



Interior view of the Falmouth Reforestation Lot. (See Appendix G for photo information.)

## SECTION 14. REFORESTATION LOTS

### 14.1. INTRODUCTION

By the mid-1800s much of Cape Cod had been deforested. Renowned naturalist Henry David Thoreau travelled across the Cape by stage coach and offered the following description of what he saw.

*“The country was, for the most part, bare, or with only a little scrubby wood left on the hills. We noticed in Yarmouth – and, if I do not mistake, Dennis – large tracts where pitch pines were planted four or five years before. ... This, we were told, was the only use to which such tracts could be profitably put.”*

*“That part of Dennis which we saw was an exceedingly barren and desolate country...covered with poverty grass, there was hardly a tree in sight...”* (Thoreau 1908)

More than 300 years of “rapid clearing for settlement and agriculture reduced the extent of woodlands across Cape Cod and altered the composition and structure of remaining woodlands through repeated grazing, burning, harvesting, and other activities” (Motzkin et al. 2002). By the mid-19<sup>th</sup> century, around the time of Thoreau’s visit, only

41% of the region was forested (Motzkin et al. 2002). These remaining woodlands “were frequently and heavily cut for wood products” (Motzkin et al. 2002).

By the early 1900s, efforts were underway to reforest these areas. The Commonwealth acquired a number of properties with the intent of creating commercially viable forests. These were referred to as reforestation lots. There were two types of reforestation lots. The first “is land purchased outright by the State, which it is probable it will hold as a permanent investment, and the second is land which private owners have deeded to the State without cost, for the purpose of having the State Forester plant and care for it for a period not to exceed 10 years...” (Rane 1915). Reforestation of both types of lots largely consisted of planting trees and cutting brush.

Over the years, several reforestation lots were acquired on Cape Cod and Nantucket. Most have returned to private ownership; some were incorporated into Shawme-Crowell and Nantucket State Forest. Only the following five reforestation lots are known to remain in public ownership. (See Figure 1.1 for locations of these lots.)

- **Sandwich Reforestation Lot.** Historically referred to as the Weeks Lot. It is located at 496 Route 6A, near its intersection with Pine Terrace.
- **Falmouth Reforestation Lot.** Historically referred to as the Perry Lot. It is bisected by Fire Tower Road, and is located north of Old Campus Drive.
- **Barnstable State Forest; Route 132 Parcel.** Historically referred to as the Shoot Flying Hill Lot. It is located northwest of the intersection of Routes 132 and 6, behind Barnstable County YMCA. Collectively, this parcel and the Old Stage Road parcel comprise Barnstable State Forest.
- **Barnstable State Forest; Old Stage Road Parcel.** Historically referred to as the Eben Smith Lot. It is located southwest of the intersection of Old Stage and Skunknet roads. Collectively, this parcel and the Route 132 parcel comprise Barnstable State Forest.
- **Brewster State Forest.** This lot borders Sheep Pond to the south and Proprietor's Cartway to the North. The CCRT (Section 9) and Gulls Way, a residential road, pass through this lot.

The physical, political, and regulatory attributes of these lots are summarized below. (Table 14.1.1)

**Associated Properties.** The Sandwich lot, Falmouth lot, and both parcels of Barnstable State Forest are associated with Shawme-Crowell. Brewster State Forest is associated with Nickerson state park.

**Table 14.1.1. Physical, political, and regulatory settings of reforestation lots in the Nickerson Management Complex.**

	Sandwich	Falmouth	Barnstable Route 132	Barnstable Old Stage Road	Brewster
<b>Area (acres)<sup>a</sup>:</b>	20.88	16.59	30.50	18.65	16.13
<b>Perimeter (miles)<sup>a</sup>:</b>	0.97	0.72	1.19	0.97	1.48
<b>Landscape Designation(s)<sup>b</sup>:</b>	Woodland	Parkland	Woodland	Woodland	Woodland
<b>Legislative Districts:</b>					
House	5 <sup>th</sup> Barnstable	Barnstable, Dukes, & Nantucket	1 <sup>st</sup> Barnstable	2 <sup>nd</sup> Barnstable	4 <sup>th</sup> Barnstable
Senate	Plymouth & Barnstable	Plymouth & Barnstable	Cape & Islands	Cape & Islands	Cape & Islands
<b>Regulatory Designations:</b>					
Priority Habitat	Yes	No	No	No	Yes
Old King's Highway Regional Historic District	Yes	No	Yes	No	No
Old Stage Road Residential District	No	No	No	Yes	No

a. Land areas calculated using a Geographic Information System (GIS).

