Massachusetts Department of Conservation and Recreation

Division of Water Supply Protection, Office of Watershed Management

Forest Management Project Summary

Project Title:

DWSP Harvest Permit Number: 3142
DCR Forest Cutting Plan File Number: 204-8070-16

Site Information

Watershed: Quabbin	**Town(s)**: New Salem
Acres: 47	**Nearest Road:** Route 202, Gate 29
Natural Heritage Atlas overlap?: No	**Public Drinking Water Supply Watershed?:** Yes
Forest Types: White Pine/Hemlock/Oak	**ACEC?:** No
Soils: Gneiss and Schist derived well drained tills	
Wetland Resources: Yes	
Vernal Pools: One	

Harvest Information

Harvest Start Date: April 12, 2016	**Harvest End Date:** June 29,2018
Number of Wetland Crossings: None	**Number of Stream Crossings:** 1

Best Management Practices Applied

Stream Crossings	temporary bridge
Filter Strips	1 fifty foot wide
Wetland Crossings	None
Harvesting in Wetlands	None

DWSP Forester supervising this harvest
Name: Derek Beard
Forester License #: 14
Phone #: 617-780-0631

NARRATIVES

General Description/Forest Composition/History

The project is located west of the Bullard farm inside gate 29 and abuts a high tension power line to the north. The eastern half is composed of white pine, hardwood (mainly mixed oak) and hemlock. Ascending a west slope, the density of white pine drops and is mainly replaced by hardwood and hemlock. This western portion received a light selection harvest in 1995 with the objective of removing diseased hemlock. Resulting regenerating is mostly black birch that is concentrated in skid trails. A portion of the 1995 harvest overlapped with a 1980 harvest completed in the north central part of the area. The overlap section has greater regeneration diversity (black birch, white pine and hemlock). As noted in 1995, the hemlock continues to be plagued by various invaders (elongate scale, adelgid and looper) resulting in overall decline and mortality. Although forest for the past 80 to 100 years; features on the landscape suggest an agricultural past.

Site Selection

The primary goal of the watershed forest management program is to create and maintain a forest that provides high quality drinking water to current users and future generations. In order to achieve this, DWSP has determined that the forest should contain a diversity of species in various stages of development (seedlings through large legacy trees). In addition, the forest should be vigorous; actively growing and regenerating. Forest in this condition is ideally suited to be resilient to and quickly recover from small and large scale disturbances such as disease, insect infestation, ice storms and hurricanes.

Diseased and dying hemlock coupled with an insufficient young forest layer indicates some regeneration cutting begin in order to trigger development of a healthier, more balanced and diverse forest structure.

Objectives

Reducing stocking of diseased hemlock, diversifying forest structure and spurring a medley of regeneration are the primary objectives of the project. This will be accomplished by making a series of forest canopy openings randomly spaced through the area. Specifically, there are 11 openings covering 7 of the 47 acres with an average opening size of 0.6 acres. Openings greater than 0.5 acres have some retained canopy trees that will contribute to the long term forest complexity of the area.

Cultural Resources

The project is home to number of interior stone walls that likely bound areas used for crop production or pasture. Old agricultural ditches drain some of these walled areas. They also link the wetland areas within the project. Clearly the farmers wanted to access these areas as soon as possible following winter. The area is also home to a Continuous Forest Inventory (CFI) plot. These plots were established in 1960 and forest measurements have been recorded from them every decade through 2010. Over time these plots (and the data from them) will be an invaluable resource in tracking of forest change.

Wildlife Resources

The north central part of the project is home to classic vernal pool. Maintaining unique habitats, like vernal pools, is a primary goal when performing forestry operations. To that end no harvesting occurs within 15 feet of the pool; a shaded or thinned condition is maintained within 100 feet of the pool; and no significant rutting is permitted within 200 feet of the pool.

