

***Massachusetts Department of Conservation and Recreation***  
***Division of Water Supply Protection, Office of Watershed Management***  
***Forest Management Project Summary***

**Project Title:** Fairview Hill Barrens Restoration

**DWSP Harvest Permit Number:** 3175

**DWSP Proposal ID:** NS-23-20-BFA

**DCR Forest Cutting Plan File Number:** 204-42943-25

**Site Information**

**Watershed:** Quabbin

**Town(s):** New Salem

**Acres:** 30.0

**Nearest Road:** Regulating Dam Road

**Natural Heritage Atlas overlap?** yes

**Public Drinking Water Supply Watershed?** yes

**Forest Types:** white pine, white pine-hardwood, oak-hardwood, mixed oak

**ACEC?** no

**Soils:** Canton fine sandy loam, 3 to 8% slopes, well drained thick; Deerfield loamy sand, 0 to 8% slopes, moderately well drained; Hinkley sandy loam, 3 to 15% slopes, excessively drained.

**Wetland Resources:** An intermittent stream flows north to south from within harvest area to the Quabbin Reservoir, which is adjacent to the harvest to the west.

**Vernal Pools:** none

**Harvest Information**

Harvest Start Date: TBD

Harvest End Date: on or before December 14, 2026

Number of Wetland Crossings: none

Number of Stream Crossings: none

**Best Management Practices**

Stream Crossing: n/a

Filter Strips: variable width based on slope for all water features

Wetland Crossings: n/a

Harvesting in Wetlands: n/a

**DWSP Forester supervising this harvest**

Name: Helen Johnson

Forester License #: 383

Phone #: (617) 733-2937

Email: [Helen.Johnson@mass.gov](mailto:Helen.Johnson@mass.gov)

# NARRATIVE

## Site Selection

Lot 3175 is located between Fairview Hill and the Quabbin Reservoir, adjacent to Quabbin Fishing Area 2. This area has been identified as a pitch pine barrens based on vegetation, soils and surficial geology, and was designated as a Barrens Focus Area (BFA) in the 2017 DCR-DWSP Land Management Plan.

Barrens are globally uncommon ecosystems that support a wide variety of rare and endangered wildlife. Nearly half of the terrestrial plants and animals protected under the Massachusetts Endangered Species Act depend on barrens communities. Most barrens in Massachusetts are found on sandy glacial outwash soils near the coast, in Plymouth County and on Cape Cod and the islands. In contrast the Fairview Hill Barrens, like Gays Hill Barrens across Route 122 to the north, is a rare instance of an inland barrens, which is even more uncommon than coastal barrens. Not surprisingly, the few inland barrens in Massachusetts support similarly rare suites of species, making them hot spots for biodiversity.

All barrens are disturbance-dependent, pyrophytic (“fire-loving”) ecosystems that need periodic fires and canopy disruptions to maintain their integrity. In the absence of such disturbances, they become overrun by non-barrens species such as white pine and red maple, which crowd out the slower-growing barrens species in a process known as mesification. Restoration begins with harvesting to remove those encroaching species, followed by re-introduction of periodic low-intensity fire to prevent future encroachment.

Accordingly, the primary objective of this harvest is to start the barrens habitat restoration process by removing white pine, red maple, and other species associated with mesification, and retaining the majority of pitch pines and oaks.

The objective of this harvest was further refined and became more urgent after the 2022 detection in Massachusetts of southern pine beetle (SPB). This voracious invasive insect causes widespread, rapid mortality of pitch pine, an essential keystone species in barrens ecosystems. As a result, SPB is a threat to this entire habitat type and to the full range of biodiversity that it supports.

Southern pine beetle is native to the southeastern U.S., but has been migrating northward due to climate change. As of 2024 it had killed tens of thousands of pitch pines on Long Island, and had been found in numerous other locations in New York and New England, even as far north as Maine. In Massachusetts, SPB has caused outbreaks on Martha's Vineyard and Nantucket, and has been found as nearby as the Montague Sand Plains.

In response to the proximity of southern pine beetle, the objectives of this harvest were adjusted slightly by adding the removal of declining pitch pines, which attract SPB. This will also increase the vigor of the remaining pitch pines so that they're better able to mount a strong defense if attacked. In addition, the overall reduction of stand density as a result of this harvest will increase intra-canopy air flow, causing dissipation of SPB pheromones, thus making it harder for the beetles to find this site. Taken together, these measures are the best known protection against southern pine beetle.