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

## 14.2. NATURAL RESOURCES

### Physical Features

Two reforestation lots, Falmouth and the Route 132 parcel of Barnstable State Forest are located on moraines. Their topography consists of a mixture of hills and depressions. Elevations range from approximately 100–180 feet in Falmouth, to 130–160 feet at the Route 132 parcel.

The topography of the other three reforestation lots is essentially flat. The Old Stage Road parcel gently rises from an elevation of about 30 feet at its northern end to 50 feet at its southern end. Most of the Sandwich lot is approximately 10 feet above sea level. Brewster State Forest is at an average

elevation of approximately 90 feet, but sharply drops approximately 50 feet at its southern end, to meet the shore of Sheep Pond.

### Water Resources

Water resources are absent, or nearly absent, from most reforestation lots. (Table 14.2.1) The Sandwich Reforestation Lot has approximately 400 feet of stream passing through it, the only stream on any of these properties. Both this lot and Brewster State Forest abut water; a salt marsh and pond, respectively. The Sandwich Reforestation Lot's proximity to the salt marsh makes it susceptible to floods and hurricane inundation. (Table 14.2.2)

**Table 14.2.1. Water resources of reforestation lots in the Nickerson Management Complex.**

Water Resource	Sandwich	Falmouth	Barnstable Route 132	Barnstable Old Stage Road	Brewster
<b>Watershed:</b>	Cape Cod	Cape Cod	Cape Cod	Cape Cod	Cape Cod
<b>Aquifer:</b>	Cape Cod	Cape Cod	Cape Cod	Cape Cod	Cape Cod
Lens	Sagamore	Sagamore	Sagamore	Sagamore	Monomoy
<b>Rivers and Streams (miles)</b>	0.08	0.00	0.00	0.00	0.00
<b>Vernal Pools</b>					
Certified (#)	0	0	0	0	0
Potential (#)	0	0	0	0	0
<b>Wetlands (acres)</b>	0.00	0.00	0.00	0.00	0.00
<b>Lakes and Ponds (acres)</b>	0.00	0.00	0.00	0.00	0.00

**Table 14.2.2. Potential impacts of flooding, hurricane inundation, and sea level rise to reforestation lots in the Nickerson Management Complex.**

Type of Impact	Sandwich Acres (%)	Falmouth Acres (%)	Barnstable Route 132 Acres (%)	Barnstable Old Stage Road Acres (%)	Brewster Acres (%)
<b>Flooding:</b>					
100-year Storm	1.56 (7.47)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.10 (0.62)
500-year Storm <sup>a</sup>	1.56 (7.47)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.10 (0.62)
<b>Hurricane Inundation:</b>					
Category 1 Storm	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Category 2 Storm <sup>b</sup>	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Category 3 Storm <sup>b</sup>	0.23 (1.10)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Category 4 Storm <sup>b</sup>	1.39 (6.68)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
<b>Sea Level Rise</b>	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)

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

b. Cumulative value; includes impacts of all lower category storms.

## Rare Species

### State-listed Species

Two state-listed species are known from the reforestation lots. (Table 14.2.3)

**Table 14.2.3. State-listed species of reforestation lots in the Nickerson Management Complex, as identified by the NHESP.**

Species <sup>a, b</sup>	Type <sup>c</sup>	MESA <sup>d</sup>	Reforestation Lot <sup>e</sup>
Eastern box turtle	R	SC	BA-O, BR, FA
Water-willow stem-borer	I	T	SA

- Presented alphabetically, by common name.
- Fact sheets are available at: <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/ mesa-list/list-of-rare-species-in-massachusetts.html>.
- Types of state-listed species include: I = Insect; and R = Reptile.
- Status of species listed under the Massachusetts Endangered Species Act (MESA): E = Endangered, SC = Special Concern; and T = Threatened.
- Reforestation lot codes are: BA-O = Barnstable State Forest – Old Stage Road; BR = Brewster; FA = Falmouth; SA = Sandwich.

