th</sup> century. All that remains today is the presence of a defunct dry stacked dam, a piece of a grist wheel, and scattering of stones thought to be the remains of a foundation for a mill building built by the Clapp family. In comparison with other mill sites from this time period, there is a remarkable presence of historical material, making this site highly significant. For additional information on this mill site, see Mussey (2015).

Information on this landscape's non-historic dam (Pine Tree Brook Flood Control Dam) is presented in Section 2.5 (Infrastructure).

**CCC Camp SP-1.** From 1933 to 1937 this landscape was home to CCC Camp SP#1, Company 1170. Twenty four buildings were located along Sawcut Notch Path in the Chickatawbut Section. Today, only two foundations, some walls, and circulation features remain. Most of the landscape's historic integrity has been lost. A non-historic feature, an engraved granite marker, is also located on this site.

**Pakomet Spring.** This area was developed by the CCC in 1936 and 1937 as a roadside pull-off, reflecting the increased presence of automobiles in the Reservation during the 1930s. It formerly included guard rails, landscaping, tables, and seats. All that remains is a mortared stone wall flanking the entrance to a U-shaped drive.

**Nike Integrated Fire Control (IFC) Area.** This area was developed in 1953 and 1954 on the summit of Chickatawbut Hill as part of the Nike Battery BO-55 missile complex. The IFC Area, its associated Launcher Area in the Ponkapoag East section, and an off-Reservation barracks area comprised one of 35 Nike Ajax missile complexes in New England.

The Nike IFC Area landscape consists of a small campus of four historic buildings with associated non-historic outbuildings. Historic buildings include a dining hall, dormitory, office, and pump house. All are single story masonry block construction buildings. Non-historic buildings and structures include sheds, observation blinds, and an observation tower. The entire complex is surrounded by a chain link fence. The area is currently used by the Massachusetts Audubon Society (Mass Audubon) as the Norman Smith Environmental Education Center at Chickatawbut Hill.

In 2015 the Town of Milton replaced its two water towers (ca. 1932 and 1964) on Chickatawbut Hill with a single water tower. This change necessitated changes to the environmental education center's water system, including installation of a 1,000 gallon holding tank in the pump house and new electronic controls.

**Chickatawbut Overlook.** The CCC developed this road-side pull off area as a place for motorists visiting the Reservation to take in the view of the Boston skyline. It includes an overlook with two small parking areas, a granite wall framing the view toward the city, a small cast iron viewscope, a picnic area with two stone barbecue grills, granite steps, a

pavilion, observation tower (closed to the public), and the viewshed. The overlook is listed in the National Register as a contributing feature of the Reservation's historic parkways landscape. The observation tower is also listed in the National Register.

**Quincy Quarries.** This complex industrial landscape consists of filled and unfilled quarries, remnants of a railway, and one historic building. A variety of objects, such as steel rods and anchor bolts may be found in the quarries; stone debris and cut granite blocks with drilled holes and drill scars may also be found throughout much of this landscape (e.g., GEI Consultants, Inc. 1998). These are associated with the Quincy granite industry, which encompassed over 50 different granite quarries that were active from 1825 through 1963.

The only historic building, the Granite Rail Quarry Compressor House, once housed an air compressor that powered that quarry's pneumatic tools. It is likely the only remaining building associated with quarry operations. The building has multiple problems including a leaking roof, damaged gutters and soffits, a variety of electromechanical problems, and building code violations (SAR Engineering, Inc. 1997). Since the previous RMP (DCR 2011a), a hole has developed in the roof and water damage to the inside of the building has increased significantly.

Lyons Turning Mill and the northern terminus of the Granite Railway are also associated with the Quincy granite industry. Neither is in the Reservation or owned by the DCR.

**St. Moritz.** Between 1929 and 1937 the St. Moritz section was the site of an annual three-day winter carnival that at its peak drew 35,000 people. A ski jump, toboggan run, and warming hut were located near the St. Moritz ponds. All that remains of this infrastructure is the ski jump's concrete foundation and metal beams. Other historic resource associated with the winter carnival may potentially occur in the area.

St. Moritz Pond Dam (MA03373) is located at northern end of St. Moritz Pond. It has a concrete spillway and inlet, and a stone headwall. The origins of this dam are unknown. However, it is believed to predate the use of St. Moritz Pond for winter carnivals (i.e., 1929). This dam is classified as non-jurisdictional (Lenart 2009); its hazard classification

is not assessed. As of 2009, its condition was 'Fair' (Lenart 2009).

**Indian Line Farm.** A number of partially standing stone walls remain from past agricultural use of the site, and they are scattered throughout this area. The absence of other cultural resources at this location is at least partially due to the removal of buildings and structures during site remediation.

**Ponkapoag Golf Course.** Since the previous RMP (DCR 2011a), administrative control of Ponkapoag Golf Course has transferred from the Blue Hills District to the Boston District. As a result, it is no longer administratively part of the Reservation, Complex, District, or South Region.

**AMC Ponkapoag Camp.** This camp is a historic site on the eastern shore of Ponkapoag Pond. It was established in July 1921 by the Appalachian Mountain Club. It includes four historic cottages built between 1922 and 1930. Two are of log construction and the other two are wood frame buildings. Twenty-six additional buildings and structures occur on this landscape. All buildings and structures are AMC-owned; the land on which they sit is owned by the Commonwealth. The rustic cottages and the landscape itself are listed in the National Register. This camp is a good example of early twentieth century cottage development.

**YMCA Ponkapoag Outdoor Center.** This summer camp, formerly known as Camp Dorchester, has been in continuous use since it was established by the YMCA in 1923. Although there are no historic buildings or structures, the continuous use of this landscape creates the potential for cultural significance.

**Nike Missile Launcher Area.** Located off Middle Street, Randolph, this facility was constructed in 1953 and 1954 as part of the Nike Battery BO-55 missile complex. Rockets were housed, fueled, and (if necessary) launched from this site as directed by the IFC. (See Nike Integrated Fire Control Area, above, for additional information on this Battery.) Buildings listed in the previous RMP (DCR 2011a) were demolished in 2015. Concrete pads and missile silos are all that remain. This area no longer retains its integrity as an example of cold war missile defense architecture.

## Buildings

**Royall Street House.** This house is one of the few remaining residences on Royall Street and reflects the street's former residential character. Although owned by the DCR, it is under the control of the Massachusetts State Police. A detached garage described in DCR (2011a) has been torn down.

**Max Ulin Memorial Skating Rink.** In the 1950s and 1960s the MDC constructed two ice skating rinks in the Reservation; Ulin rink in the Unquity section and Shea rink in the St. Moritz section. Both are steel frame and masonry block buildings with metal roofs and metal and masonry sheathing. The size and design of these rinks differ, with Ulin having a shed roof and being the larger of the two. Both retain their original exterior appearance and represent a period of functional design.

**Randolph Avenue Stable.** This shingle style stable, located near the intersection of Chickatawbut Road and Randolph Avenue, was designed by Stickney and Austin to house horses and associated gear for patrolling the eastern side of the reservation. It is one of a number of buildings designed by the firm for the MPC's initial development of the Reservation. It is currently used for storage.

**Mayor William T. Shea Memorial Rink.** In the 1950s and 1960s the MDC constructed two ice skating rinks in the Reservation; Shea rink in the St. Moritz section and Ulin rink in the Unquity section. Both are steel frame and masonry block buildings with metal roofs and metal and masonry sheathing. The size and design of these rinks differ, with Shea having a rounded roof and being the smaller of the two. Both retain their original exterior appearance and represent a period of functional design.

## Structures

**Stone Paddock.** A 20 x 60 foot rectangular stone enclosure is located in the woods to the west of the Green Street dressage field in the Little Blue Hill section. Portions have collapsed, and tree growth and fallen limbs further threaten this resource. The significance of this structure is unknown.

**Stone Well.** A circular, mortared stone lined well is located in a streambed along Base Path in the Great Blue Hill section. Its date of construction is unknown. A chain link fence partially encloses this

structure; openings exist below the fence along the streambed.

## Objects

**Hemenway Bench.** An inscribed granite bench is located on the western slope of Little Blue Hill. Erected as a memorial to Augustus Hemenway (1853–1931), the bench faces west toward the Neponset River and Fowl Meadow.

**Boundary Marker.** A granite town boundary marker is located along Hillside Street, Canton, and Blue Hill River Road, Milton.

**Water Fountain.** A cast iron drinking fountain is located in the woods along Bugbee Path in the Houghton's Pond section of the Reservation. It is of unknown origin.

**Canton/Milton town boundary marker.** A granite marker, which identifies the boundary between the towns of Canton and Milton, is located at the base of Great Blue Hill, along Blue Hill River Road/Hillside Street.

**Quincy/Milton town boundary marker.** This granite marker is located on the south side of Hillside Street, opposite the Broderick Stables.

## **2.4. RECREATION RESOURCES**

The Blue Hills offers both facility-based (e.g., ice skating) and trails-based (e.g., hiking) recreation. The following activities are known to take place:

- Archery (Camp Ponkapoag only)
- Baseball/Softball
- Basketball
- Bicycling, mountain
- Bicycling, road
- Boating, motorized (Ponkapoag Pond only)
- Boating, non-motorized (Hillside, St. Moritz, and Ponkapoag ponds only)
- Camping (AMC Ponkapoag Camp only)
- Canoeing/Kayaking/Paddle Boarding (Ponkapoag Pond only)
- Cricket
- Dog walking (on-leash)
- Fishing
- Geocaching (21 as of July 2016)

- Hiking
- Horseback riding
- Hunting (deer only)
- Ice skating/Ice hockey
- Kite flying
- Nature study/Photography
- Orienteering
- Picnicking
- Playground use
- Rock climbing
- Ropes course (Camp Ponkapoag only)
- Running/jogging (includes both road and trail)
- Skiing, cross-country
- Skiing, downhill (includes tubing and snowboarding)
- Snowshoeing
- Soccer
- Swimming
- Volleyball

### Recreation Facilities

A variety of recreation facilities are dispersed throughout the Reservation. The following summaries briefly describe these facilities. More detailed information may be found in DCR (2011a). Information on special reservation events may be found at the end of this section.

**William F. Rogers Ski Area.** Located on the western slope of Great Blue Hill, the ski area has 90 acres of skiable terrain, 12 trails, one double chair lift, one 300-foot-long Magic Carpet, and 80-foot-long “Wonder Carpet,” and one handle tow. Snowmaking covers 90%, and lighting 50%, of the skiable terrain. The slopes are used by individuals and college and high school ski teams. Equipment rentals, lessons, and a snack bar are available on site. The ski area is open from 9:00 a.m. to 9 p.m., seven days per week, between December 15<sup>th</sup> and March 10<sup>th</sup>. This schedule is contingent on weather. Additional information on ski area operations is available at <http://www.bluehillsboston.com/>.

In 2015, \$1.3 million in improvements were made to the ski area, including widening and resurfacing trails, and snow-making improvements. Lighting

upgrades and a new snowmaking pump house were added in 2016.

**Houghton’s Pond Recreation Area.** Houghton’s Pond is the Reservation’s primary recreation area. It includes a visitor center, concession stand, beach and bathhouse, volleyball court, comfort station, five picnic sites, and three baseball fields. Two of the picnic sites (Sites 1 and 2) are for families and small groups, the other three (Sites 3, 4, and 5) may be reserved by groups of 25 or more people. All ball fields have been upgraded since 2010. Field 1 has a backstop, fenced dugouts, a fenced bull pen, bleachers, and an irrigation system; Field 2 has a fenced backstop, team benches, bleachers, and an open bullpen with a fenced backstop; and Field 3 has a fenced backstop, team benches, and bleachers. When not used for baseball, two soccer fields may be set up. These fields are also used for cricket. Picnic tables are located between the fields and the parking lot.

