

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

Project Title: GM salvage north of gate 5.

DWSP Harvest Permit Number: 1053
DCR Forest Cutting Plan File Number: 024-9100-18

Site Information

Watershed: Quabbin	Town(s): Belchertown
Acres: 120	Nearest Road: Old Enfield, Jucket Roads
Natural Heritage Atlas overlap?: No	Public Drinking Water Supply Watershed?: Quabbin
Forest Types: mixed oak and white pine oak	ACEC?: No
Soils: Mainly Gloucester fine sandy loam with Charlton-Hollis rock outcrop, Scituate and Woodbridge.	
Wetland Resources: 3 small streams and several wetlands.	
Vernal Pools present or within 200 feet of harvest: None	

Harvest Information

Harvest Start Date: TBD	Harvest End Date: TBD
Number of Wetland Crossings: None	Number of Stream Crossings: One.

Best Management Practices Applied

Stream Crossings	Portable bridge required if flowing otherwise poled fords. Approaches will be stabilized.
Filter Strips	Variable filter strips used with less than 50% of basal area cut.
Wetland Crossings	No wetland crossings.
Harvesting in Wetlands	No harvesting in wetlands.

DWSP Forester supervising this harvest
Name: Steven J. Wood
Forester License #: 257
Phone #: 1 (413) 323-6921 ext. 156
Email: steven.wood@state.ma.us

NARRATIVE

General Description/Forest Composition/History:

The area to be harvested is located in the town of Belchertown. The lot is located northwest of Old Enfield Road westerly to Jucket Hill Road and gate 6, and easterly along gate 5 road to the gravel pit.

Since this area is fairly steep with only a few stone walls it has most likely always had forest cover on most of the acreage. Areas where stone walls exist were unimproved pasture. There is a good network of cart roads that were improved with a dozer, probably 50+ years ago. These are only about 7' wide which is too narrow for modern equipment. These will be widened as this project progresses.

There are 2 main forest types – mixed oak and white pine/oak. The primary tree species present are white pine and mixed oak (predominately red and black oak), are mainly 15"+ in diameter and average over 94 years old. Other hardwoods include black and paper birch, scarlet oak, red maple, aspen, ash, black cherry and hickories. There is one section of red pine within the white pine stand.

The forest here has been heavily impacted by gypsy moth. Hardwoods were totally defoliated during June/July of 2015, 2016 and 2017. The trees were additionally stressed by drought during 2015-2016. Fortunately late spring of 2017 was wetter which allowed a fungus that kills the gypsy moth to become active again and killed many of the caterpillars but not till after the damage was done. Egg numbers were down last fall and as long as spring 2018 is wet the number of caterpillars that survive should be greatly reduced. Unfortunately it only takes 2-3 years of defoliation (which has already occurred) to cause significant tree mortality. When lot was marked during summer of 2017 19% of oak volume was already dead.

The pine stands are in better shape but are crowded with many stems, particularly hardwoods, which are declining due to competition. Regeneration is present throughout and varies from being moderate to densely spaced. White pine, black birch and red maple are most common with some oak, hemlock and white birch and localized areas with ash. The white pine under the white pine stand is stagnant and has been declining for several years, mainly due to competition and lack of light but probably also being impacted by various needle casts.

The soils on this lot are primarily Gloucester fine sandy loam which is well drained. There are some areas of moderately drained Scituate and Woodbridge soils. Surface rock is common over most of the area.

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. A forest in this condition is resilient to and can quickly recover from small and large scale disturbances such as diseases, insect infestations, ice storms and hurricanes.

This area had three small firewood sales to salvage trees killed by gypsy moth between 1973 and 1982. These cuts maintained the even-aged structure of the forest and didn't add much to the diversity of species or structure. The current harvest should increase structure, and age and species diversity, to help achieve goals stated above. In order to recover valuable oak lumber from trees killed by the recent gypsy moth infestations they need to be harvested as soon as practical preferably within 1 year of dying.

Silvicultural Objectives:

The main goal of this harvest is to establish new tree seedlings and providing space for existing regeneration to expand and grow. Due to recent impact by the gypsy moth more area was thinned or harvested to capture the majority of existing and likely mortality. The resulting residual tree and opening spacing is more variable than typical. For some reason the mid-slope areas had the most damage and mortality from the gypsy moth.