### Priority Habitat

Portions of the Sandwich Reforestation Lot (28.91%) and Brewster State Forest (5.32%) have been identified as Priority Habitat; there is no Priority Habitat in the other reforestation lots.

### Vegetation

There have been no comprehensive surveys of the flora of reforestation lots. However, historic plot plans, CFI data, and forest cutting plans provide some information on their vegetation.

Plot plans provide insight into the historical ecology of reforestation lots by identifying non-native species introduced as part of past management practices. A 1923 plan of the Route 132 lot identifies Austrian, pitch, and red pines. An undated plan of the Sandwich Reforestation Lot, believed to date to the 1920s, identifies stands of Austrian, Jack, and Scots pine, and black locust.

The Old Stage Road parcel of Barnstable State Forest has an overstory of red and white pines, and an understory of blueberry, winterberry, red maple, brackenfern, and black, white, and northern red oaks.

## Invasive Species

There have been no formal surveys; species incidentally observed are identified in Table 14.2.4. The fate of the black locust planted in the Sandwich Reforestation Lot in the 1920s is unconfirmed. Given the species' abundance elsewhere on Cape Cod, it is likely persists on that property.

**Table 14.2.4. Known invasive and likely invasive plants of reforestation lots in the Nickerson Management Complex.**

Species <sup>a</sup>	Status <sup>b</sup>	Reforestation Lot <sup>c</sup>
Autumn olive	I	BA
European buckthorn	I	BA-O
Japanese knotweed	I	BA
Oriental bittersweet	I	BA-O, BR, SA
Spotted knapweed	L	BA

- Presented alphabetically, by common name.
- Plants are classified as being either Invasive (I) or Likely Invasive (L) according to MIPAG (2005).
- Reforestation lot codes are: BA = Barnstable – Route 132; BA-O = Barnstable State Forest – Old Stage Road; BR = Brewster; FA = Falmouth; SA = Sandwich.

### Natural Communities

There have been no assessments of natural communities on these properties. In general, those lots previously planted and harvested (e.g., Sandwich, Barnstable, and Brewster) have been modified to the point that they are not natural communities. Exceptions to this include the Falmouth Reforestation Lot and the western side of the Barnstable State Forest parcel along Route 132.

### Forests

All plots are forested; values range from a low of 93.76% at the Barnstable State Forest's Route 132 lot to a high of 100.00% at the Falmouth and Sandwich lots.

Only one reforestation lot, the Old Stage Road parcel of Barnstable State Forest, has an ongoing forest inventory. There are four CFI plots; three are in native forest. Common trees in these plots include pitch pine, black oak, white oak, and sassafras. Common understory and shrub species include teaberry, black huckleberry, sheep laurel, low-bush blueberry, northern arrowwood, and greenbrier. The fourth plot is located in a remnant plantation of non-native Norway spruce; no regeneration is occurring in this plot. In addition to the spruce plantations,



remnant stands of Scots pine and red pine also remain in the forest. Major causes of tree loss observed in CFI plots include borers, winter moth, bark beetles, white pine weevil, and heart rot.

Dead and dying red pine plantations in both Barnstable State Forest lots constitute a fire hazard.

### Wildlife

No formal surveys have been conducted; as a result, there is little information specific to these reforestation lots. An exception to this is information on birds. The web site e-Bird (<http://www.ebird.org>) identifies 58 species recorded in Brewster State Forest and 124 species recorded in the East Sandwich Game Farm, which is adjacent to the Sandwich Reforestation Lot, as of March 2015.