The Houghton’s Pond waterfront is staffed with lifeguards from 10:00 a.m. until 6:00 p.m., seven days per week, during July and August. Outside of these dates and times, unguarded swimming is available “at your own risk.” Water quality is tested weekly during the beach season. In the past decade (2005–2014) there have been 12 exceedances of *Enterococcus* bacteria standards resulting in 11 closures.



The Houghton’s Pond waterfront is a popular, and free, recreation resource. (See Appendix K for photo information.)

**Max Ulin Memorial Skating Rink.** Ulin rink is located in the Reservation’s Unquity section. It is used for hockey, serving as home rink for the Curry College and Milton High School hockey teams, and public skating. There are no other recreation

facilities associated with this rink. Information on the rink's operating hours and activities may be found at <http://www.ulinkrink.com/>.

**Norman Smith Environmental Education Center at Chickatawbut Hill.** Mass Audubon operates its Blue Hills Summer Camp at this location. Activities are primarily educational, with a lesser emphasis on purely recreational activities. (See **Section 2.6. Interpretation** for additional information.) The Center's historic and non-historic buildings and structures are identified in Tables 2.2.2 and 2.5.1, respectively. Only one feature, an outside dining area with picnic tables, was developed specifically for recreation purposes.

**Mayor William T. Shea Memorial Skating Rink.** This rink is located in the St. Moritz section of the Reservation. It is used for hockey and free skating. Two basketball courts and a Little League field (i.e., Sergeant Robert Allen Curry Ball Field) are situated adjacent to the rink. Information on the rink's operating hours and activities may be found at <http://www.shearink.net/>.

**Daniel Michael Shea Memorial Park.** This playground is located on Bunker Hill Lane in the St. Moritz Section of the Reservation. It has a single feature, a climbing structure.

**St. Moritz Horseshoe Pitching Club.** A private recreation facility, the St. Moritz Horseshoe Pitching Club, is located opposite 101 Bunker Hill Lane, Quincy, in the St. Moritz Section of the Reservation. It has six lighted clay horseshoe courts, benches for spectators, and a storage shed. Additional information on the club and its facilities may be found at <http://www.newenglandhorseshoes.com/stmoritz.htm>.

**Ricciuti Drive Athletic Fields.** This facility includes one soccer and four baseball fields. Each baseball field has a backstop, two dugouts, and one or more bleachers. A combination concession building/restroom is located centrally among these fields. A soccer field is located just west of the ball fields. Identified as "Quarry Hills Ball Fields" at the entrance, there has been no official naming of these fields or facilities.

**John P. Metropolis Skating Rink.** Since the previous RMP (DCR 2011a), administrative control of Ponkapoag Golf Course has transferred from the

Blue Hills District to the Boston District. As a result, the golf course and associated facilities are no longer administratively part of the Reservation, Complex, District, or South Region. Because this rink is associated with the golf course, it is not included in this RMP.

**Massasoit Field.** This soccer field is located on Randolph Street in Canton along the southern edge of Ponkapoag Golf Course, immediately east of Massasoit Community College. Since the previous RMP (DCR 2011a), administrative control of Ponkapoag Golf Course has transferred from the Blue Hills District to the Boston District. As a result, the golf course and associated facilities are no longer administratively part of the Reservation, Complex, District, or South Region. Because Massasoit Field is associated with the golf course, it is not included in this RMP.

**YMCA Outdoor Center.** The YMCA of Greater Boston offers a summer day camp, "Camp Ponkapoag," at its Outdoor Center located just north of Ponkapoag Pond. The Center's recreation infrastructure includes a swimming pool, basketball court, high and low ropes courses, multi-use athletic field, and three pavilions. Among the Camp's recreation activities are archery, baseball, basketball, dance, use of ropes courses, hiking, kickball, orienteering, scavenger hunts, soccer, and swimming. These facilities are available to campers and are also available for rental. Additional information is available at <http://ymcaboston.org/menino-day-camp>. This facility is within the Fowl Meadow and Ponkapoag Bog ACEC. (See Section 1 for additional information on ACECs.)

**Ponkapoag Camp.** The Appalachian Mountain Club (AMC) operates a year-round camp on the eastern shore of Ponkapoag Pond within the Reservation. This facility includes 20 cabins that can accommodate a total of 85 campers, tent sites, and a waterfront on Ponkapoag Pond. Fees are charged throughout the year for camping, and during the summer for day use. Recreation activities are camping, hiking, paddling, skiing, and swimming. Additional information is available at <http://www.ponkapoagcamp.org/>. This facility is within the Fowl Meadow and Ponkapoag Bog ACEC. (See Section 1 for additional information on ACECs.)

Water quality at Ponkapoag Pond is tested weekly during the beach season. In the past decade (2005–2014) there has been one exceedance of *E. coli* standards, but no beach closures.

**High Street Athletic Fields.** North Randolph Little League constructed, manages, and uses this facility. There are two fields (i.e., Cady Field and Wakeling Field); each has two dugouts and a backstop. A concession building is located adjacent to these fields; it has a deck with picnic tables.

**Picnic Sites.** There are three small picnic areas in the Reservation. The first is located atop Great Blue Hill at the Eliot Pavilion, the second at Chickatawbut Overlook, and the third at the West Street, Braintree parking lot. These picnic locations are in addition to those described above.

**Special Events.** The Blue Hills annually hosts four large recreation-centered events. They are:

- First Day Hikes; January 1. Ranger and volunteer led hikes to start the New Year. 2015 estimated attendance: 1,200.
- Maple Sugar Days; mid to early March. Joint DCR and MAS programming centered on maple syrup production and the coming of spring. 2015 estimated attendance: 1,350.
- Blue Hills Fishing Festival; July. DCR, DFG, and Friends of Blue Hills event focused on encouraging participation in fishing. 2015 estimated attendance: 300.
- Dog Sled Fun Run; November. DCR in association with the Yankee Siberian Husky club and the Boston Snow Dogs. Programming on dog sledding in New England. 2015 estimated attendance: 150.

Ongoing recreation activities include Southeastern Mass Adult Walking Club hikes, which had over 260 participants in 2014, and the Friends of the Blue Hills' Peek-A-Blue Hike series for parents and toddlers, which is held every other Tuesday. Other groups with recurring hikes include the Boston Chapter of the AMC and the Blue Hills and Beyond Hiking Club, and Random Group of Hikers. The last two groups are associated with MeetUp.com; their events are not coordinated with DCR personnel.



Norman Smith, Director of the Trailside Museum presents a program on snowy owl ecology at a Maple Sugar Days event. (See Appendix K for photo information.)

## 2.5. INFRASTRUCTURE

### Property Boundary

The park is irregularly shaped and largely surrounded by residential and commercial development. Private and municipal recreation and conservation lands abut large portions of the park's northern boundary. Throughout its history, highways have fragmented the park isolating formerly contiguous areas (i.e., Ponkapoag, Ponkapoag East, and West Street). The most recently acquired section, Ponkapoag Brook, is isolated from the rest of the Reservation by residential neighborhoods. The park's boundaries are not posted; boundaries adjacent to highways are fenced.

Boundary information was verified and corrected in GIS as part of the previous RMP planning process (DCR 2011a).

Abutter encroachments appear to have occurred along Green Street and Washington Street, Canton; Ricciuti Drive and Willard Street, Quincy; and Canton Street, High Street, Sunset Drive, and Turner Drive, Randolph.

### Buildings and Structures

Most of the Blue Hills' buildings and structures are historic; relatively little is recent (Table 2.5.1). Construction over the past 50 years has mostly been of recreation facilities or outbuildings that supplement existing buildings and structures. Major developments during this time period include:

- YMCA Ponkapoag Outdoor Center (1960s); followed by an additional period of construction (mid-1990s)
- Dugouts and a concession stand at High Street, Randolph (ca. 1985)
- Ricciuti Drive athletic fields and associated facilities (2003)
- Trailside Museum outdoor exhibit upgrades, including addition of Rocky Outcrop Exhibit (2005)
- Ponkapoag Dam repair and construction of a new spillway (2009)
- MWRA covered water storage facility and reconstruction of the Blue Hills Reservoir and dam (2009–2011)
- Houghton's Pond Recreation Area improvements, including renovated athletic fields; construction of a new bathhouse, accessible ramp with interpretive panels, Marigold Marsh observation platform, and demolition of the existing comfort station and construction of a new comfort station (2011–2013)



The Houghton's Pond bathhouse, constructed in 2012, provides modern amenities for beach goers. (See Appendix K for photo information.)



Comfort station at Houghton's Pond Recreation Area; it serves both the beach and athletic fields. (See Appendix K for photo information.)

- Construction of new compressor building at the William F. Rogers Ski Area (2016)

Nearly all non-historic buildings and structures are in use by park personnel or partners. Exceptions include a shed of unknown ownership at the Ricciuti Drive Athletic Fields and the Town of Randolph's pump station on Turner Drive.

Utilities vary among buildings. (Tables 2.5.1) None of the structures, and few of the buildings, have utilities. Storage sheds and seasonal camp facilities often lack utilities; buildings with offices, food concessions, and comfort stations typically have utilities. Buildings associated with utilities or communications also tend to have utilities.

**Table 2.5.1. Non-historic buildings and structures of Blue Hills Reservation.**

<b>Location and Infrastructure<sup>a</sup></b>	<b>Date<sup>c</sup></b>	<b>Condition<sup>b</sup></b>	<b>In Use<sup>d</sup></b>	<b>Utilities<sup>e</sup></b>
<b>GREAT BLUE HILL</b>				
<b>Trailside Museum</b>				
Storage shed (barn)	1981	2	Y	E
N-Star Rocky Outcrop Exhibit	2008	1	-	-
Maintenance garage	1976	2	Y	E
Red-tailed hawk enclosure <sup>f</sup>	2008	1	-	-
Turkey vulture/great-horned owl enclosure <sup>f</sup>	2008	1	-	-
Snowy owl enclosure <sup>f</sup>	2008	1	-	-
Deer shed <sup>f</sup>	2008	3	-	-
Raptor cages (3) <sup>f</sup>	2008–2014	1	-	-
Duck blind	1998	3	-	-
<b>William F. Rogers Ski Area</b>				
Beginner area - upper shed - A frame <sup>f</sup>	2008	3	S	-
Compressor building (base of slope)	2016	1	S	E, W
Chair lift building <sup>f</sup>	-	2	S	E
Chair lift operator's building	-	3	S	E
Shed at bottom of Big Blue <sup>f</sup>	-	2	S	E
Pulley platform	ca. 1978	3	-	-
Building adjacent to pulley platform	-	3	S	E
Ski patrol shed	-	3	S	-
Shed with crescent <sup>f</sup>	2008	2	S	-
Unidentified building	-	3	S	-
<b>Meteorological Observatory – Kite shed</b>				
<b>Motorola building<sup>f</sup></b>				
<b>State Police building<sup>f</sup></b>				
<b>DEP Photochemical Assessment Monitoring Station<sup>f</sup></b>				
Fuel cell shed <sup>f</sup>	-	2	Y	E
Water Tower <sup>f</sup>	-	-	Y	W
<b>BROOKWOOD FARM</b>				
Garage/Sugar Shack	-	S	N	E
Greenhouse <sup>f</sup>	ca. 2007	S	N	-
<b>HOUGHTON'S POND</b>				
<b>Houghton's Pond Recreation Area</b>				
Accessible Ramp System	2012	2	-	-
Marigold Marsh observation platform	2012	1	-	-
Bath House	2012	2	S	E, P, S, W(S)
Changing structure - Adjacent to Bath House	2012	1	-	-
Storage shed	ca. 2012	2	Y	-
Comfort station - Blue Hill River Road	2013	1	S	E, S, W(S)
<b>HEADQUARTERS AREA</b>				
Tool Shed – Trail Watch	2007	2	Y	-
<b>OPERATIONS YARD</b>				
Salt storage shed	1981	4	Y	-
<b>UNQUITY ROAD</b>				
<b>Pine Tree Brook</b>				
Pine Tree Brook Flood Control Dam (MA00825), with two-stage drop inlet drop spillway <sup>f</sup>	1971	3	-	-