Figure 1. Approved forest cutting plan

Figure2. Pre & Post harvest photographs A-B

Figure 1: Forest Cutting Plan

Forest Cutting Plan

and Notice of Intent under M.G.L. Chapter 132 – The Forest Cutting Practices Act, 304 CMR 11.00
(Effective Date: 1/1/04)

FINAL (9/11)

For DCR Use Only:

File Number	201.8070.16	Case No.	
Date Rec'd	2/8/16	Nat. Hert.	No
Earliest Start	2/24/16	Nat. Hert. Imp.	N/A
River Basin	Chicopee	Pub. Dr. Wat.	Quabbin
Gen. Obj.	LT	ACEC	No

Site Information

Location

TIMBER LOT 3142

Town: New Salem
Road: Millington Rd. (Gate 29)
Acres: 47 Proposed Start Date:
Vol. MBF: 82.4 Vol. Cds.: 100 Vol. Tons: 456

Plan Preparer

Name: Derek Beard
Address: DCR – Div. of Water Supply Protection, 21 Elm St.
Town, State, Zip: New Salem, MA 01355
Phone: 978-544-6343
Type of Preparer: LF
*Mass. Forester License #: 14
*Required for land under Ch61, Ch61A or Forest Stewardship

Landowner

Name: DCR – Division of Water Supply Protection
Mailing Address: 485 Ware Rd.
Town, State, Zip: Belchertown, MA 01007
Phone: 412-323-6921
Ch61☐ 61A☐ 61B☐ Stew☐ *Case #
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	BR			
Existing Structure	N			
Type of Bottom	ST			
Bank Height (ft)	≤1'			
Stabilization	CO			

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%?)				

Wetland Crossings

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

Service Forester Comments

Filter Strips

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

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

TIMBER LOT 3142

Forest Products

Products to be Harvested*

*Note: Volumes and values 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.

Species	Mbf/Cds		Mbf/Cds
White Pine	47.3	Red Maple	
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	11.2
Hemlock	18.5	Black Oak	2.1
Spruce		White Oak	1.6
Other Sftwd.		Other Hdwd.	.8
White Ash		**Total Mbf**	82.4
Beech		**Cordwood (Cds)**	100
White Birch		**SW Pulp (Tons)**	456
B & Y Birch	.9	**HW Pulp (Tons)**	
Black Cherry		**Chips (Tons)**	

Stand Treatment

Cutting Standards

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	HH	WP		
Acres	25	22		
Landowner Objective	LT	LT		
Designation of Trees	CT	CT		
Type of Cut	SE	SE		
Source of Regeneration	SE/AD	SE/AD		

Landowner

Landowner Signature

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; **this decision will also determine the future condition of the forest for decades to come.** After having read the Massachusetts Forest Cutting Plan Information Sheet on page one, indicate your objective by checking the appropriate box below.

☒ **LT – Long-term Forest Management**
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.

☐ **ST - Short-term Harvest**
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 specie

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 and values (Ch61 only) 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.

William E Pula — 1-4-16
Signature of landowner(s) — Date

Service Forester

Determination and Status 204-8070-16

	Approved	Disapproved	Expires
Cutting Plan	☒	☐	2/8/18

Signature of Service Forester/Director's Agent — 2/8/16 Date

			Expires	Ser. For. Ints.
Extension	1☐	2☐	/	/

	App 1	Dis 1	App 2	Dis 2	
Amendment	☐	☐	☐	☐	/

Final Report and Comments

I hereby certify that the afore described Forest Cutting Plan and all relevant statutes have been substantially complied with.

Signature of Service Forester/Director's Agent — 9-12-17 Date

Codes

Forest Types
WP White Pine; WK WP/Hem; WH WP/Hdwd; WO WP/Oak; RP Red Pine; SR Red Spruce; HK Hemlock; HH Hem/Hdwd; BC Bick Cherry; BB Bee/Bir/Map; OH Oak/Hdwd; OR N Red Oak; OM Mixed Oak; RM Red Maple; BE Beech; SF Spruce/Fir; SM Sugar Maple; PP Pitch Pine

Designation of Trees
CT Cut Tree; LT Leave Tree; SB Stand Boundary; OT Other

Landowner Objective
LT Long-term Mgt.; ST Short-term Har.