### 14.3. CULTURAL RESOURCES

This section describes the known and potential cultural resource areas, including pre-Contact and post-Contact archaeological resources, and historic buildings, structures, and landscapes. An overview of significant events in the history of the Complex's reforestation lots is presented in Table 14.3.1. Their cultural resources are identified in Table 14.3.2

#### Archaeological Resources

**Sandwich Reforestation Lot.** There are no recorded pre-Contact sites within, adjacent to, or nearby this lot. However, no systematic archaeological surveys have been conducted. This lot has a high archaeological potential.

**Falmouth Reforestation Lot.** There are no recorded pre-Contact sites within, adjacent to, or nearby this lot. However, no systematic archaeological surveys have been conducted. This lot has a high archaeological potential.

**Barnstable State Forest.** Although no pre-Contact sites are recorded in either parcel, archaeological sites in Barnstable date from the Paleo Indian Period through to the Contact Period. Both parcels are near Wequaquet Lake, which is located between the Great Marshes to the north and Nantucket Sound to the south. The many estuarine creeks and ponds in the area have an unusually high archaeological potential. Any slightly elevated terrace or hummock near these resources would have been attractive for habitation purposes. Many pre-Contact sites cluster around these resources elsewhere in Barnstable. A

Contact Period habitation site associated with Wampanoag occupation is located adjacent to, and southwest of, the Old Stage Road parcel. MHC Reports #1664, 2414, 2951, 3253, 2676, and 2969 contain the results of the systematic archaeological surveys conducted in the area within the last 30 years. Barnstable State Forest has a high potential for archaeological resources.

**Brewster State Forest.** Although Brewster State Forest has not been archaeologically surveyed and contains no recorded pre-Contact sites, it has high archaeological potential. The adjacent and nearby ecosystems provided ideal resource bases for Native Americans.

### Historic Resources

Although the five lots included in this chapter do not contain any known or previously identified historic resources, the historic significance of the state's early efforts at forest conservation and the attempt to reverse centuries of deforestation on Cape Cod should be noted in any discussion of the properties. Three of the parcels are located in or adjacent to historic areas, including National Register listed districts as well as Massachusetts Historical Commission inventoried historic areas.

### 14.4. RECREATION RESOURCES

Recreational activities are neither promoted nor discouraged; there is no recreation infrastructure in these properties. Only passive recreation, including walking, running, dog walking, and birding are known to occur. They take place along forest roads and informal trails.

The following recreational activities take place in reforestation lots:

- Dog walking
- Geocaching (Brewster State Forest only; 2 caches as of March 2015)
- Hiking (Falmouth Reforestation Lot)
- Hunting (Falmouth lot and the Route 132 parcel of Barnstable State Forest)
- Nature study
- Walking/Running

**Table 14.3.1. Significant events in the history of reforestation lots in the Nickerson Management Complex.**

Year(s)	Events
1913	Barnstable State Forest's Old Stage Road parcel is acquired.
1917	Perry Lot (Falmouth) and the Route 132 parcel of Barnstable State Forest are acquired.
1918	Brewster State Forest parcels are acquired.
1992	Salvage logging of red and white pine trees damaged by Hurricane Bob takes place at the Sandwich Reforestation Lot (2 acres) and the Old Stage Road parcel of Barnstable State Forest (7 acres).
2007	Dead and dying non-native red pines are removed from a portion of Brewster State Forest, between the CCRT and Gulls Way.

**Table 14.3.2. Cultural resources of reforestation lots in the Nickerson Management Complex.**

Location and Resource	Type <sup>a</sup>	Date <sup>b</sup>	Condition <sup>c</sup>	Integrity <sup>d</sup>	In Use <sup>e</sup>	Utilities <sup>f</sup>	MHC # <sup>g</sup>	Guidance
<b>Sandwich Reforestation Lot</b>								
Old King's Highway Regional Historic District	NRHD	17 <sup>th</sup> –19 <sup>th</sup> c.	-	M	-	-	SDW.R	-
Route 6A East – Scorton Marsh	MHCA	1705–1993	-	M	-	-	SDW.N	-
<b>Barnstable State Forest – Route 132 Parcel</b>								
Old King's Highway Regional Historic District <sup>h</sup>	NRHD	17 <sup>th</sup> –19 <sup>th</sup> c.	-	M	-	-	BRN.O	-
<b>Barnstable State Forest – Old Stage Road Parcel</b>								
Old Stage Road Residential District <sup>h</sup>	MHCA	1750–1850	-	M	-	-	BRN.Z	-