Location and Infrastructure <sup>a</sup>	Date <sup>c</sup>	Condition <sup>b</sup>	In Use <sup>d</sup>	Utilities <sup>e</sup>
<b>CHICKATAWBUT HILL</b>				
<b>Norman Smith Environmental Education Center at Chickatawbut Hill</b>				
Garage	2002	1	Y	E
Shed <sup>f</sup>	2010	2	S	-
Bird blind <sup>f</sup>	1998	2	S	-
Tower <sup>f</sup>	1980	2	S	E
Photovoltaic array	2010	1	-	E
<b>Water Tower<sup>f</sup></b>	<b>2015</b>	<b>1</b>	<b>-</b>	<b>-</b>
<b>Blue Hills Reservoir Area</b>				
Blue Hills Reservoir Dam (MA00826)	2009	3	-	-
Primary spillway	2009	3	-	-
Emergency spillway - Gate vault	2009	3	-	-
Covered Storage Tank 1 <sup>f</sup>	2009	-	-	-
Covered Storage Tank 2 <sup>f</sup>	2009	-	-	-
MWRA building <sup>f</sup>	2011	-	-	-
<b>Storm water management structures</b>	<b>-</b>	<b>3</b>	<b>-</b>	<b>-</b>
<b>QUINCY QUARRIES</b>				
<b>Quincy Youth Baseball</b>				
Comfort station and concession building <sup>f</sup>	ca. 2003	-	-	-
Dugouts <sup>f</sup> (8)	ca. 2003	-	-	-
<b>Cell tower building – AT&amp;T mobility fixed asset site #10000074<sup>f</sup></b>				
Shed <sup>f</sup>	-	-	-	-
<b>ST. MORITZ</b>				
<b>St. Moritz Horseshoe Club shed<sup>f</sup></b>	<b>-</b>	<b>4</b>	<b>Y</b>	<b>E</b>
<b>PONKAPOAG</b>				
<b>Pump Station No. 6 – Turner Drive<sup>f</sup></b>				
<b>AMC Ponkapoag Camp</b>				
Cabin 1 shed <sup>f</sup>	-	-	-	-
Cabin 11 shed <sup>f</sup>	-	-	-	-
Susan Rapson Lemish Nature Center <sup>f</sup>	-	-	-	-
Men's privy <sup>f</sup>	Post 1949	-	-	-
Women's privy <sup>f</sup>	Post 1949	-	-	-
Storage building - former privy <sup>f</sup>	Post 1949	-	-	-
<b>YMCA Ponkapoag Outdoor Center (former Camp Dorchester)</b>				
Lodge <sup>f</sup>	-	-	-	-
Shed at lodge <sup>f</sup>	-	-	-	-
Bath house <sup>f</sup>	1995	-	-	-
Arts and crafts cabin <sup>f</sup>	-	-	-	-
Nature cabin <sup>f</sup>	-	-	-	-
Storage cabin <sup>f</sup>	-	-	-	-
Pool house <sup>f</sup>	ca. 1968	-	-	-
Pool well shed <sup>f</sup>	ca. 1968	-	-	-
Swimming pool <sup>f</sup>	ca. 1968	-	-	-
Main well pump shed <sup>f</sup>	-	-	-	-
Pavilion 1 <sup>f</sup>	-	-	-	-
Pavilion 2 <sup>f</sup>	-	-	-	-
Pavilion 3 <sup>f</sup>	ca. 1994	-	-	-

Location and Infrastructure <sup>a</sup>	Date <sup>c</sup>	Condition <sup>b</sup>	In Use <sup>d</sup>	Utilities <sup>e</sup>
<b>PONKAPOAG EAST</b>				
<b>North Randolph Little League – North Street</b>				
Concession building <sup>f</sup>	ca. 1985	-	-	-
Cady Field dugouts <sup>f</sup> (2)	ca. 1985	-	-	-
Wakeling Field dugouts <sup>f</sup> (2)	ca. 1985	-	-	-

- a. Geographic sub-regions as identified in DCR (2011a).
- b. Preliminary condition assessment using the building system and equipment condition codes as used in the Massachusetts Capital Asset Management Information System (CAMIS). The following codes are used: 1 = Excellent-easily restorable to like new condition; 2 = Good-routine maintenance required; 3 = Adequate-some corrective and preventative maintenance required; 4 = Fair-excessive corrective maintenance and repair required; 5 = Poor-renovation needed; and 6 = Fail.
- c. Date of construction provided, when known.
- d. Use categories include N = No, building is not in use; S = Building is used on a seasonal basis; and Y = Yes, building is in use year-round.
- e. The following codes are used to identify utilities associated with buildings: E = Electric, H = Heat; I = Internet; S = Septic system; T = Telephone; W = Water; and W(S) = Water is available on a seasonal basis. This information is included for all buildings.
- f. Infrastructure located on DCR property, but not owned or controlled by the DCR. Its condition is not assessed.

All potable water is provided by municipal water departments, with the exception of the YMCA Ponkapoag Outdoor Center, which obtains its water from a well. This well is classified by the DEP as a Transient Non-Community Water System. Wells also provide water to the YMCA's swimming pool and serve as a source of water for irrigating the North Randolph Little League Fields on High Street. The AMC Ponkapoag Camp, which was identified as having Transient Non-Community Water System in the 2011 RMP (DCR 2011a), indicates that it no longer has an on-site water supply.

Most buildings with plumbing are connected to a municipal sewer. Exceptions include the following buildings and facilities: Blue Hills Meteorological Observatory, Brookwood Farm Gatekeeper's House, Henry Saltonstall Howe House, Norman Smith Environmental Education Center at Chickatawbut Hill, and the YMCA Ponkapoag Outdoor Center; all are connected to septic systems. Although the State Police Barracks has been connected to municipal sewer, a portion of the building is suspected to remain connected to a septic system (Haak 2009). The AMC Ponkapoag Camp has two privies that discharge directly into the ground; during the summer they are supplemented with portable toilets.

Deficiencies have been observed at some of the Reservation's dams. Fourteen "minor operational and maintenance" deficiencies were identified for the Town of Milton owned Pine Tree Brook Dam (MA00825; Weston & Sampson 2012). Fourteen deficiencies were also identified at the recently renovated Blue Hills Reservoir Dam (MA00826; GZA GeoEnvironmental, Inc. 2011a). An inspection

of the Ponkapoag Dam (MA03107) conducted shortly after its reconstruction found no deficiencies (GZA GeoEnvironmental, Inc. 2009a). Recent inspection reports were unavailable for Pine Tree Brook Reservoir Dam (MA00824) and the St. Moritz Pond Dam (MA03373), both of which are historic.

## Roads

There is no main park entrance; visitors may access the park from a variety of roads. Park Headquarters and the Houghton's Pond Recreation Area are located on Hillside Street in Milton, although the latter may also be accessed from Blue Hill River Road. The Blue Hills Trailside Museum, William F. Rogers Ski Area, and Blue Hills Meteorological Observatory are all accessed from Route 138. Other recreational facilities in the Reservation are accessed from a variety of public roads.

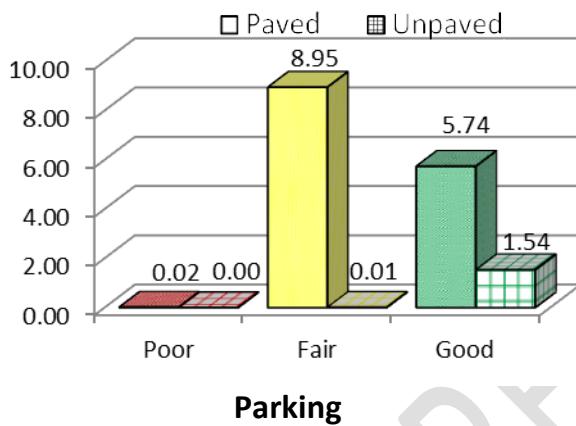
Interstate I-93 and State Route 24 are multi-lane highways that pass through the Reservation; they isolate sections of the Reservation from one another. State Routes 138 and 28 are two-lane roads primarily used to pass through the Reservation. A series of historic parkways extends throughout the Reservation, serving as the main internal road network; all are publically accessible. (See Section 2.3 for more information on these parkways). All highways, and nearly all parkways, serve as commuter roads.

Traffic volumes are high on interior park roads, with an average daily volume of 10,642 vehicles on Hillside Street near the police barracks and 5,913

vehicles on Chickatawbut Road just west of Route 28 (Beta Group 2011). Public input received while preparing this RMP revealed that some park users (e.g., bicyclists) view the volume and speed of traffic on interior park roads as a safety threat and a deterrent to park use. Similar concerns contributed to the development of traffic and safety related recommendations in the previous RMP (DCR 2011a); they have not yet been implemented.

In addition to the public roads, there are approximately 16.3 miles of administrative and limited access roads (e.g., forest roads, Summit Road). Their conditions are summarized, by surface type, in Figure 2.5.1.

**Figure 2.5.1. Condition and length (in miles) of roads at Blue Hills Reservation.**



There are 1,764 parking spaces at the Blue Hills (Table 2.5.2). Most are available to the general public; 108 are for restricted use. Although public parking is available throughout the Reservation, the majority of spaces are associated with just seven areas: Route 138 Park and Ride, Trailside Museum, Houghton's Pond Recreation Area, Ulin rink, Shea rink, Ricciuti Drive athletic fields, and Ponkapoag Golf Course. Collectively, lots in these areas account for 84.2% of unrestricted public parking for the Reservation. Several small, gravel lots are located at the intersections of major roads and hiking trails. On busy days, the demand for parking at Houghton's Pond exceeds the supply, resulting in vehicles being parked along the shoulders of roads and parkways and in the residential neighborhood associated with Silver Brook, Adrian, and Eileen roads, Milton. Parking is also associated with special facilities (e.g., Norman Smith Environmental Education Center, AMC Ponkapoag Camp), but access is restricted to visitors to those facilities. Two sections of the

Reservation, Hemenway Pond and Ponkapoag Brook, have no parking.

**Table 2.5.2. Number of public parking spaces, by location and type, at Blue Hills Reservation.**

Location	HP	Restricted	Other	Total
Route 138 Park and Ride	0	0	116	116
Great Blue Hill radar pad	0	0	16	16
Hillside St. at Accord Path	0	0	11	11
Trailside Museum - North lot	5	0	100	105
Trailside Museum - South lot <sup>a</sup>	4	10	73	87
Brookwood Farm - Main lot	0	0	10	10
Brookwood Farm - Community Farm <sup>b</sup>	0	5	0	5
Brookwood Farm - Conference lot <sup>c</sup>	0	20	0	0
Houghton's Pond - Hillside St. <sup>d</sup>	13	0	256	269
Houghton's Pond - Site 5	5	0	75	80
Houghton's Pond - Ball fields <sup>e</sup>	3	0	66	69
Houghton's Pond - Comfort station <sup>e</sup>	4	0	9	13
Houghton's Pond - Blue Hill River Rd. <sup>e</sup>	0	0	22	22
Bugbee path at Hillside St.	0	0	9	9
South Region Office - Short-term <sup>f</sup>	0	0	4	4
South Region Office - HP parking	1	0	0	1
Hillside St. - Opposite State Police <sup>g</sup>	0	4	11	15
State Police Barracks <sup>h</sup>	0	22	0	22
Ulin Memorial Rink	4	0	83	87
Unquity Rd. at Base Path	0	0	8	8
Pine Tree Brook at Harland St.	0	0	2	2
Route 28 at Skyline Trail	0	0	26	26
Route 28 at Bouncing Brook Path	0	0	7	7
Route 28 at Bugbee path	0	0	8	8
Blue Hills Reservoir	1	0	4	5
Chickatawbut Rd. at Braintree Pass Path	0	0	9	9
Chickatawbut Overlook	0	0	34	34
Environmental Education Center <sup>i</sup>	1	1	23	25
Wampatuck Rd. at Sawcut Notch Path	0	0	4	4
Ricciuti Dr. - Quarry access	1	0	5	6
Ricciuti Dr. - Athletic fields	6	0	283	289
St. Moritz Horseshoe Club <sup>j</sup>	0	14	0	14
Shea Memorial Rink	4	0	83	87
Ponkapoag Golf Course <sup>k</sup>	7	0	173	180
Fisherman's Beach	0	0	22	22
AMC Ponkapoag Camp <sup>l</sup>	0	22	8	30
Ponkapoag Trail at I-93 ramp	0	0	11	11
YMCA Ponkapoag Outdoor Center <sup>m</sup>	0	10	18	28
North Randolph Little League	2	0	21	23
West Street	0	0	5	5
<b>Total</b>	61	108	1,615	1,764

Location	HP Restricted	Other	Total
a. Ten spaces are reserved for museum employees.			
b. Entire lot is for use by farm employees or CSA members.			
c. Space restricted for use by meeting attendees.			
d. Includes spaces along Hillside Street.			
e. Closed from mid-November through mid-April.			
f. Ten-minute parking.			
g. Four spaces are reserved for the State Police.			
h. Spaces reserved for police cruisers, staff, and those with police business.			
i. One space reserved for resident.			
j. Restricted to use by St. Moritz Horseshoe Club.			
k. These spaces are not in the Reservation, but are often used by visitors to the Reservation.			
l. Restricted spaces are associated with cabins.			
m. Restricted spaces are adjacent to the main lodge.			