To achieve the principles stated above, we will harvest part of the overstory in small groups, up to ½ acre in size, in order to foster regeneration that will be free to grow for an extended time. Groups were placed according to our guidelines. Areas where there were clusters of trees that were declining or had weak stem form, often due to insects, diseases, or storm damage, were specifically targeted. Areas with existing viable regeneration were given preference for release and expansion.

Wherever possible wildlife habitat features, such as snags (dead trees) and trees with cavities or nests were maintained and protected. Exceptional individuals of all species present were retained in the stand for seed and to enhance diversity.

Cultural Resources:

There are several stone walls present. There are existing breaks and barways in these walls and they will be used where needed for equipment access to avoid creating new breaks in the walls and protect them during the upcoming harvest. This is in keeping with DWSP's standard practice, which dictates that every effort is made to keep existing stone walls intact.

There is a cluster of foundations near the southern end of the lot along Old Enfield Road, but this area is outside the harvest. Otherwise, this area has been determined not to be culturally or archeologically sensitive based on a review by the DCR Archaeologist.

Wildlife/Rare or Endangered Species:

The lot contains no critical habitats or known rare or endangered species. The uplands are home to a variety of wildlife including deer, turkey, coyote and moose. This area is not open to hunting. In 2015 beavers had dammed the culvert and flooded the road leading up the powerline.

FIGURES

Figure 1. Forest Cutting Plan

Figure 2. Pre-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)

For DCR Use Only:

File Number 024.910018 Case No. _____
Date Rec'd 11/2/17 Nat. Hert. 1 N
Earliest Start 11/20/17 Nat. Hert. Imp. N
River Basin CHICOPPE Pub. Dr. Wat. QUABBIN
Gen. Obj. LT ACEC N

11-02-17P02:53 RCVD

Site Information

Location

Town Belchertown Quabbin lot 1053
Road Old Enfield Rd.
Acres 120 Proposed Start Date TBD
Vol. MBF 476 Vol. Cds. 756 Vol. Tons 292

Plan Preparer

Name Steven J. Wood
Address DCR, Division of Water Supply Protection
485 Ware Rd.
Town, State, Zip Belchertown, MA 01007
Phone (413) 323-6921 ext. 156
Type of Preparer Mass. Licensed Forester
*Mass. Forester License # 257
*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 (413) 323-6921
Ch61 ☐ Ch61A ☐ Stew ☐ *Case # _____
Est. Stumpage Value _____

Licensed Timber Harvester**

Name TBD
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	No			
Type of Bottom	ST			
Bank Height (ft)	1			
Stabilization	SE/CO			

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

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 4 of 5

Products to be Harvested*

Species	Mbf/Cds		Mbf/Cds
White Pine	219.9 M	Red Maple	
Red Pine	4.3 M	Sugar Maple	
Pitch Pine		Red Oak	132.8 M
Hemlock		Black Oak	48.3 M
Spruce		White Oak	13.9 M
Other Sftwd.		Other Hdwd.	51.5 M
White Ash	2.3 M	Total Mbf	475.8
Beech		Cordwood (Cds)	756
White Birch		SW Pulp (Tons)	292
B & Y Birch		HW Pulp (Tons)	
Black Cherry		Chips (Tons)	

*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.

Cutting Standards

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	OM	WO		
Acres	62.9	57.1		
Landowner Objective	LT	LT		
Designation of Trees	CT	CT		
Type of Cut	SE/SA	SE/SH		
Source of Regeneration	SE/AD	SE/AD		

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 species.

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.

Donna J. Antton
Signature of landowner(s)

11-1-17
Date

Determination and Status 024.9100.18

Approved Disapproved Expires

Cutting Plan

Donna J. Antton
Signature of Service Forester/Director's Agent

11/2/19

11/8/17

Date

Extension 1 ☐ 2 ☐ Expires

Ser. For. Ints.

Amendment App 1 Dis 1 App 2 Dis 2

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

Date

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

*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

Town Belchertown

File Number 024-9100-18

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 area had heavy gypsy moth defoliation for 3 years and has had significant oak mortality this year. Goals of this harvest are to capture this mortality before it degrades significantly and to regenerate the stands. Silviculture is mainly group selection with groups up to 1/2 acre created.

Additionally thinning was performed around the groups and in areas of heavy gypsy moth damage salvage cutting was done with attempt to mimic irregular shelterwood harvest in appearance. Additional shelterwood harvest was done in areas with better formed smaller white pine. Cut trees are blue marked with save trees having an orange stripe. Edge of groups are marked with an orange stripe and dot.