- a. Resource types include the following: AR = Archaeological; BU = Building; LA = Landscape; NRHD = National Register Historic District; MHCA = Massachusetts Historic Commission Area; OB = Object; RD = Residential District; and ST = Structure.
- b. Date of construction provided, when known.
- c. 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.
- d. 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.
- e. Use categories include: N = building is not in use; S = building is used on a seasonal basis; and Y = building is used year-round.
- f. 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.
- g. Massachusetts Historical Commission inventory number.
- h. Reforestation lot abuts, and shares a boundary with, this district.

## 14.5. INFRASTRUCTURE

Infrastructure is largely absent from these properties.

### Property Boundary

The property boundaries are generally indistinct. Site specific information is provided below.

- **Sandwich Reforestation Lot.** Roads define the northern, and much of the western boundary. The remainder of the parcel is contiguous with private lands and MassWildlife property. The parcel's boundaries are not posted.
- **Falmouth Reforestation Lot.** Municipal and private conservation lands border this property on three sides; private lands border the fourth. The parcel's boundaries are not posted.
- **Barnstable State Forest; Route 132 Parcel.** This parcel is largely bounded by private properties; municipal conservation lands border its southwest corner. The boundaries are marked.
- **Barnstable State Forest; Old Stage Road Parcel.** The northern and eastern sides of this property are bound by municipal roads; the other two sides abut private residences. The boundaries are marked. Despite being marked, multiple abutters use this property to dispose of yard waste.
- **Brewster State Forest.** The southern boundary is the shore of Sheep Pond; all other boundaries are indistinct and unmarked. A potential encroachment was observed along Gull Way.

The Town of Brewster's Select Board has expressed interest in acquiring the northern half of Brewster State Forest in order to expand the municipal cemetery.

### Buildings and Structures

There are no buildings. Only one authorized structure, a cable anchor system for a 387 foot tall lattice communications tower, is known to occur. This anchor is located on the western boundary of the Route 132 parcel of Barnstable State Forest. (Table 14.5.1) Unapproved appurtenances associated with an adjacent residence, including a mailbox and driveway lights, appear to be located on Brewster State Forest.



This cable anchor system is located on the Route 132 parcel of Barnstable State Forest. The commercial radio tower, located off DCR property, is visible at the back of the photo. (See Appendix G for photo information.)

**Table 14.5.1. Non-historic buildings and structures of reforestation lots in the Nickerson Complex.**

Location and Infrastructure	Date <sup>a</sup>	Condition <sup>b</sup>	In Use <sup>c</sup>	Utilities <sup>d</sup>
<b>Barnstable State Forest – Route 132</b>				
Concrete pad and anchor <sup>e</sup>	1997	2	-	E
– For tower located at 749 Oak Street				

a. Date of construction, if known.

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. Use categories include: N = building is not in use; S = building is used on a seasonal basis; and Y = building is used year-round.

d. 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.

e. Infrastructure located on DCR property, but not owned or controlled by the DCR. Its condition is not assessed.

## Roads

Only two reforestation lots have internal roads. The Sandwich lot has a maintained forest road while the Route 132 parcel of Barnstable State Forest is overgrown. The former is accessible from Route 6A and the latter is only accessible from adjacent private property. Both forest roads are classified as trails; their extent and conditions are identified in Table 14.5.2.



Road through Sandwich reforestation lot. (See Appendix G for photo information.)

Municipal dirt roads pass through both the Falmouth Reforestation Lot and Brewster State Forest.

## Parking

There are no parking lots. Roadside parking is available for the Sandwich and Falmouth lots; parking is unavailable at either Barnstable State Forest parcel and at Brewster State Forest.

## Trails

There are no formal trail systems within most of these lots. However, the Cape Cod Rail Trail passes through Brewster State Forest, and trails from adjoining conservation areas pass through the northwest corner of the Falmouth Reforestation Lot. The Sandwich Reforestation Lot and both parcels of Barnstable State Forest have trails, but they are not part of a designed system of recreational trails.