## **General Description/Forest Composition/History**

The forest in this area is typical of a barrens in the process of mesification, i.e. loss of integrity due to being overrun by non-barrens “generalists” (species that can thrive in many different environments, as opposed to the barrens “specialists”). Pitch pine, a keystone barrens species, and multiple species of oaks are still common in much of this area, but white pine, a generalist, is much more common, more vigorous, and dominant among seedlings as well as mature trees. If left to develop without intervention, the white pine will shade out the pitch pine and oaks, and this barrens habitat and all of its biodiversity will be lost.

Less common tree species on this site include red maple, black birch, black cherry, and occasional aspen. Ground cover includes clubmoss, wintergreen, and scattered patches of low bush blueberries. Two harvests have been completed in this area by MDC/DCR: 7.7 acres of thinning in 1985, mostly to the north of the DCR access road, and 2 acres of single tree selection in 2001.

## **Silvicultural Objectives**

As noted above, the primary goals for this harvest are barrens habitat restoration, and deterrence of southern pine beetle. Barrens restoration is being accomplished through the protection and retention of all healthy pitch pine and oaks, and the removal of all other tree species, including white pine, red maple, and other non-oak hardwoods. In most cases this alone would reduce basal area to less than 80 ft<sup>2</sup>/acre, the recommended maximum for southern pine beetle deterrence. In locations where high pitch pine stocking results in higher basal area, the most unhealthy and least vigorous pitch pines and oaks will be removed in order to reach the target of 80 ft<sup>2</sup>/acre. The overall result will be a patchy forest, with some areas of vigorous, moderate density pitch pines and oaks, and others much more open, providing space for regeneration of both herbaceous and woody barrens-adapted species. Variable width filter strips will be maintained along the Quabbin Reservoir and interior wetlands, in order to prevent soil compaction, erosion and sedimentation, and to maintain soil stability and nutrient uptake.

## **Cultural Resources**

There are no known cultural features except for stone walls near the south harvest boundary, which will be avoided and protected.

## **Rare or Endangered Species**

The entire lot is classified as priority habitat for whip-poor-will, a barrens species that will benefit from the low-density forest structure after this harvest. In addition, the harvest overlaps protected habitat for loons and hog-nosed snakes, both of which will be protected by restricting operations to November 1 to April 14, as required by NHESP. This corresponds with DWSP’s intention to conduct the harvest when the fishing area is closed, from the third Saturday in October to the third Saturday in April, for the safety of visitors and staff.

# Forest Cutting Plan

and Notice of Intent under M.G.L.  
Chapter 132 – The Forest Cutting  
Practices Act, 304 CMR 11.00  
(Effective Date: 3/15/16)

## For DCR Use Only:

File Number 20442943-25 Case No. -  
Date Rec'd 8/29/24 Nat. Hert. yes  
Earliest Start 9/16/24 Pub. Dr. Wat. yes  
River Basin Chicapee ACEC No  
Gen. Obj. LF

Site Information

### Location

Town New Salem QUABBIN LOT 3175  
Road Regulating Dam Road  
Acres 30 Proposed Start Date \_\_\_\_\_  
Vol. MBF 41.5 Vol. Cds. 131 Vol. Tons 247

### Plan Preparer

Name Helen Johnson  
Address DCR-DWSP, Quabbin Section  
485 Ware Road  
Town, State, Zip Belchertown, MA 01007  
Phone (617) 733-2937  
Type of Preparer LF  
\*Mass. Forester License # 383  
\*Required for land under Ch61, Ch61A or Forest Stewardship

### Landowner

Name DCR-DWSP Quabbin Section, ATTN: Forestry  
Mailing Address 485 Ware Road  
Town, State, Zip Belchertown, MA 01007  
Phone (413) 213-7903  
Ch61 ☐ 61A ☐ 61B ☐ Stew ☐ \*Case # \_\_\_\_\_  
FSC ☐ CR ☐ CR Holder

### Licensed Timber Harvester\*\*

Name \_\_\_\_\_  
Address \_\_\_\_\_  
Town, State, Zip \_\_\_\_\_  
Phone \_\_\_\_\_  
Mass. Lic. Harvester # \_\_\_\_\_  
\*\*This information may be supplied after the plan is approved, but before work begins.