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.

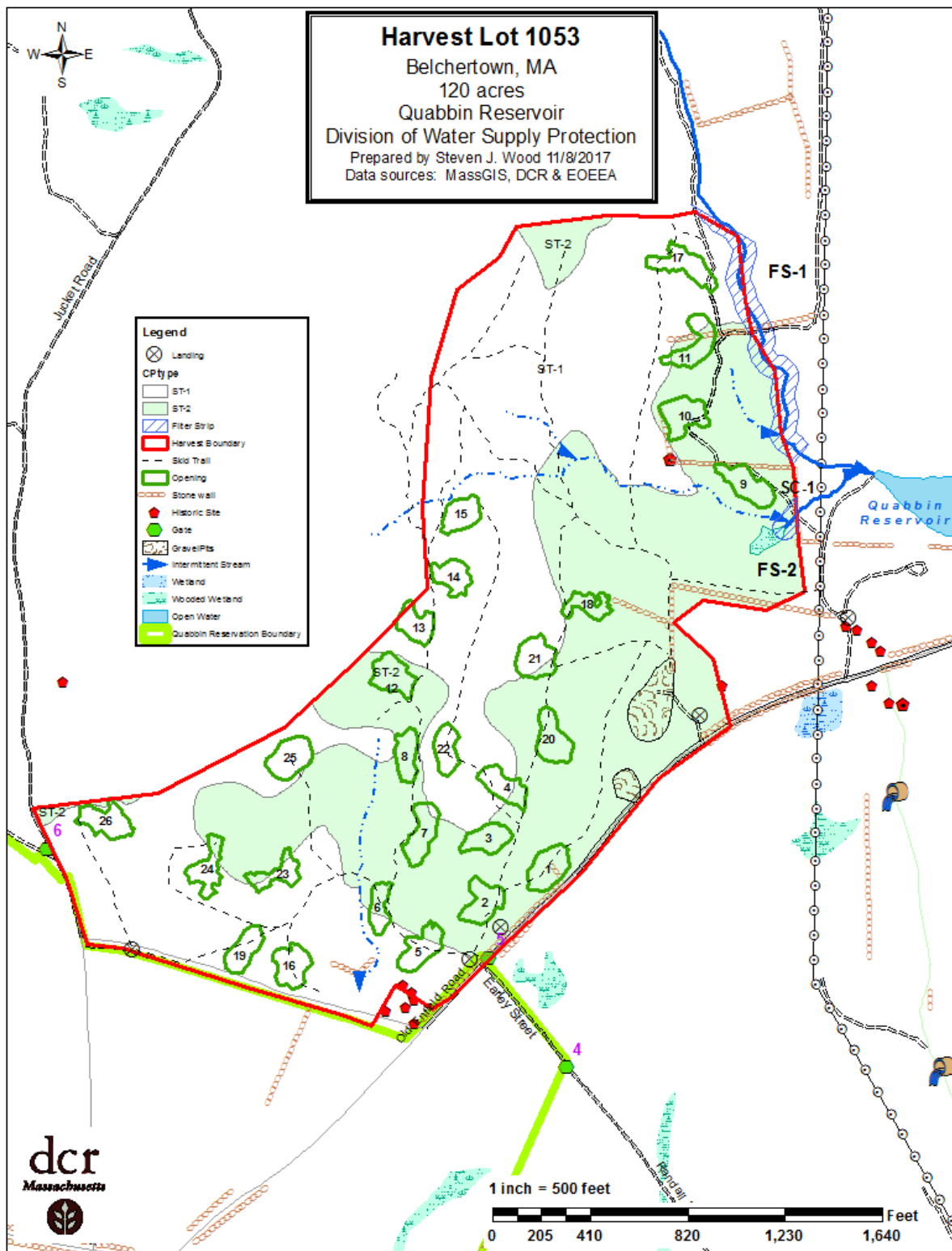
Stand No. Source of Regeneration (ex. AD, SE)