The condition and extent of trails in reforestation lots in the Nickerson Management Complex are summarized in Table 14.5.2.

## Kiosks and Signs

There are no kiosks or identifying signs. The boundary of the Route 132 parcel of Barnstable State Forest has been posted.

## Iron Ranger

There is no iron ranger.

## Memorials and Markers

There are no known memorials or markers.

**Table 14.5.2. Condition and length of official trails at reforestation lots in the Nickerson Management Complex.**

Trail Condition	Sandwich (Miles)	Falmouth (Miles)	Barnstable Route 132 (Miles)	Barnstable Old Stage Road (Miles)	Brewster (Miles)
<b>Good</b>	0.44	0.08	0.31	0.34	0.33
<b>Fair</b>	0.00	0.00	0.14	0.00	0.02
<b>Poor</b>	0.00	0.00	0.00	0.00	0.00
<b>Total for Lot</b>	0.44	0.08	0.45	0.34	0.35



## 14.6. INTERPRETATION

No interpretive programming takes place at these reforestation lots.

## 14.7. MANAGEMENT RESOURCES

### Staffing

#### DCR Personnel

Reforestation lots in Sandwich, Falmouth, and Barnstable are managed by staff from Shawme-Crowell. Brewster State Forest is managed by Nickerson staff. Forestry activities on these parcels, and all other properties in the Complex, are managed by the Regional Forester, who is based at Myles Standish State Forest in Carver.

#### Partnerships and Volunteers

There are no DCR friends groups or volunteer activities.

### Public Safety

Fire, police, and other public safety and emergency services are provided by municipal departments in the communities in which the reforestation lots occur.

### Funding

#### Conservation Trust Fund

There are no Conservation Trust Funds for these properties.

#### Retained Revenue

These reforestation lots do not currently generate revenue. Should harvesting occur, all funds generated are retained revenue.

#### Other Revenues

In the past, the DCR has received an annual payment for the presence of a commercial antenna cable anchor in the Route 132 parcel of Barnstable State Forest. A current permit for the location of this structure within the forest was not located during the preparation of this RMP.

## 14.8. MANAGEMENT PRACTICES

Management of DCR properties is guided by a variety of regulations, policies, BMPs, legal agreements, and institutional knowledge. This section describes those practices unique to the management of reforestation lots. Legal agreements unique to these properties are presented in Table 14.8.1.

**Table 14.8.1. Key legal agreements for reforestation lots in the Nickerson Management Complex.**

Party and Subject of Agreement	Type <sup>a</sup>	Expiration Date <sup>b</sup>
<b>AirComm of Avon L.L.C.</b> Shawme-Crowell State Forest, Oak Street Parcel, Barnstable, Massachusetts	S	2002

- Agreement types include: A=Memorandum of Agreement; E=Easement; L=Lease; R = Recreation Permit; S = Special Use Permit; and U=Memorandum of Understanding.
- Year that agreement expires. Permanent agreements are indicated by an expiration date of "None."

Key management and guidance documents are identified in Table 14.8.2. Only forestry-related documents are available for these properties.

**Table 14.8.2. Key management and guidance documents for reforestation lots in the Nickerson Management Complex**

Author and Document	Year
<b>Mason, A.</b> Notice of Intent/Forest Cutting Plan. Town: Sandwich, Barnstable. Road: Various areas. <i>Note: This plan includes portions of the Sandwich reforestation lot, Barnstable State Forest – Old Stage Road parcel, and Shawme-Crowell State Forest.</i>	1996
<b>Gannet and Fleming, Inc.</b> Environmental Audit Report: Falmouth State Forest (sic), Falmouth, Massachusetts. <i>Note: This audit covers Falmouth municipal property, and not the Falmouth reforestation lot.</i>	1998 <sup>k</sup>
<b>Gannet and Fleming, Inc.</b> Environmental Audit Report: Sandwich State Forest lands, Sandwich, Massachusetts. <i>Note: This audit covers several privately-owned parcels and not the Sandwich reforestation lot, as the document title suggests.</i>	1998 <sup>l</sup>
<b>Gannet and Fleming, Inc.</b> Environmental Audit Report: Sheep Pond, Brewster, Massachusetts. <i>Note: This audit covers only the pond itself, and not the adjacent Brewster State Forest.</i>	1998 <sup>m</sup>
<b>Rassman, J.</b> Forest Cutting Plan. Town: Brewster. Road: Flax Pond/Fisherman's Landing. <i>Note: This plan also includes Brewster State Forest.</i>	2006 <sup>a</sup>
<b>Gregory, P.</b> Emergency Forest Management Proposal. Name: Barnstable red pine salvage.	2013