On busy days, parking lots around Houghton's Pond fill early and visitors park along road shoulders. Unquity Road, a historic parkway, is shown in this photo. (See Appendix K for photo information.)

Some activities on the Reservation use parking lots located off the Reservation. Users of Massasoit Field park on the Canton Campus of Massasoit Community College. Group hikes in the Ponkapoag East section of the Reservation often start from the Town of Randolph's Margaret L. Donovan School on Reed Street, with hikers using the school's parking lot.

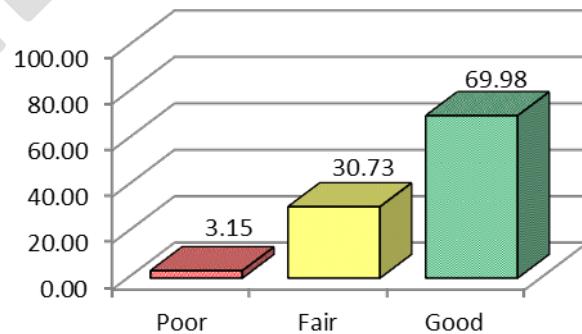
Changes in the Reservation's parking since the 2011 RMP (DCR 2011a) are associated with Blue Hill River Road in the Houghton's Pond Recreation Area. Both parking and traffic flow were reconfigured as part of ball field reconstruction in 2011 and construction of a new comfort station in 2013. An additional 120 parking spaces are planned for the north side of Blue Hill River Road, at the site

of the former comfort station (DCR 2011b). A 2003 agreement between the Commonwealth of Massachusetts and Hart Family Limited Partnership included a requirement that the parking lot to be constructed on former-DCR property would include a minimum of 10 parking spaces permanently dedicated for use by patrons of the Reservation. Because the lot has not yet been constructed, these dedicated spaces are not yet available.

## Trails

The Blue Hills has approximately 104 miles of official trails that provide access to virtually every one of its hilltops, wetlands, and ponds. The number of miles of official trails, by condition, is presented in table 2.5.4. Because fire roads and other forest roads in the Reservation are used primarily as recreation trails, they are included in Figure 2.5.2. In the previous RMP (DCR 2011) they were tallied as roads. This change in classification is responsible for large changes in the miles of roads and trails reported in the 2011 versus the current RMP.

**Figure 2.5.2. Condition and length (in miles) of official trails at Blue Hills Reservation.**



Two portions of the Reservation's trails network, the Skyline Trail and the Healthy Heart Trail, have their own identities. The Skyline Trail extends from the Reservation's boundary with the Neponset River Reservation (i.e., Fowl Meadow), eastward to its western boundary at Shea Rink. This approximately nine-mile long trail passes over the reservation's highest peaks. A one-mile-long loop trail around Houghton's Pond has been identified as the Blue Hills' Healthy Heart Trail. This trail, which was established to promote exercise, is not universally accessible.

In addition to official trails, there are 16.66 miles of illegal trails. These trails were constructed without

necessary approval or environmental review, are not on the trails map, and are not maintained by the DCR.

### **Kiosks and Signs**

There are multiple kiosks, bulletin boards, and map boards. Kiosks (i.e., free-standing, enclosed display cases with park information) are present at the following locations:

- Trailside Museum (2); north and south parking lots
- Route 138 Park and Ride lot, southwest corner
- Great Blue Hill, Eliot Memorial Landscape; at trail intersection marker 1055
- Brookwood Farm
- Houghton's Pond (4); main lot, beach access gate, Picnic Sites 3 and 4, and athletic fields
- Bugbee Path; opposite Park Headquarters
- Chickatawbut Road; at Braintree Pass Path parking lot
- Chickatawbut Road; at overlook
- Shea Rink; southwest corner of parking lot
- Ponkapoag Trail; exit 3, Route 93
- Fisherman's Beach; between parking lot and Ponkapoag Pond
- West Street parking lot

The Blue Hills' rangers maintain an inventory of all bulletin and map boards.

The number of signs at the Blue Hills reflects the abundance of entrances, parkways, sites, and facilities. Gateway Main Identification Signs, all bearing the words "Blue Hills Reservation," are located at the following locations:

- Intersection of Blue Hill River Road and Hillside Street, Milton
- Southwest corner of Chickatawbut Road and Route 28, Milton
- Southeast corner of Chickatawbut Road and Route 28, Milton
- Route 28 at Pakomet Spring, Quincy
- Intersection of Chickatawbut Road and Granite Street, Braintree

Site/Facility Identification Signs are located at the following locations:

- Trailside Museum; Route 138 at museum entrance, Milton
- William F. Rogers Ski Area; Route 138 at south parking lot entrance, Canton
- Hillside Street; northeast of intersection with Blue Hill River Road, Milton
- Houghton's Pond Picnic Sites and Ball Fields
- Houghton's Pond; Hillside Street at entrance to recreation area.
- Blue Hills Reservation Headquarters; Hillside Street
- Blue Hills Operations; Hillside Street, Milton
- Unquity Road; north of intersection with Hillside Street, Milton
- Max Ulin Memorial Skating Rink; Unquity Road
- Unquity Road; at intersection with Canton Avenue, Milton
- Hillside Street; near intersection of Hillside Street and Chickatawbut Road, Milton.
- Chickatawbut Road; north road shoulder, east of Route 28, Milton.
- Chickatawbut Road; intersection of Chickatawbut Road and Granite Street, Braintree
- William T. Shea Skating Rink: Operated by the O'Toole Company; Willard Street, Quincy. Chapter 204 of the Acts of 1962 requires a "suitable marker" identifying the rink as "Mayor William T. Shea Memorial Rink."

There are three Cantilevered Identification signs; they are:

- Brookwood Farm
- Norman Smith Environmental Education Center at Chickatawbut Hill; this is the suitable marker required by Chapter 446 of the Acts of 2008
- Ponkapoag Trail

Other signs were not inventoried for this RMP.

### **Iron Ranger**

An iron ranger is located at the entrance to the Houghton's Pond Recreation Area.

## **Memorials and Markers**

The following memorials and markers are known to be present on the Reservation:

- Augustus Hemenway Bench (n.d.); west slope of Little Blue Hill
- History of Weather Observatory metal plaque (n.d.); Great Blue Hill
- James M. Redman memorial engraved stone (n.d.); Great Blue Hill
- Founding of Weather Observatory metal plaque (1885+); Great Blue Hill
- National Register designation metal plaque (1980); Great Blue Hill
- Weather Observatory Centennial (1985), engraved stone; Great Blue Hill
- National Historic Landmark designation metal plaque (1989); Great Blue Hill
- World's first continuous sounding of the atmosphere by kite, wooden sign on Kite Shed; Great Blue Hills
- Eliot Memorial Bridge (1904); Great Blue Hill
- Daniel M. Casey memorial engraved stone plaque (ca. 1994); Great Blue Hill, between weather observatory and ski area
- Brian T. Broderick Visitor Center and Stables engraved stone (2001); Headquarters Area, southwest side of stable
- Officer Robert P. Dana memorial stone with metal plaque (1984); Headquarters Area, opposite entrance to police barracks
- Camp SP #1 Company 1170 engraved stone; Chickatawbut, former CCC Camp
- Daniel Michael Shea Memorial Park, engraved stone (ca. 1984); Bunker Hill Lane, Quincy
- Charles L. Bowley Memorial Bridge (i.e., horse bridge over Route 24); two markers, as required by Chapter 407 of the Acts of 2014
- Bob Foley and Tommy Holmes metal plaque (2008); north side of Quincy Youth Baseball combined concession building/comfort station, Ricciuti Drive
- Ponkapoag Boardwalk engraved stone (ca. 1988); boardwalk entrance

The following marker is required by an Act of the Legislature, but is not present on the Reservation:

- Sergeant Robert Allen Curry Ball Field; "suitable marker" (Chapter 770 of the Acts of 1969)

Fifty-nine granite trail markers were erected in 1985 (Wendland 1985). These posts are located at trailheads and where trails cross roads.

There are two unmarked memorial trees at Brookwood Farm. One is in memory of Tom Bates, a long-time DCR employee who died of cancer in 2013, and the other for an unknown honoree.



Officer Robert P. Dana Memorial; erected in honor of an MDC police officer who died in the line of duty. (See Appendix K for photo information.)

## **2.6. INTERPRETATION**

The Blue Hills Trailside Museum is the Reservation's interpretive center. It is operated by Mass Audubon in partnership with the DCR. The museum includes a variety of interpretive exhibits and indoor and outdoor live animal displays with associated interpretive panels. Interpretive programming is provided by Mass Audubon employees or volunteers in the museum's auditorium and on its grounds. The Trailside Museum and associated trails are accessible; audio tours and Braille guides are available. In Fiscal Year 2015, the general museum attendance was 13,538 and the estimated outdoor grounds attendance 58,473 (MassAudubon 2015). Ninety-two public programs were offered and 4,693 attendees participated in 79 on-site programs. Additional information on the museum and its programs may be found at <http://www.massaudubon.org/get>

[outdoors/wildlife-sanctuaries/blue-hills-trailside-museum.](#)

Mass Audubon offers additional interpretive programming through its Blue Hills Summer Camp held at the Norman Smith Environmental Education Center at Chickatawbut Hill. This American Camp Association accredited camp offers preschoolers through ninth graders “a unique location to discover nature through hands-on exploration, creative play, and active learning.” Programming is offered Monday through Friday, from late June through mid-August. Registration and payment are required in advance; fees differ among Mass Audubon member and non-members. Six hundred and twelve campers attended in Fiscal Year 2015 (MassAudubon 2015). Information on Mass Audubon’s summer camps, including Blue Hills Summer Camp, may be found at <http://www.massaudubon.org/get-outdoors/summer-camps>.

DCR Rangers offer a variety of special events and ongoing programming, much is recreational. These events and activities were previously identified in **Section 2.4. Recreation.** Of these activities, Maple Sugar Days has the largest interpretive component, with presentations on Native American, Colonial, and modern maple sugar production techniques. This programming is presented by DCR and Mass Audubon employees, the Friends of the Blue Hills, and other volunteers.