Best Management Practices

### Stream Crossings

Indicate location on map	SC-1	SC-2	SC-3	SC-4
Type of Crossing				
Existing Structure				
Type of Bottom				
Bank Height (ft)				
Stabilization				

### Wetland Crossings

Indicate location on map	WC-1	WC-2	WC-3	WC-4
Length of Crossing				
Mitigation				
Stabilization				

### Filter Strips

Indicate location on map	FS-1	FS-2	FS-3	FS-4
Width (50', 100', or VA)	VA	VA		

### Harvesting in Wetlands

Indicate location on map	HW-1	HW-2	HW-3	HW-4
Forest Type (see pg 2)				
Acres to be Harvested				
Resid. Basal Area (>50%)				

### Service Forester Comments

★ Heritage Timbers Restriction  
See Attached - DR  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Codes

Type of Preparer	Type of Crossing	Stabilization	Mitigation	Type of Bottom
LF Mass. Lic. For.	CU Culvert	SE Seed	FR Frozen	LE Ledge
TH Lic. Tim. Har	BR Bridge	MU Mulch	DR Dry	ST Stony
TB Timber Buyer	FO Ford	CO Corduroy	OT Other	MU Mud
LO Landowner	PO Poled	ST Stone		GR Gravel
OT Other	OT Other	HB Hay Bales		OT Other
		OT Other		

Note:  
Applicant must provide DCR with all relevant information before plan may be approved and cutting may begin. Some forestry activities, such as prescribed burning and pesticide or fertilizer application may require additional permits. Consult MA Forestry BMP Manual for further information.

If Other (OT) is used in any category an explanation must be given on an attached narrative page

pg 3 of 5





# Forest Cutting Plan, page 2 of 6

Products to be Harvested*			
Species	Mbf/Cds		Mbf/Cds
White Pine	37.3	Red Maple	2.3
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	
Hemlock		Black Oak	
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	1.0
White Ash		Total Mbf	41.5
Beech		Cordwood (Cds)	131
White Birch		SW Pulp (Tons)	505
B & Y Birch		HW Pulp (Tons)	
Black Cherry	0.8	Chips (Tons)	

\*Note: Volumes indicated in the Plan are as reported by the plan preparer and have not been independently verified by the service forester upon approval. Mbf = thousand board feet.

Cutting Standards				
Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	WH <input checked="" type="checkbox"/>			
Acres	30			
Landowner Objective	LT			
Designation of Trees	CT <input checked="" type="checkbox"/>			
Type of Cut	OT			
Source of Regeneration	OT <input checked="" type="checkbox"/>			

Landowner Signature	
<p>The most important information on a cutting plan is the Landowner's objective, as this will determine which trees will be harvested and which will remain; <b>this decision will also determine the future condition of the forest for decades to come.</b> After having read the Massachusetts Forest Cutting Plan Information Sheet on page one, indicate your objective by checking the appropriate box below.</p> <p><input checked="" type="checkbox"/> <b>LT – Long-term Forest Management</b>  Planned management of the forest to achieve one or more of the following objectives: produce immediate and maximize long-term income, enhance wildlife habitat, improve recreational opportunities, protect soil and water quality, or produce forest specialty products.</p> <p><input type="checkbox"/> <b>ST - Short-term Harvest</b>  Harvest of trees with the main intention of producing short-term income with minimal consideration given to improving the future forest condition, which often results in a forest dominated by poor quality and low value species.</p> <p>I (we) have read the Massachusetts Cutting Plan Information Sheet, and am aware of my (our) management options.  I (we) hereby certify that I (we) have the legal authority to carry out the operation described above.  I (we) certify that I (we) have notified the Conservation Commission in the town in which the operation is to take place and the abutters of record within two hundred feet of the area to be harvested.  I (we) understand that the volumes in this plan have not been independently verified by the service forester upon approval and will report final values and volumes to the Director or his/her agent if the final figures differ from those reported.</p> <p></p> <p>Signature of landowner(s) _____ Date <u>8/29/2024</u></p>	

Determination and Status		Final Report and Comments	
<p>Approved <input checked="" type="checkbox"/> Disapproved <input type="checkbox"/> Expires <u>8/29/26</u></p> <p>Cutting Plan <input checked="" type="checkbox"/></p> <p></p> <p>Signature of Service Forester/Director's Agent _____ Date <u>9.27.24</u></p> <p>Extension 1 <input type="checkbox"/> 2 <input type="checkbox"/> Expires / / Ser. For. Ints. / /</p> <p>Amendment App 1 <input type="checkbox"/> Dis 1 <input type="checkbox"/> App 2 <input type="checkbox"/> Dis 2 <input type="checkbox"/> / /</p>	<p>I hereby certify that the afore described Forest Cutting Plan and all relevant statutes have been substantially complied with.</p> <p>Signature of Service Forester/Director's Agent _____ Date _____</p>		