### Annual Maintenance

There are no annual maintenance schedules for these properties. With the exception of periodic forest monitoring and harvesting, these lots are not managed.

### Natural Resources

#### Water Resources

There are no activities unique to these properties.

#### Rare Species

There are no activities unique to these properties.

### Invasive Species

There are no monitoring or management activities.

### Vegetation

The primary management activity at reforestation lots is forest management. Recent activities have focused on collecting CFI data and the removal of dead and dying red pine. In 2006, salvage logging was used to remove such pines from Brewster State Forest. A similar harvest has been proposed for the Old Stage Road parcel of Barnstable State Forest (Gregory 2013). Due to low market value and long distance to markets, the operation will require funding.

No fertilizers are used at any of these reforestation lots.

### Cultural Resources

There are no management activities unique to these properties.

### Recreation Resources

There are no recreation resources to manage.

### Infrastructure

Given the general lack of infrastructure at these properties, there are no unique management activities.

#### Buildings

There are no buildings to maintain.

#### Roads

The interior park road at the Sandwich Reforestation Lot is maintained by Shawme-Crowell personnel on an as needed basis.

Fire Tower Road is maintained by the Town of Falmouth.

#### Parking Areas

There are no parking areas to maintain.

#### Trails

The section of CCRT in Brewster State Forest is maintained by Nickerson state park staff. Municipal trails within the Falmouth Reforestation Lot are maintained by volunteers from The 300 Committee,

Falmouth's land trust. There are no other formal trails to maintain.

#### Kiosks and Signs

There are no kiosks to maintain.

### 14.9. RECOMMENDATIONS

#### Introduction

This section provides recommendations for the near- and long-term management of reforestation lots within the Nickerson Management Complex. Applied Land Stewardship Zoning recommendations provide general guidance for managing these lots. Future activities and projects should be checked against the zoning map for consistency. Management recommendations for these lots are all high-priority, and should be addressed as soon as resources become available.

#### Applied Land Stewardship Zoning

The following Land Stewardship Zoning is recommended for the reforestation lots. Because all portions of all lots are recommended for inclusion in a single zone, there is no zoning map for this property.

#### Zone 1

- No portions of the reforestation lots have been designated Zone 1.

#### Zone 2

- All portions of all reforestation lots have been designated Zone 2.

#### Zone 3

- No portions of the reforestation lots have been designated Zone 3.

#### Significant Feature Overlay

There are no Significant Feature Overlays.

#### Management Recommendations

Three priority management recommendations were developed for reforestation lots within the Nickerson Management Complex. (Table 14.9.1) 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.

The following recommendations are of equal priority.

**Table 14.9.1. Priority recommendations for reforestation lots in the Nickerson Management Complex.**

Recommendation	Implementation <sup>a</sup>
Remove remnant non-native conifer plantations from both Barnstable State Forest lots to promote native vegetation and to decrease fire risk to the forest and abutting properties.	F, R
Investigate potential encroachment along Gull Way and resolve with abutters, if warranted.	L, R
Conduct an expanded file review to determine if a current permit exists for the communications tower anchor in Barnstable State Forest.	L

a. The following codes identify the party or parties responsible for implementing the recommendations: B = Bureau of Ranger Services; C = Contractor; 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; U = Universal Access Program; V = Volunteer or partner; and X = Office of External Affairs and Partnerships.

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