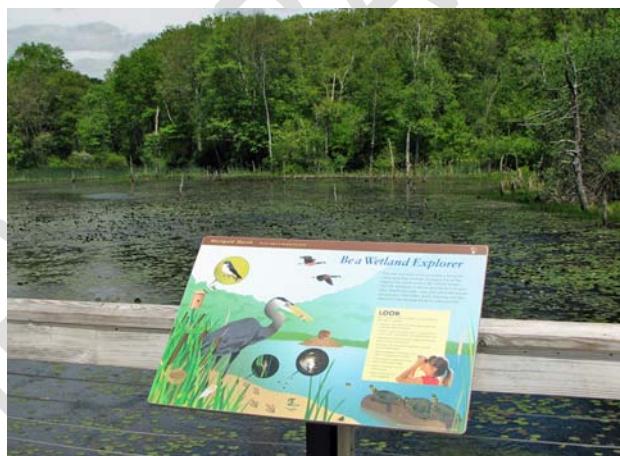
The Blue Hills Weather Observatory offers free public tours on Saturdays, Sundays, and holidays. These tours include an interpretive component on meteorology. The Observatory also offers a variety of fee group activities that center on meteorology and climate science. A list of these activities is available on the Observatory’s web site at <http://bluehill.org/observatory/programs/>.

Activities at the YMCA’s Camp Ponkapoag are primarily recreational in nature. However, programming is designed so that campers “gain awareness and appreciation of the great outdoors through hiking, outdoor living skills, and science activities.” Additional information is available at <http://ymcaboston.org/menino-day-camp>.

Interpretive displays are located at the Houghton’s Pond Recreation Area, Trailside Museum (see above), and Weather Observatory. Five interpretive

panels were installed alongside Marigold Marsh in 2012. Four are located on the accessible ramp system between the Houghton’s Pond main parking lot and Marigold Marsh and the fifth is located on the accessible observation platform. The following panels introduce visitors to the ecology of Marigold Marsh:

- Walk on the wild side
- We’ve got you covered
- Why wetlands matter
- Nature’s magic show
- Be a wetlands explorer (observation platform)



This interpretive panel is one of five that educate the public about the ecology of Marigold Marsh. (See Appendix K for photo information.)

The following interpretive panel is located in the Houghton’s Pond Recreation Area, adjacent to the playground:

- Houghton’s Pond: Ice ages; Native Americans; rural landscape; swimming hole

An interpretive panel located on the fence surrounding the Weather Observatory’s instruments explains:

- The power of Hydrogen

## **2.7. MANAGEMENT RESOURCES**

### **Staffing**

#### DCR Personnel

The Blue Hills is managed by MassParks staff; there are 10 year-round personnel and 42 seasonal positions. (Table 2.7.1) Most seasonal employees provide additional staffing from Memorial Day through Columbus Day; one position is winter only.

**Table 2.7.1. MassParks personnel assigned to Blue Hills Reservation as of 2016.**

<b>Job Title</b>	<b>Number of Positions</b>
<i>Year-round Personnel</i>	
Administrative Assistant II	1
District Manager <sup>a</sup>	1
Forest and Park Regional Coordinator	1
Forest and Park Supervisor I	1
Forest and Park Supervisor II	2
Laborer I <sup>b</sup>	2.5
Recreation Facility Supervisor I <sup>b</sup>	0.5
Recreation Facility Supervisor III	1
<i>Seasonal Personnel</i>	
Forest and Park Supervisor I	3
Forest and Park Supervisor I (Short-term) <sup>c</sup>	1
Forest and Park Supervisor II	1
Laborer I (Long-term) <sup>c, d</sup>	4
Laborer I (Short-term) <sup>c</sup>	8
Life Guard I	15
Life Guard II	2
Office Support Specialist (Long-term) <sup>c, d</sup>	1
Recreation Facility Supervisor I (Short-term) <sup>c</sup>	1

- a. This position is not part of the Field Operations Team, but provides direct support to the Team.
- b. One of the laborers functions seasonally as a Forest and Park Supervisor.
- c. Long-term seasonal positions begin prior to the second Sunday before Memorial Day; short-term seasonal positions begin after that date.
- d. Includes one long-term seasonal winter position.

In addition to MassParks staff, several other DCR employees are based at, and provide support for, the Blue Hills. (Table 2.7.2) These employees' responsibilities are not limited to the Reservation or Complex.

**Table 2.7.2. Other DCR personnel that provide support to the operation of the Blue Hills Reservation, as of 2015.**

<b>Job Title</b>	<b>Number of Positions 2015</b>
<i>Year-round Personnel</i>	
Civil Engineer IV	1
Mechanic III	1
Mechanical Engineer IV	1
Ranger I	1
Ranger II	2
Visitor Services Supervisor	1
<i>Seasonal Personnel</i>	
Ranger I	2

### Partnerships and Volunteers

Mass Audubon operates the Trailside Museum and the Norman Smith Environmental Education Center at Chickatawbut Hill under a Memorandum of Understanding with the DCR. Prior to this arrangement, the trailside museum was funded, staffed, and operated by the MDC. Mass Audubon has assumed the major role in providing environmental education to park visitors. They also provide staff and interpretive programming for large, park-wide events, such as Maple Sugar Days.

The Friends of the Blue Hills (Friends) is a non-profit organization whose mission is to "protect and preserve the Blue Hills Reservation in its natural state." They advocate for the park and its resources, offer educational and recreational programming, operate an Adopt-a-Trail program, and conduct volunteer projects. Inquiries about volunteer opportunities in the park are directed to the Friends.

Brookwood Community Farm (BCF) is a non-profit organization based in Canton and Milton. It is "dedicated to preserving historic farmland through sustainable agriculture." It currently farms approximately 3 acres in the Brookwood Farm section of the Reservation.

Blue Hills Observatory Science Center is a non-profit organization that records weather data, preserves and displays historic meteorological instruments and records, and conducts educational programs for schools and the general public.

Ski Blue Hills Management, LLC is a for profit company that operates the William F. Rogers Ski Area. They operate and maintain the facilities and provide recreational opportunities for park visitors.

Several partner organizations have joined together to create the Coalition for a Better Blue Hills. The Coalition's objective is "to secure financial, political, and public support for the Blue hills Reservation." Additional information on this group may be found at <http://friendsofthebluehills.org/coalition/>.

Many partners recruit volunteers to assist with the management of their operations and facilities. Brookwood Community Farm uses volunteers for "all aspects of planting, growing, and harvesting our crops." The Greater Boston YMCA solicits corporate volunteer groups who assist with an

annual camp clean up. Campers at the AMC Ponkapoag Camp help maintain the facilities; those that volunteer 25 or more hours per year get priority for summer reservations the following year.

### Public Safety

The Massachusetts State Police (Station H-7, Blue Hills Barracks) are the primary law enforcement agency; the Environmental Police (Regions C-7 and M-3) and municipal departments provide support, as needed. Fire control is provided by municipal fire departments with the assistance of DCR Fire Control District 4 personnel based at F. Gilbert Hills State Forest in Foxborough. Ambulances are provided by municipal fire departments.

### **Funding**

#### Conservation Trust Fund

Donations placed in the iron ranger go into the Conservation Trust Fund for use at the Blue Hills. (See Other Revenues, below.) As of April 2016, the trust fund balance was approximately \$238.

#### Retained Revenue

There are no retained revenues.

#### Other Revenues

The Blue Hills receives lease revenues associated with the WGBH building and facility atop Great Blue Hill; a New Cingular Wireless telecommunications tower and building at Quincy Quarries, an annual fee associated with the gas pipeline, and revenue from the leasing the food concession at Houghton's Pond. As of April 2016, the balance was approximately \$1,246,000.

## **2.8. MANAGEMENT PRACTICES**

Management of DCR properties is guided by a variety of regulations, policies, BMPs (e.g., Table 2.3.2), legal agreements, and institutional knowledge. This section describes those practices unique to the management of the Blue Hills. Legal agreements unique to the reservation are listed in Table 2.8.1.

In the mid-1960s, two development projects were partially funded through the Land and Water Conservation Fund. Because of this, the Reservation is subject to that program's requirements (NPS 2008).

**Table 2.8.1. Key legal agreements for Blue Hills Reservation.**

Party and Subject of Agreement	Type <sup>a</sup>	Expiration Date <sup>b</sup>
<b>Appalachian Mountain Club</b> Camp Ponkapoag	U	2007
<b>WGBH Educational Foundation</b>	A	2009
<b>City of Quincy</b> Ricciuti Drive athletic fields <i>Agreement may be extended for one or more successive 5-year terms.</i>	M	2012
<b>Ski Blue Hills Management, LLC</b>	P	2012
<b>YMCA of Greater Boston, Inc.</b> Ponkapoag Outdoor Center <i>Agreement may be extended for one or more successive 5-year terms.</i>	U	2012
<b>Blue Hills Observatory Science Center, Inc.</b>	S	2013
<b>Michael B. O'Toole, Jr., LLC.</b> Shea Rink	P	2015
<b>Jenna Iantosca dba Jenna's Place</b> Food concession at Houghton's Pond.	P	2017
<b>Massachusetts Department of State Police</b>	H	2017
<b>Mass Audubon</b> Blue Hills Trailside Museum.	U	2018
<b>Brookwood Community Farm</b> <i>Agreement may be extended for one or more successive 5-year terms.</i>	S	2018
<b>New Cingular Wireless PCS</b>	H	2019
<b>Mini Fenway Park, Inc.</b> <i>Amended in 2006 for Kids Replica Ball Park, Inc.</i>	L	2024
<b>Town of Canton - Metropolis Rink</b>	L	2030
<b>Town of Milton - Ulin Rink<sup>c</sup></b>	L	2037
<b>Town of Milton</b> Hemenway Pond care, custody, and control.	C	2065
<b>Town of Milton</b> Pine Tree Brook care, custody, and control. 42.7 acres off Unquity Rd.	C	2068
<b>Town of Milton</b> Pine Tree Brook care, custody, and control. 5.14 acres off Randolph Ave.	C	2068
<b>Hart Family Limited Partnership</b>	M	N/A
<b>Massachusetts Army National Guard</b>	P	N/A
<b>Ridge Arena</b>	P	N/A

a. Agreement types include: C = Care, Custody, and Control agreement; H = Highground special use permit; J = Joint Management Agreement; L = Lease; M = Management agreement; P = Permit; S = Special Use Permit; U=Memorandum of Understanding.

b. Year that agreement was signed.

c. A 10-year permit is being developed, but has not been finalized as of this writing.

Key management and guidance documents are identified in Table 2.8.2.

**Table 2.8.2. Key management and guidance documents for Blue Hills Reservation.**

Author and Document	Year
<b>ENSR International</b>	2002
Fowl Meadow and Ponkapoag Bog ACEC: Area of Critical Environmental Concern resource management plan.	
<b>Baystate Environmental Consultants, Inc.</b>	2006
Watershed management plan: Blue Hills Pond, Milton.	
<b>GZA GeoEnvironmental, Inc.</b>	2006
Emergency Action Plan, Ponkapoag Pond Dam Canton, MA 03107. November 2006.	
<b>Massachusetts Natural Heritage and Endangered Species Program.</b>	2007
Biodiversity of the Blue Hills Reservation.	
<b>Bowles, I. A.</b>	2009
Certificate of the Secretary of Energy and Environmental Affairs on the FEIR. Project name: Proposed Article 97 land swap.	
<b>Echandi, A.</b>	2009a
Great Blue Hill and Little Blue Hill, upland woodland management unit, 138 to Five-corners path (excluding Blue Hills ski slope) and 138 to Green Street (Little Blue) rare and endangered species management plan.	
<b>Echandi, A.</b>	2009b
Meadow Habitat Management Plan.	
<b>GZA GeoEnvironmental, Inc.</b>	2009b
Operations and Maintenance Plan: Ponkapoag Pond Dam, Canton, MA 03107.	
<b>Wagner, L.</b>	2009
Habitat Management Plan for the Norman Smith Environmental Education Center, Chickatawbut Hill.	
<b>Massachusetts Water Resources Authority</b>	2009
MWRA Emergency Action Plan for the Blue Hills Reservoir.	
<b>AECOM.</b>	2010
Granite Rail Quarry wetland restoration and invasive species management plan.	
<b>Department of Conservation and Recreation</b>	2011a
Resource Management Plan: Blue Hills Planning Unit.	
<b>Department of Conservation and Recreation</b>	2011b
Houghton's Pond ball fields renovation Master Plan. Blue Hills Reservation - Milton, MA.	
[Note: includes a maintenance plan in Appendix A.]	
<b>GEI Consultants, Inc.</b>	2011
Draft Standing Operating Procedures: Blue Hills Reservoir Dam, Quincy, Massachusetts.	
<b>DCR and MassWildlife</b>	2015
Blue Hills State Reservation (sic): Deer management plan.	