Type of Cut
SH Shelterwood; ST Seed Tree; CC Clear Cut; SE Selection; SA Salvage; SN Sanitation

Intermediate Harvests:
CT Commercial Thin; NT Non Com Thin

Non-Standard Systems:*
HG Highgrade*; DL Diameter Limit*; OT Other*

Source of Regeneration
AD Advanced; SE Natural Seed; PL Plant; CO Coppice; DS Direct Seed; 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: 1/1/04)**
Use this page to provide further explanation or if Other (OT) was used in any category on pages 3 or 4.

Landowner DCR-DWSP-Quab
Town New Salem
File Number 204-8070

TIMBER LOT 3142

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 harvest is an aggregation of 11 canopy openings (patches) spread across 47 acres. Opening size ranges from 0.3 to 1.0 acre with an average of 0.6 of an acre. The 11 openings cover a total of 7 acres. Openings greater than 0.5 acres have between 3 and 10 square feet of residual basal area also known as green tree retention. Trees to be harvested in openings are marked with orange paint. Trees within main skid roads are marked with blue paint. The project is home to a vernal pool. To maintain the integrity of the pool and adjacent habitat, no harvesting has been designated inside 100 feet from the high water mark of the pool.

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.

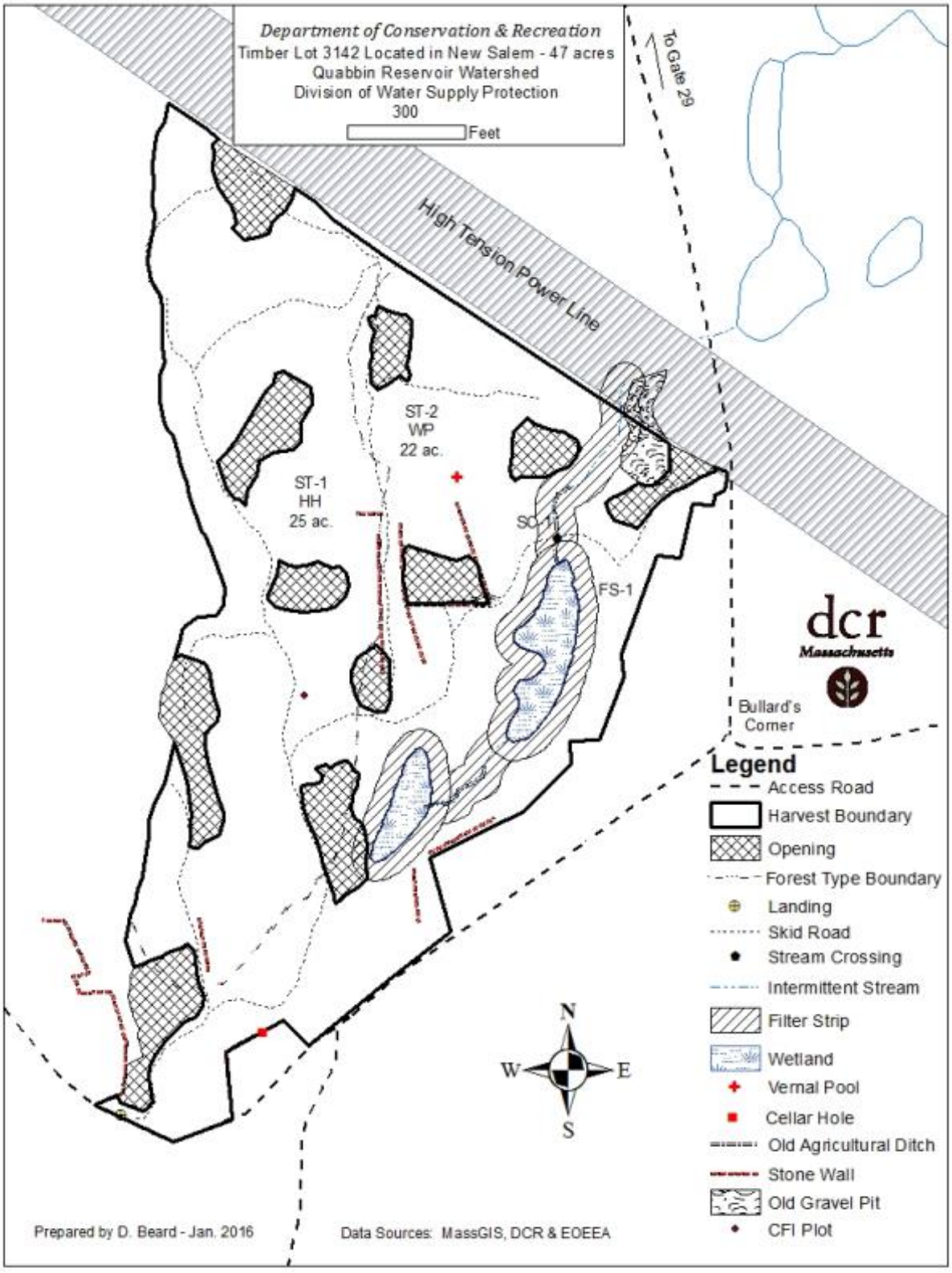
Stand No.	Species to be Cut	Size of Trees to be Cut	Quality of Trees to be Cut	% BA/Acre Removed