Forest Types		Designation of Trees		Type of Cut		Source of Regeneration	
WP White Pine	HK Hemlock	OM Mixed Oak	CT Cut Tree	SH Shelterwood	Intermediate Harvests:	AD Advanced	
WK WP/Hem	HH Hem/Hdwd	RM Red Maple	LT Leave Tree	ST Seed Tree	CT Commercial Thin	SE Natural Seed	
WH WP/Hdwd	BC Blck Cherry	BE Beech	SB Stand Boundary	CC Clear Cut	NT Non Com Thin	PL Plant	
WO WP/Oak	BB Bee/Bir/Map	SF Spruce/Fir	OT Other	SE Selection	Non-Standard Systems*:	CO Coppice	
RP Red Pine	OH Oak/Hdwd	SM Sugar Maple	Landowner Objective	SA Salvage	HG Highgrade*	DS Direct Seed	
SR Red Spruce	OR N Red Oak	PP Pitch Pine	LT Long-term Mgt.	SN Sanitation	DL Diameter Limit*	OT Other	
			ST Short-term Har.		OT Other*		

\*If Other (OT) or a non-standard system is used an explanation must be given on attached narrative page

# Forest Cutting Plan

Narrative Page (Effective Date: 3/15/16)

Use this page to provide further explanation or if

Other (OT) was used in any category on pages 3 or 4.

Landowner DCR-DWSP Quabbin

Town New Salem

File Number \_\_\_\_\_

BMPs

Use this Section to provide further explanation or if Other (OT) was used in any category in the Best Management Practices Section on Page 3.

This barrens restoration harvest removes generalist species such as white pine and retains pitch pine and oak. Where pitch pine is dense, a few of the least healthy pitch pines and oaks are being removed to increase air flow, thus reducing risk of attack by southern pine beetle. FS are wider than minimum with >50% BA in order to protect the water supply.

Designation of Trees

Use this Section to describe the types of trees to be harvested and/or retained if Other (OT) was used for "Designation of Trees" in the Stand Treatment Section on page 4. Additional narrative description may be added on a separate page.

Stand No.	Describe Trees to be Cut			Describe Trees to be Left			% BA/AC	
	Species	Size	Quality	Species	Size	Quality	Cut	Left
1	PITCH PINE	all	poor	PITCH PINE	all	fair to good	2	98
1	WHITE PINE	all	all	WHITE PINE (IN FS)	all	all	98	2
1	OAKS	all	poor	OAKS	all	fair to good	2	98
1	OTHER HARDWOODS	all	all	OTHER HW (IN FS)	all	all	98	2

Regeneration & Future Condition

Use this Section to describe how Chapter 132 requirements will be met if a non standard system (HG, DL, or OT) was used for the "Type of Cut" in the Cutting Standards Section on page 4.

Stand No.    Source of  
Regeneration  
(ex. AD, SE )

How will Regeneration be obtained/protected?

If using AD - Describe the species present and how the regeneration will be protected  
If using SE - Describe the source of the seed and the number of seed trees/acre

1	AD	Oak, white pine &, maple seedlings and saplings are present on the site. Loggers will be directed to protect oak regen as much as possible, or if not possible, cut at the base to encourage sprouting.
1	SE	Scarification during the harvest will expose mineral soil for pitch pine and oak seeds from mature trees within and around the harvest. Prescribed fire within 5 yrs will open serotinous pitch pine cones.
1	CO	Pitch pines, oaks, and other hardwoods of all sizes that are cut will resprout. Periodic prescribed fire at 5-7 year intervals will continue to encourage oak and pitch pine sprouting.
		White pine and red maple regeneration is not desired and will either be cut or killed by prescribed fire.