A comprehensive fire management plan, which also includes Fowl Meadow, is currently being prepared; it is anticipated to be completed in 2017.

Because Ponkapoag Golf Course is administered as part of DCR's Boston Region, and not as part of the Blue Hills Complex, management and guidance documents specific to that facility are not included in this RMP.

### Annual Maintenance

Ongoing management practices typically follow a regular schedule. Common activities, and the desired frequency with which they occur, are identified in Tables 2.8.3 and 2.8.4. The former indicates maintenance activities throughout the Reservation, with the exception of internal parkways; the latter indicates maintenance activities for internal parkways.

**Table 2.8.3. Annual cycle of management activities at Blue Hills Reservation.**

Activity	Spring <sup>a</sup>	Summer <sup>a</sup>	Fall <sup>a</sup>	Winter <sup>a</sup>
Bathroom - Open for season	A	N/A	N/A	N/A
Bathroom - Winterize	N/A	N/A	A	N/A
Cleaning-Bathroom(s) <sup>b</sup>	E1	E1	E1	N/A
	AN	AN	AN	AN
Cleaning - Catch basin, drains/culverts	A	A	A	A
Cleaning - Walkways	AN	AN	AN	N/A
Litter removal -Recreation areas <sup>c</sup>	AN	E7	AN	AN
	AN	E14	AN	AN
	E90	E90	E90	E90
Litter removal - Trails	AN	AN	AN	AN
Maintenance - Picnic sites, fences, etc.	AN	AN	AN	N/A
Mowing and trimming	AN	E14	AN	N/A
Playground inspection	E7	E7	E7	N/A
Pruning - Trees and shrubs	AN	AN	AN	AN
Sanitizing, beach	N/A	E14	N/A	N/A
Sweeping - Street	E45	E45	E45	N/A
Trash - Empty - Barrels	AN	E7	AN	N/A
Trash - Empty -	E1	E1	E1	N/A
Bathroom <sup>b</sup>	AN	AN	AN	AN

a. Frequency codes are: A = Annually; AN = As needed; D = Daily, # times; E = Every # days; N/A = Not applicable.

b. Reported for Houghton's Pond Recreation Area (top row) and the Reservation Headquarters (bottom row).

c. Reported for: Houghton's Pond Recreation Area (top row); all other portions of the Reservation excluding Indian Line Farm (middle row); and Indian Line Farm (bottom row).

**Table 2.8.4. Annual cycle of management activities on Blue Hills Reservation's internal parkways.**

Activity	Spring <sup>a</sup>	Summer <sup>a</sup>	Fall <sup>a</sup>	Winter <sup>a</sup>
Catch basin cleaning	A	A	A	A
Litter removal-Recreation areas	AN	E14	AN	AN
Mowing and trimming	AN	E14	AN	N/A
Pruning – Trees and shrubs	AN	AN	AN	AN
Sweeping, streets	E45	E45	E45	N/A
Trash - Empty - Barrels	AN	E7	AN	N/A

a. Frequency codes are: A = Annually; AN = As needed; D = Daily, # times; E = Every # days; N/A = Not applicable.

## Natural Resources

### Water Resources

**Water Resources.** The Reservation's two largest ponds, Houghton's and Ponkapoag, are designated Great Ponds, and subject to the Massachusetts Public Waterfront Act (Chapter 91) and associated regulations (310 CMR 9.00). Because they are Great Ponds, the land beneath the waters is subject to regulation by the Massachusetts Department of Environmental Protection (DEP 2003).

The DCR is responsible for the operation and maintenance of the Blue Hills Reservoir. The reservoir is designed to be "self operating during a wide range of flows and reservoir levels, including under flood conditions" (GEI 2011). However, normal inspections, maintenance, and reporting are required. Standard Operating Procedures developed specifically for the dam identify minimum inspection and maintenance items, and their frequencies of occurrence (see Table 2.1 in GEI 2011). Public and regulator notification procedures, in the event of an impending dam failure, are specified in an Emergency Action Plan (MWRA 2009).

Water levels at Ponkapoag Pond are regulated to protect rare species habitat and priority natural communities. The desired water conditions are:

- Maximum water surface elevation of 151.78 feet
- Minimum water surface elevation of 149.78 feet

- Maximum drawdown rate of 1.5 inches/week (summer)

These conditions are achieved by:

- Removing all two feet of stop logs at the Controlled Discharge Chamber on June 1
- Replacing all two feet of stop logs at the Controlled Discharge Chamber on September 15

Regulation of water conditions is performed by Ponkapoag Golf Course personnel, in accordance with the dam's operations and maintenance plan (GZA 2009b).

### Rare Species

Three documents provided guidance on managing the Reservation's rare species. In 2007, at DCR's request, the NHESP issued *Biodiversity of the Blue Hills*; a comprehensive report on the Reservation's rare species (NHESP 2007). It divided the Reservation into following three management units, and offered specific recommendations for their management.

- Rare Snake Habitat Management Unit
- Upland Woodland Management Unit
- Ponkapoag Pond and Bog Management Unit

This report remains the primary guidance document for rare species management at the Blue Hills.

Subsequent to the NHESP (2007) report, two Habitat Management Plans (HMPs) were developed for portions of the Reservation. The first (Echandi 2009a) specifies landscaping, road maintenance, trail maintenance, invasive species monitoring and control, and rare and endangered species monitoring practices to be used in the Little Blue Hill and Great Blue Hill sections of the Reservation in order to comply with MESA. The second HMP (Wagner 2009) addresses vegetation management at the Norman Smith Environmental Education Center at Chickatawbut Hill. Both HMPs were approved in 2009 (French 2009a, 2009b); they have not been updated. Trail maintenance practices identified in Echandi (2009a) have been superseded by protocols in NHESP (2015a). See *Trails*, below, for additional information.

### Invasive Species

Invasive plant monitoring and management takes place at the summit of Great Blue Hill and at the former site of the Granite Rail Quarry. Louise's swallowwort has been periodically managed around the Eliot Pavilion and weather observatory in accordance with an approved HMP (Echandi 2009a). Invasive species at the former quarry are monitored and managed in accordance with terms of the Post Closure Use Plan (AECOM 2014). There is no systematic monitoring or control elsewhere on the Reservation.

In the recent past (i.e., ca. 2009), the herbicide Garlon was used to control Louise's swallowwort at the summit of Great Blue Hill, Brookwood Farm, Indian Line Farm, Ulin Rink, and the Norman Smith environmental Education Center (Echandi 2009c).

### Vegetation

There are no Continuing Forestry Inventory (CFI) plots. Vegetation monitoring plots established in 1985 (Eck 1985) were not revisited. In 2015, 400 new vegetation monitoring plots were established for the purpose of monitoring deer browse. In addition, vegetation within and outside two 33 x 33 foot deer exclosures are monitored annually to document the extent of browse. These exclosures are located in the Great Blue Hill and Ponkapoag sections.

Specimen hemlocks in the Great Blue Hill, Reservation Headquarters, and Ponkapoag sections are treated once every two years with a basal bark spray combined with injection of a systemic pesticide. These treatments are performed by Forest Health Program personnel who are Licensed Pesticide Applicators.

The Reservation's two existing HMPs both address vegetation management. See **Rare Species**, above, for additional information.

Some partners manage vegetation and erosion at their facilities. Ski Blue Hills, LLC is responsible for mowing woody vegetation and controlling erosion on ski slopes. The AMC and YMCA are responsible for controlling erosion on trails in their camps at Ponkapoag; prior approval by DCR is required. DCR is responsible for removing trees, shrubs, and limbs at the AMC camp. Refer to the original agreements for specific information.

A maintenance plan for the renovated Houghton's Pond ball fields is included as Appendix A of the Houghton's Pond Ball Fields Master Plan (DCR 2011b). It includes guidance on fertilization, irrigation, mowing, overseeding, and aeration; and the maintenance of "skinned areas" (i.e., areas with exposed soil, such as the baselines), backstops, and team areas.

Vegetation around the Norman Smith Environmental Education Center is maintained by Mass Audubon in accordance with the terms of an approved HMP. (Wagner 2009).

Managing vegetative growth on the Blue Hills Reservoir Dam is the responsibility of DCR. It is performed by a contractor under the direction of the Office of Dam Safety.

Vegetation and erosion at the site of the former Granite Rail Quarry is to be managed in accordance with Table 2.2, *Plant and Erosion Maintenance Checklist*, in AECOM (2014). Monitoring of this site must continue for 30 years (i.e., 2015–2044; AECOM 2014).

Vegetation management at both the YMCA and AMC camps at Ponkapoag require DCR review and approval. See applicable MOUs for details.

### Wildlife

In 2013 the Reservation's deer population was estimated through the use of distance sampling (MassWildlife and DCR 2013). This survey was conducted in response to concerns about observed deer browse on state listed plants, lack of forest regeneration, stakeholder concerns, and a recommendation in the previous RMP (DCR 2011a). The survey calculated an estimated density of 67 deer per square mile; well in excess of MassWildlife's goal of six to eight deer per square mile of forest (MassWildlife and DCR 2013). Management options were evaluated (DCR and MassWildlife 2015) and presented to the public at a series of meetings in fall 2015. Following these meetings, the DCR Commissioner authorized the first deer hunt in the Reservation's history, in accordance with 302 CMR 12.11(3) ii. A four-day hunt involving 158 permittees resulted in the take of 64 deer. The hunt was managed by the DCR, MassWildlife, and members of the State Police and Environmental Police. A four-day season, for both

shotgun and archery, is scheduled for 2016 (DCR and MassWildlife 2016).



A Mass Wildlife biologist interviews a successful hunter during the 2015 deer hunt. (See Appendix K for photo information.)

MassAudubon is solely responsible for providing for the permanent live animal collection at the Trailside Museum.

Under the terms of the Post Cleanup Use Plan, burrowing vertebrates are to be controlled at the former Granite Rail Quarry (AECOM 2014).

MassWildlife stocks brown, rainbow, and tiger trout in Houghton's Pond for recreational fishing. In 2016, trout were stocked in April and May. MassWildlife stocks eastern brook trout in Pine Tree Brook, off Unquity Road, in April.

### Cultural Resources

Alteration of historic buildings requires review and approval by DCR and the submission of a Project Notification Form to MHC for review. This includes the Blue Hills Meteorological Observatory and the historic chestnut cabins at AMC Camp Ponkapoag. In addition, the alteration of other existing cabins or construction of new cabins at Camp Ponkapoag also requires DCR and MHC review and approval.

Excavation, construction, tilling, or other improvements or construction at Brookwood Farm is prohibited unless approved in writing by the DCR and MHC. Under Massachusetts Law any project that proposes digging or altering the existing landscape must be reviewed and approved by DCR's archaeologist.

### Recreation Resources

DCR's Parks and Recreation Rules prohibit hunting and trapping throughout the Reservation, unless authorized by the Commissioner or specifically authorized by law (302 CMR 12.11(3) ii). In 2015, the Commissioner authorized a special four-day deer hunt. Other hunting, and all trapping, remains prohibited.