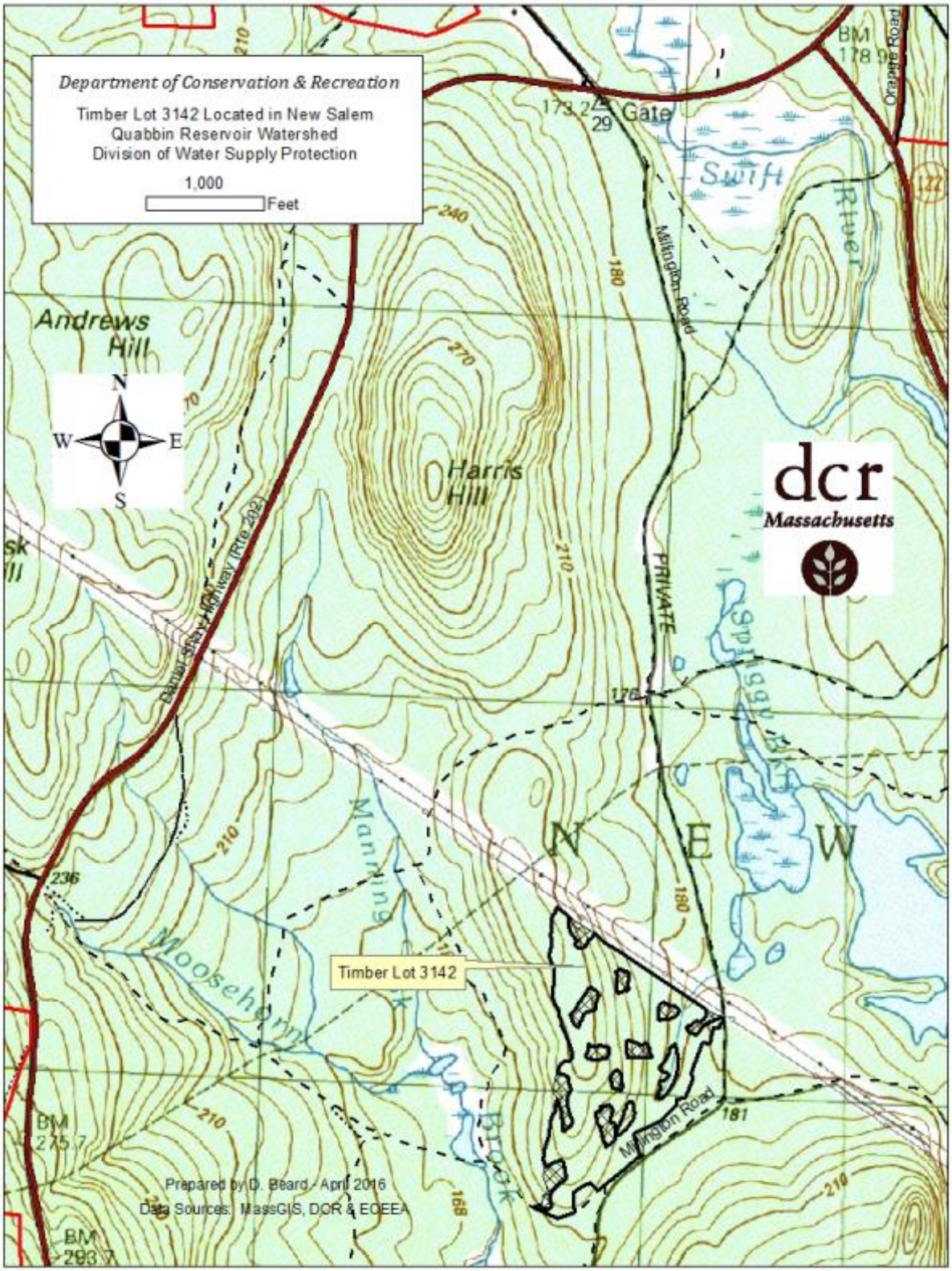
Regeneration & Future Condition

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

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


Department of Conservation & Recreation
Timber Lot 3142 Located in New Salem - 47 acres
Quabbin Reservoir Watershed
Division of Water Supply Protection
300
Feet
To Gate 29
High Tension Power Line
ST-2
WP
22 ac.
ST-1
HH
25 ac.
SC-1
FS-1
dcr
Massachusetts
Bullard's
Corner
Legend
Access Road
Harvest Boundary
Opening
Forest Type Boundary
Landing
Skid Road
Stream Crossing
Intermittent Stream
Filter Strip
Wetland
Vernal Pool
Cellar Hole
Old Agricultural Ditch
Stone Wall
Old Gravel Pit
CFI Plot
N
W
E
S
Prepared by D. Beard - Jan. 2016
Data Sources: MassGIS, DCR & EOEEA


Department of Conservation & Recreation
Timber Lot 3142 Located in New Salem
Quabbin Reservoir Watershed
Division of Water Supply Protection
1,000
Feet
Andrews Hill
Harris Hill
Gate
Swift River
Millington Road
Daniel Shays Highway (Rte 202)
PRIVATE
Timber Lot 3142
Moosehorn Brook
Prepared by D. Beard - April 2016
Data Sources: MassGIS, DCR & EOEEA
dcr
Massachusetts

dcr

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

FILE # 204-8070-16

FOREST CUTTING PLAN CERTIFICATE

W

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

This certifies that DCR - DWSP (Name of Owner) Ware Rd, Belchertown (Address) in accordance with the 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 Timber Lot 3142 lot., New Salem

Approval Date 2/18/16

Director's Agent Fletcher Clark

DCR Phone No. (413) 262-2367

ISSUED BY: Priscilla Geigis

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

Figure 2: Pre & Post Harvest Photographs, A

This picture is on the edge of a retention area (area where trees will not be cut) with in a planned canopy opening or patch. In the center of the frame is a fairly large white oak snag (dead standing tree). Snags are important habitat for a diversity of wildlife and add to forest complexity.

Post Harvest, June 2017, A

After one year of growth, July 2018, A

Figure 2: Pre & Post Harvest Photographs (Cont.), B

This is a planned canopy opening on the edge of a high tension power line. The perpetual young flora maintained along power lines (known as early succession habitat) tends to attract an array of wildlife, particularly birds, for nesting, foraging and cover. This opening will help diversify the overall forest structure of the area and expand upon the power line corridor providing early succession habitat for at least 10 to 15 years.

Post Harvest, June 2017, B

After one year of growth, July 2018, B