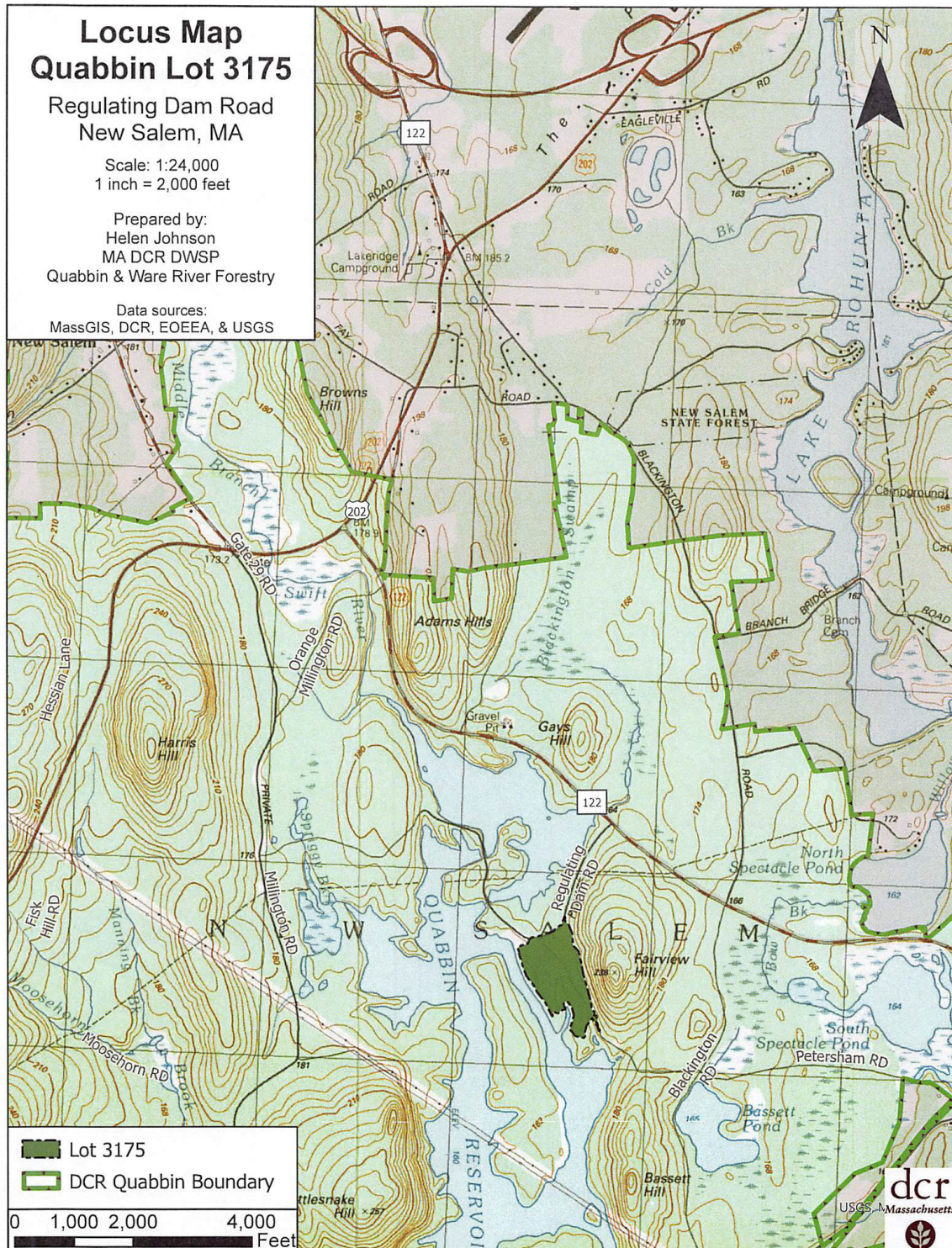
Stand No.