The use of watercraft in the Reservation is specifically regulated by DCR's Parks and Recreation Rules (302 CMR 12:00). The launching or use of watercraft is prohibited at Houghton's Pond and the Blue Hills Reservoir. Only cartop boats may be launched or used at Hillside or St. Moritz ponds. Boat use at Ponkapoag Pond is restricted to motorized watercraft with electric motors, not to exceed 10 mph, and car top boats.

Under the terms of their MOU, Mass Audubon is responsible for operating the public toilet facility within the Trailside Museum, as well as the nearby comfort station.

Several site-specific policies are associated with the management of the Houghton's Pond Recreation Area. Three picnic sites (Sites 3, 4, and 5) may be reserved for use by groups of 25 or more; the Blue Hills District Office schedules their use. No reservations are allowed for the Memorial Day weekend, Labor Day weekend, or the week of Independence Day. During these periods use is first-come, first-served. The remaining picnic sites (Sites 1 and 2) are always available for use on a first-come, first-served basis. Use of the athletic fields requires submission of an Athletic Field Scheduling Request Form and associated fee. See <http://www.mass.gov/eea/docs/dcr/recreate/scheduling-request.pdf> for additional information. At a minimum, the food concession is to be open daily from 10:00 a.m. to 5:00 p.m., between Memorial Day and Labor Day. Additional requirements are identified in the current Special Use Permit.

Operation of the William F. Roger Ski Area is detailed in a Permit Agreement by and between the DCR and Ski Blue Hills, LLC. This agreement covers such things as hours of operation, length of ski season, provision of a ski patrol organization, equipment rental, learn to ski and snowboard programs geared toward lower-income residents of

the Commonwealth, and concessions. Readers are directed to that agreement for specific information.

Operations, maintenance, and management of Shea and Ulin skating rinks are to be performed in accordance with the terms of their permits. Specific requirements are provided in the Request for Proposals (RFP) that included these two rinks (RFP# DCR2010318). Included in these requirements are hours of operation, prioritization for scheduling ice time, and the provision of general public skating. Readers are directed to the RFP for specific information.

Use of the YMCA and AMC camps in the Ponkapoag section is guided by their respective Memorandum of Understanding. Both camps are required to provide American Red Cross certified life guards at their waterfronts and to comply with the DCR waterfront safety manual. The AMC is also responsible for performing water sampling during the beach season. Other specific requirements are identified in the Memoranda of Understanding, including the capping of the maximum number of campers and the provision that not less than 25% of summer outdoor youth camp participants at the YMCA are from low-income families. Readers seeking specific information are directed to the original agreements.

## Infrastructure

### Buildings and Structures

In general, the DCR is responsible for maintaining most buildings and structures. Those not maintained by the DCR are privately owned or DCR-owned but operated by a partner or tenant under a lease, permit, or agreement. Privately owned buildings and structures are identified in Tables 2.3.2 and 2.5.1; their maintenance and repair are the responsibility of their owners. The responsibilities of partners and tenants in DCR-owned buildings differ among agreements. The following paragraphs provide brief, generalized overviews of partners' and tenants' management responsibilities for buildings and structures. Readers are advised to consult the most recent versions of legal agreements for full details.

Mass Audubon performs minor preventative maintenance and repairs to its facilities. It is solely responsible for maintaining the observation tower at its environmental education center. The DCR

provides utilities for the trailside Museum and the environmental education center. Due to its proximity to Trailside Museum, Mass Audubon is responsible for opening, closing, and operating the historic comfort station immediately north of the museum. The DCR furnishes janitorial and maintenance supplies.

Ski Blue Hills LLC provides capital improvements to, and replacements of, infrastructure at the ski area. If needed, replacement of the water heater, boiler, and heating system are the responsibility of the DCR. Ski Blue Hills is responsible for utility costs, with the exception of heating fuel and electricity at two buildings.

Blue Hills Observatory Science Center, Inc. performs minor preventative maintenance and repairs to the Blue Hills Meteorological Observatory. Major plumbing and heating repairs are the responsibility of the DCR. Utility costs are also the responsibility of the DCR. See *Cultural Resources*, above, for information on the required review associated with building repair.

Under the terms of its Special Use Permit, Brookwood Community Farm, Inc. has the use of one garage (i.e., tractor shed) bay. They are responsible for all costs of all utilities. The Farm currently has use of all of the garage's bays and obtains some of its electricity from DCR buildings. See *Cultural Resources*, above, for information on the required review associated with tilling the farm's fields.

The Operators of Ulin and Shea rinks are responsible for all interior and exterior repairs and maintenance of the buildings. This includes all capital infrastructure repairs and replacements with the exception of the roof, slab, and compressor, condenser, or cooling tower. The operators are responsible for the costs of all utilities. Rink operators are also responsible for litter removal, grass cutting, snow removal, and other activities associated with maintaining the facilities' grounds.

The YMCA and AMC camps at Ponkapoag Pond differ from the previously discussed facilities in that the buildings are not owned by the DCR. The maintenance, repair, and operation of these buildings are the responsibility of the building's owners. Utility costs and any required regulatory permits associated with utilities (e.g., drinking water well)

are also their responsibility. Any planned work on the YMCA camp's buildings must be submitted to DCR for review and approval. Construction of new buildings at the AMC camp, or modification of the camp's historic chestnut cabins requires DCR and MHC approval. See *Cultural Resources*, above, for information on the required review associated with building repair. Because both camps are located near a wetland resource area and within the Fowl Meadow and Ponkapoag Bog ACEC, construction or major repair may also require additional environmental regulatory review.

The DCR is responsible for the management of all dams in the Reservation, with the exception of Pine Tree Brook Flood Control Dam, which is the property and responsibility of the Town of Milton. Operations and Emergency Access Plans have been prepared for Blue Hills Reservoir Dam and Ponkapoag Dam; they guide their management. (See Table 2.8.2., for citations for these documents.)

### Roads

Snow plowing is the joint responsibility of DCR, MassDOT, and the Reservation's tenants and partners.

The DCR prioritizes its snow response on the basis of public safety needs. Primary roadways, sidewalks, and crosswalks are considered Priority 1 and cleared during the snowstorm. Secondary roadways, sidewalks, and crosswalks are considered Priority 2, and are cleared within 12 hours of the storm's end. Interior park roads and parking lots are considered Priority 3, and are cleared more than 12 hours after a storm. A full description of DCR's storm response may be found at <http://www.mass.gov/eea/agencies/dcr/services-and-assistance/winter-storm-mgmt/>.

Of the Blue Hills roads, sidewalks, and crossings, only one is Priority 1; the sidewalk along Unquity Road between Ulin Rink and Canton Ave. There are no Priority 2 features. All other roads, parking areas, sidewalks, and crosswalks are Priority 3. Some of the park's roads, such as Blue Hill River Road within the Houghton's Pond Recreation Area are not plowed due to the seasonal nature of the recreation. Other roads, such as Acton Path/Ponkapoag Trail are not plowed so that they may be used for winter recreation (e.g. cross-country skiing, snowshoeing).

MassDOT is responsible for snow plowing on the following internal park roads:

- Green Street, Canton
- Blue Hill River Road, Canton
- Hillside Street, Milton
- Blue Hill River Road, Milton
- Unquity Road, Milton
- Chickatawbut Road, Milton and Quincy
- Wampatuck Road, Quincy

The responsibility of the Reservation's partners and tenants to remove snow from roads and parking areas varies in accordance with their permit or agreement. Mass Audubon is responsible for snow removal from the Driveway and walkways at the Trailside Museum, and the road and walkways at its environmental education center. Ski Blue Hills, LLC is responsible for clearing snow from all roads and paths in the ski area. The DCR is responsible for maintaining Summit Road. The YMCA of Greater Boston is responsible for the year-round maintenance of the road to its camp, including snow and ice removal. The AMC is responsible for minor maintenance of the access road to its camp, and the DCR is responsible for its long-term maintenance. The AMC is responsible for limiting use of this road to patrons and/or employees.

### Parking Areas

In general, the DCR is responsible for the year-round management of parking areas. Exceptions are associated with facilities used by DCR's partners. The ski area operators are responsible for removing snow from the north and south Trailside Museum parking lots. DCR will provide heavy equipment to assist, if warranted. Under the terms of their agreement, the ski area may use parking lots at the Route 138 Park and Ride and at Houghton's Pond for additional skier parking. During inclement weather, Ski Blue Hills LLC has access to DCR's Operations Yard in order to obtain sand and salt to be used in and around the ski area's parking lots and walkways. The DCR also provides 55-gallon drums of sand or salt to the ski area for placement near the entrance steps. Mass Audubon is responsible for plowing parking areas at their environmental education center. The YMCA is responsible for maintaining its parking areas on a year-round basis.

In 2016 DCR began working with the Massachusetts State Police, Town of Milton, and residents to address park visitors parking in a residential neighborhood west of Houghton's Pond. As of this writing, this issue is still being resolved.

### Trails

In 2015, the NHESP assessed the potential impacts of trail maintenance activities on rare species for 35,286 trail segments in 255 DCR properties, including the Blue Hills Reservation (NHESP 2015a). Their report identifies, by individual trail segment, specific maintenance practices that require review under MESA. Consulting this report and associated data viewer are the standard first steps for trail maintenance activities.

Trail maintenance and repair activities are performed by Friends members and non-member volunteers working under the supervision of the Friends. DCR rangers collect reports of trees blocking trails and remove these trees on an approximately monthly basis. Blue Hills Trail Watch is currently inactive; they formerly worked with the DCR to educate trail users, perform trail repairs, and report trail problems.

### Kiosks and Signs

DCR Rangers are responsible for updating the content of kiosks and bulletin boards.

### **Interpretation**

Mass Audubon operates the Trailside Museum and Norman Smith Environmental Education Center at Chickatawbut Hill for the purpose of Reservation-related interpretation and displays for the general public. They are solely responsible for staffing, developing and presenting interpretive materials and displays, and care of the permanent live animal collection. Interpretive programming offered by the Blue Hills Observatory and Science Center are developed and offered by the Center's staff. Interpretive programming offered by the Friends is the responsibility of that organization.

## **2.9. RECOMMENDATIONS**

### **Introduction**

This section provides recommendations for the near-and long-term management of the Blue Hills Reservation. Applied Land Stewardship Zoning recommendations provide general guidance for

managing the Blue Hills. Future activities and projects should be checked against the zoning map (Figure 2.3) for consistency. Only high priority management recommendations are included below, they should be addressed as soon as resources become available.

Land Stewardship Zoning and management recommendations contained in the recent RMP for the Blue Hills Planning Unit (DCR 20011) have been incorporated into this plan. The previous plan's Land Stewardship Zoning recommendations were reviewed and serve as the basis for those presented below. All of the previous plan's management recommendations have been included in this document as Appendix I; applicable recommendations not yet implemented are still considered valid. A subset of these recommendations, those meeting current criteria for priority recommendations, is included below. Also included below are new priority recommendations identified during the current planning process.

### **Applied Land Stewardship Zoning (Figure 2.9.1)**

The following Land Stewardship Zoning is recommended. It is based on recommended zoning in the previous RMP (DCR 2011a; Figure 4.2.1), but has been modified to reflect the addition of the Ponkapoag Brook section of the Reservation and to exclude Ponkapoag Golf Course and Town Brook Flood Control Site. (See Section 1 for more information on Town Brook Flood Control Site.)

#### **Zone 1**

The Reservation's most environmentally sensitive areas occur east of Route 28 or are associated with Ponkapoag Pond and Bog. The following sections of Blue Hills Reservation have been designated Zone 1 in order to protect sensitive state-listed species and their habitats in these areas.

- Chickatawbut Hill section; with the exception of currently developed areas as identified in the Zone 3 description, below.
- Quincy Quarries section; south of Ricciuti Drive
- St. Moritz section; with the exception of currently developed areas as identified in the Zone 3 description, below.