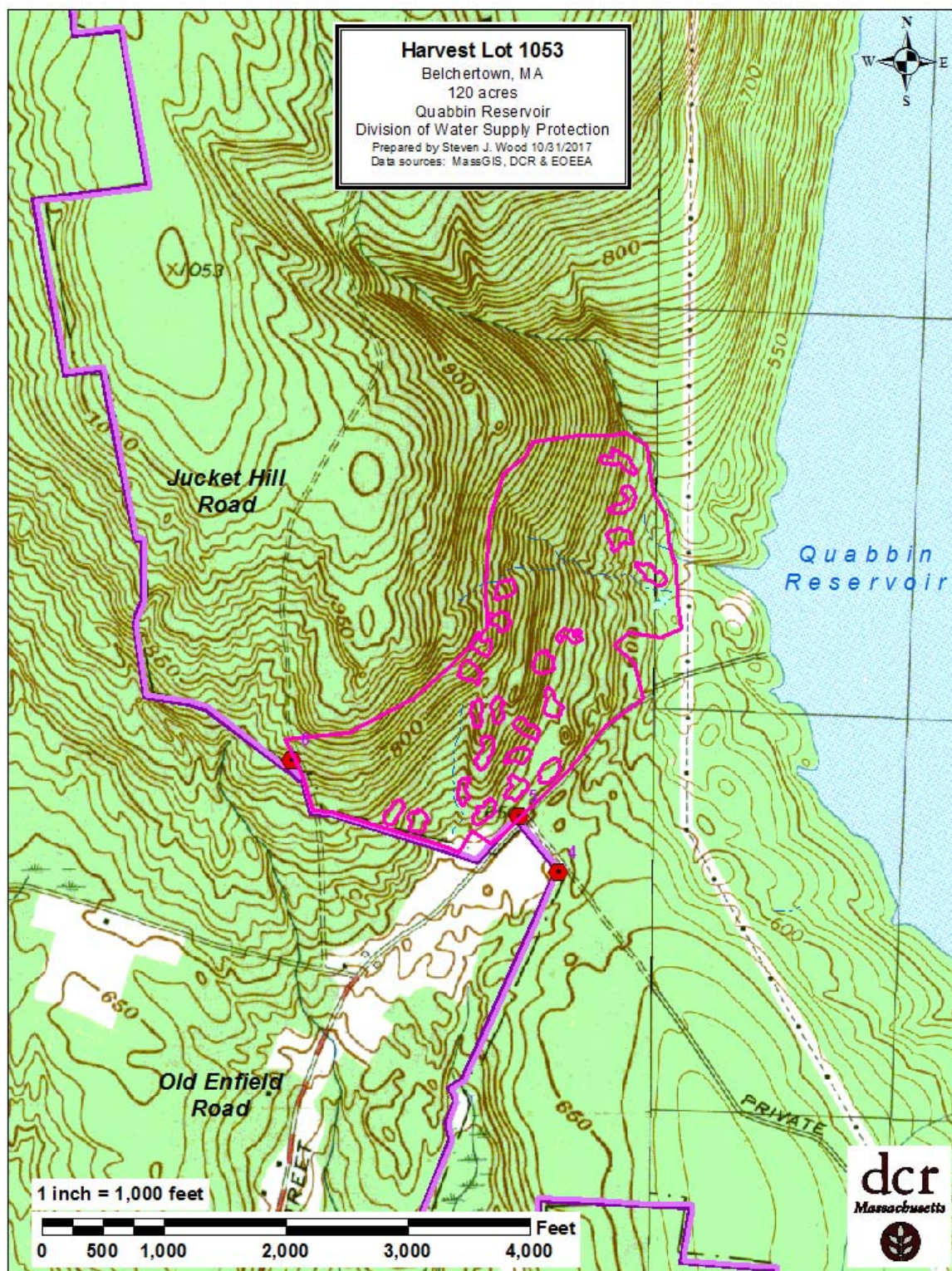
How will Regeneration be obtained/protected?
If using AD - Describe the species present and how the regeneration will be protected
If using SE - Describe the source of the seed and the number of seed trees/acre

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





dc



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

FILE # 024-9070-18

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)

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 1053 lot.

Approval Date 11/8/17
Director's Agent Douglas Hutcherson
DCR Phone No. (413) 545-7020

ISSUED BY:

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

Figure 2: Pre-Harvest Photographs, A-B taken 10/20/2017

A.



Central part of mixed oak stand showing oaks that had none to partial leaf out after gypsy moth defoliation.

B.



Area with more mixed hardwoods showing red maple and black birch that had been defoliated but leafed back out and have normal early fall coloration. Note oaks in the center without leaves or with very small leaves that are already brown or orange, oaks typically change color last.