Desired Future Condition

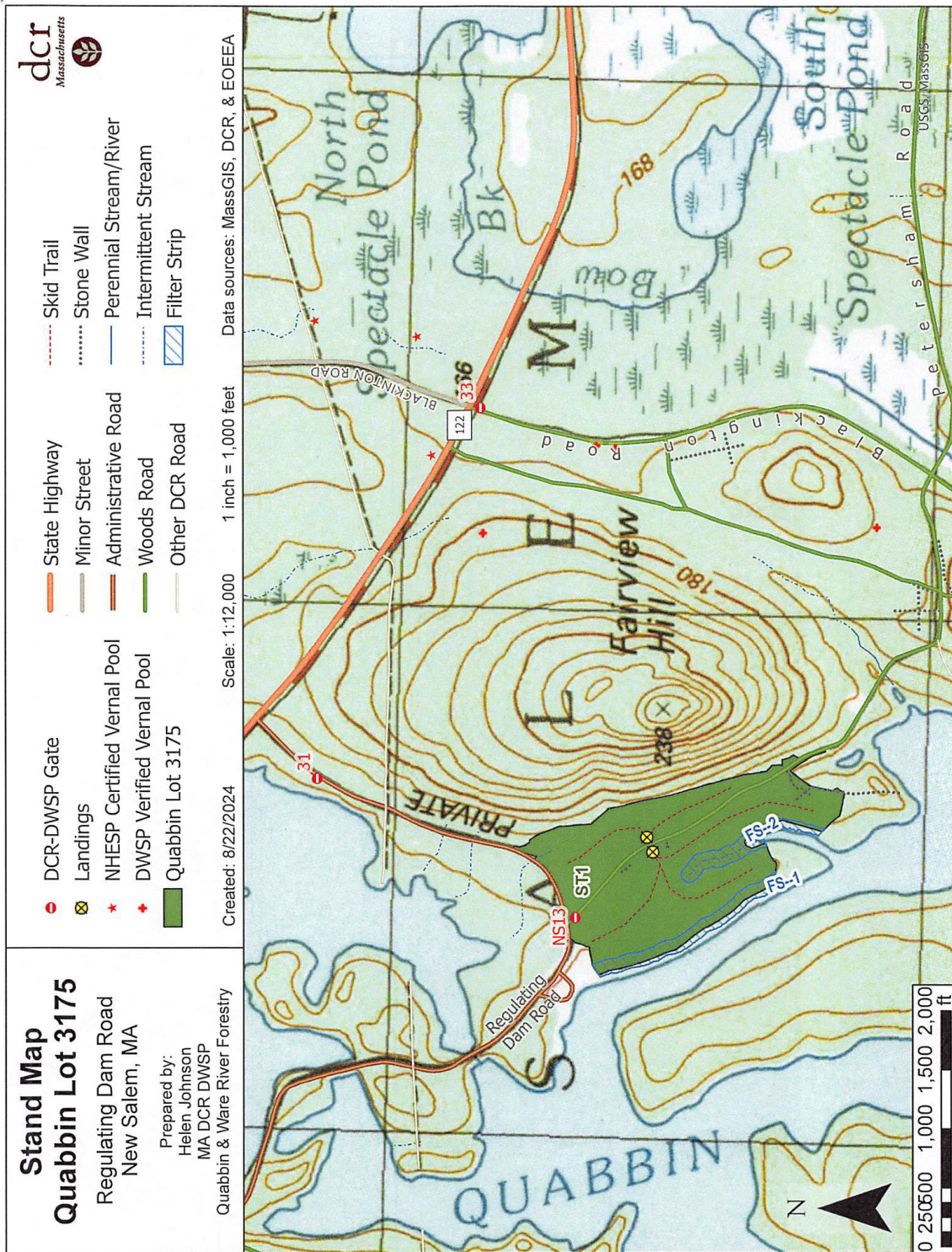
Describe what the stand is expected to look like five years from the harvest, including the condition of the overstory & understory

1	Thriving pitch pine-oak barrens with variable densities of pitch pine and oaks, with BA/acre ranging from 10 to 80, over a dense carpet of herbaceous barrens species.











dc<sub>r</sub>



COMMONWEALTH OF MASSACHUSETTS  
Department of Conservation and Recreation  
Division of State Parks and Recreation

FILE # 204-42943-25

**W**

## FOREST CUTTING PLAN CERTIFICATE

Post this in a conspicuous place within the area in which the harvesting operation is to take place.

This certifies that DCR-DWSP 485 Ware Rd, Belchertown, MA in accordance with the  
(Name of Owner) (Address) 01007  
(Quabbin Section - Forestry)

provision of M.G.L. Chapter 132, Section 40-46, filed in Amherst F.O. with the Dept. of Conservation  
and Recreation, Division of State Parks and Recreation, a Notice of Intent to cut forest products upon the  
Quabbin 3175 lot, New Salem

Approval Date 9/27/24

Director's Agent Andrew Rawcliffe

DCR Phone No. (617) 549-1677

ISSUED BY: Priscilla E. Geigis

Priscilla E. Geigis, Director  
Division of State Parks and Recreation

*Photo Point A, northwest portion of harvest area*



*Before harvest (November 2024)*



*Photo Point B, northeast portion of harvest area*



*Before harvest (November 2024)*



*Photo Point C, southeast portion of harvest area*



*Before harvest (November 2024). The white tree tops are oaks that were killed by spongy moth.*

*Photo Point D, southwest portion of harvest area*



*Before harvest (November 2024)*