*Place holder for Figure 2.9.1*

PUBLIC REVIEW DRAFT

*Place holder for Figure 2.9.1 (back)*

PUBLIC REVIEW DRAFT

- Ponkapoag section; Ponkapoag Bog, the undeveloped shore of Ponkapoag Pond, and associated uplands and wetlands that support state-listed species.

### Zone 2

The following sections of Blue Hills Reservation have been designated Zone 2.

- Little Blue Hill section; with the exception of currently developed areas or an area potentially suitable for future development, as identified in the Zone 3 description, below.
- Hemenway Pond section.
- Great Blue Hill section; most areas, with the exception of currently developed areas as identified in the Zone 3 description, below.
- Brookwood Farm section; most areas, with the exception of currently developed areas as identified in the Zone 3 description, below.
- Houghton's Pond section; Marigold Marsh.
- Unquity Road section; most areas, with the exception of a currently developed area identified in the Zone 3 description, below.
- Buck Hill section.
- Quincy Quarries section; forested hillside north of developed areas and south of Mullin Avenue.
- St. Moritz section; most areas, with the exception of currently developed areas as identified in the Zone 3 description, below.
- Ponkapoag Brook section.
- Ponkapoag section; the following areas:
  - Indian Line Farm, in the absence of any administrative or recreation development.
  - Area north of Ponkapoag Trail and east of the AMC Ponkapoag Camp.
- Ponkapoag East section; most areas, with the exception of currently developed areas as identified in the Zone 3 description, below.
- West Street section; most areas, with the exception of an area identified in the Zone 3 description, below.

### Zone 3

The following portions of the Blue Hills are currently developed or are appropriate for potential

future development; they have been designated Zone 3.

- Little Blue Hill section; the following areas:
  - Route 138 Park and Ride lot.
  - Green Street dressage field.
  - An area between Royall Street and a line 200 feet south of, and parallel to, the Skyline Trail. To allow for the *potential* development of administrative, operations, or athletic facilities. In the absence of development, this area is to be managed as a Zone 2. There are currently no plans to develop this area. Any future proposals will require a full environmental review and public process.
- Great Blue Hill section; the following areas:
  - Blue Hills Trailside Museum.
  - William F. Rogers Ski Area.
  - Blue Hills Meteorological Observatory and Eliot Memorial landscapes.
- Brookwood Farm section; the following areas:
  - Farm buildings and associated areas developed at the time of the 2011 RMP.
  - Henry Saltonstall Howe House and grounds.
- Houghton's Pond section; all areas except Marigold Marsh.
- Reservation Headquarters section.
- Operations Yard section.
- Unquity Road section; the following area:
  - Max Ulin Memorial Skating Rink and its grounds.
- Chickatawbut Hill section; the following areas:
  - Norman Smith Environmental Education Center at Chickatawbut Hill.
  - Chickatawbut Overlook landscape.
  - MWRA covered water storage facility and adjacent dam, dam embankment, spillway, and parking lot.
- Quincy Quarries Section; the following areas:
  - Ricciuti Drive athletic fields.
  - Historic quarry areas north of Ricciuti Drive.
  - Parking lots.

- St. Moritz section; the following areas:
  - Mayor William T. Shea Memorial Rink, its grounds, and the associated basketball court.
  - Sergeant Robert Allen Curry Ball Field and adjacent maintained areas.
  - Daniel Michael Shea Memorial Park.
  - St. Moritz Horseshoe Pitching Club.
- Ponkapoag section; the following areas:
  - Indian Line Farm. In the absence of development, this area is to be managed as a Zone 2. There are currently no plans to develop this area. Any future proposals will require a full environmental review and public process.
  - YMCA Camp Ponkapoag.
  - Fisherman's Beach; parking area only.
  - AMC Ponkapoag Camp.
- Ponkapoag East section; the following areas:
  - Nike Launcher Site.
  - North Randolph Little League ball fields and associated development on High Street, Randolph.
- West Street section; existing parking lot, lawn, and pavement adjacent to the intersection of West Street and old Route 128.
- All other areas legally developed for recreation, administration, or operations purposes as of January 1, 2016; including all exceptions noted above in the descriptions for Zones 1 and 2.

#### Significant Feature Overlay

The following Significant Feature Overlay was developed to protect resources.

- **Historic Resources.** All DCR properties listed in or eligible for listing in the State and National Registers of Historic Places are included in this overlay. Four historic cabins at the AMC Ponkapoag Camp are listed in the National Register, but are not included in this overlay because they are not owned by the DCR. This overlay is the same as presented in the 2011 RMP (DCR 2011).

#### **Management Recommendations**

The previous RMP for the Blue Hills identified 207 recommendations (DCR 2011). Of these, 25 have been fully implemented, three were partially implemented, five are in progress, and 17 are no longer applicable. The remaining 157 recommendations have not been implemented. (See Appendix I for a list of these recommendations.) Of those recommendations partially implemented or not yet implemented, 31 are considered priority under current criteria and are presented in Table 5.9.1. An additional eight priority recommendations were newly identified during the current planning process.

For a recommendation to be considered priority it must address one or more of the following criteria:

- Regulatory compliance or compliance with legal agreements.
- Threats to the health and safety of park visitors and employees.
- The imminent loss of a natural, cultural, or recreation resource.

Additional maintenance and management needs observed during the preparation of this RMP, but not meeting one or more of the above criteria, are not included in this plan.

All recommendations are of equal priority.

**Table 2.9.1. Priority recommendations for Blue Hills Reservation.**

Recommendation	Implementation <sup>a</sup>
Reduce trail user conflicts by: developing and distributing trail etiquette literature; posting trail etiquette “Yield” signs at kiosks, bulletin boards, and key locations along trails; revising future trail maps to include information on trail etiquette; and working with the DCR Mounted Unit and partners to offer training in trail etiquette	R, V
Increase ranger presence on trails to promote enhanced compliance with trail regulations.	B
Work with MassDOT, and other transportation planning entities, to reduce through and commuter traffic in the reservation.	E, P, R, V
Using new traffic count data, conduct an assessment of pedestrian safety.	C, R
Work with the Massachusetts State Police to develop a speed enforcement plan.	E, P, R, V
Install “Share the Road” and bicycle vehicular traffic warning signs on internal park roads and parkways to increase driver awareness of the presence of cyclists.	E, R, V
Advocate that MassDOT install a left-hand turn lane on Route 138 south for vehicles to enter the Trailside Museum south parking lot. Request that MassDOT perform a safety study and warrant analysis for a left-hand turn lane from Route 138 south into the Trailside Museum south parking lot.	R, V
Have a structural engineer inspect the foundation of the ski area’s main lodge and make recommendations for its maintenance, repair, or replacement. <sup>a</sup>	E
[Note: the option to replace the ski lodge has been added to this recommendation.]	
Work with the ski area operator to ensure that all portions of the ski slopes have an “erosion-protective cover of vegetation.”	P, R
Modify signs and striping at the Trailside Museum north and south parking lots to ensure compliance with accessible parking requirements.	C, E
Replace the Great Blue Hill pump house roof’s sheathing and shingles.	S
Work with MassDOT to improve pedestrian safety along Route 138 and request that they install “Trail Crossing” signs and distance plaques at the intersection of Route 28 and the Skyline Trail. <sup>a</sup>	E, R
[Note. This is a combination of three recommendations from the 2011 RMP.]	
Make a portion of Picnic Site 4 accessible by installing accessible grills and picnic tables, and creating a hardened path to nearby accessible parking.	C
Modify signs and striping at the main and Site 5 parking lots to ensure compliance with accessible parking requirements.	C, E
Establish a safe pedestrian connection between Houghton’s Pond and Brookwood Farm by improving the intersection of Hillside Street and Blue Hill River Road in Milton.	C, E, V
Upgrade the Hillside Street crosswalk in front of the Brian T. Broderick Stables.	C, E, P, V
Investigate the potential septic system connection at the Police Station.	C, E
Modify signs and striping at the Ulin Rink parking lot to ensure compliance with accessible parking requirements.	C, E
Complete the mothballing of the Randolph Avenue Stable by ensuring that all openings are properly sealed and there is adequate ventilation.	P, S
Evaluate locations of trails relative to the dens of state-listed snakes and reroute or close trail segments, as necessary, in accordance with <i>Trails Guidelines and Best Practices Manual</i> (DCR 2010a).	P, R, V
[Note: This manual was updated in October 2014; evaluation should be done in accordance with the revised version.]	
Request that MassDOT install “Trail Crossing” signs and distance plaques at the intersection of Route 28 and the Skyline Trail.	R

Recommendation	Implementation <sup>a</sup>
Improve the crosswalk at the Chickatawbut Overlook.	C, E, P, V
Reinstitute seasonal nighttime closings of Chickatawbut Road, east of Route 28, and Wampatuck Road; as recommended by the NHESP (2007).	R
Develop and implement vista clearing protocols for the Chickatawbut Overlook viewshed. This recommendation may be implemented in advance of the VMP.	P, R
Develop and implement vegetation maintenance protocols for the Chickatawbut Observation Tower, Chickatawbut Pavilion, and picnic area. This recommendation may be implemented in advance of the VMP.	P, R
Exclude all non-emergency vehicles, except in exigent situations, and non-utility company motor vehicles from trails in rare snake habitat east of Route 28.	R
[Note: In the 2011 RMP, this recommendation was made three times, once for each of the following sections of the Reservation: Buck Hill, Chickatawbut, and St. Moritz.]	
Plan landscaping, maintenance, and construction to avoid impacts to rare snakes; as recommended by the NHESP (2007).	P, R
Stabilize and mothball the Granite Rail Quarry compressor house	P, S
Modify signs and striping at the Shea Rink parking lot to ensure compliance with accessible parking requirements.	C, E
Install a memorial marker at the Sergeant Robert Allen Curry Ball Field.	R
Work with the AMC Ponkapoag Camp to bring the camp into compliance with State Sanitary Code.	R
Work with the Canton and Randolph Boards of Health, and the Massachusetts Department of Public Health to ensure that Public Health Fish Consumption Advisory signs are posted at Ponkapoag Dam, Fisherman's Beach, AMC Ponkapoag Camp, and the entrance to the Ponkapoag Boardwalk.	R
Promote the regeneration of native forests by decreasing deer populations to the recommended density of 6 to 18 deer/mi <sup>2</sup> of forest, through regulated hunting, in order to reduce deer browse.	B, F, P, R, V
Implement the eight life safety and nine near-term asset protection recommendations for the Blue Hill Meteorological Observatory as identified in DCR and Turowski2 Architecture, Inc. (2015).	C, E, P
Implement the eight life safety recommendations for the Eliot Bridge and Pavilion as identified in DCR and Turowski2 Architecture, Inc. (2015).	C, E, P
[Note: This supersedes the recommendation in the 2011 RMP to "Replace the Great Blue Hill Observation Tower and Eliot Pavilion's roof and repair damaged masonry."]	
Roof and side the Gate Keeper's Cottage at Brookwood Farm so that water does not penetrate the building envelope.	R, S, V
Implement structural repairs to the west wall of the Brian T. Broderick Stables.	C, E, P
Remove flammable (e.g., gasoline) and combustible (e.g., motor oil, two-stroke oil) materials from storage locations in historic buildings; identify alternate storage location(s) that meet all relevant safety codes. Remove power equipment from all historic buildings not intended for this use.	C, P, R
Work with Brookwood Community Farm to ensure consistency with the terms of their Special Use Permit.	R

a. The following codes identify the party or parties responsible for implementing the recommendations: B = Bureau of Ranger Services; C = Contractor; D = Office of Dam Safety; E = Division of Engineering; F = Bureau of Forest Fire Control and Forestry; L = Legal Services; O = Other; P = Bureau of Planning, Design & Resource Protection; R = Regional and district staff; S = Parks Support Operations; U = Universal Access Program; V = Volunteer or partner; and X = Office of External Affairs and Partnerships.