

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

**Project Title: Lot 5254**

DWSP Harvest Permit Number: 5254

DWSP Proposal ID: WA-15-288

DCR Forest Cutting Plan File Number: 282-7612-15

***Site Information***

Watershed: Wachusett

Town(s): Sterling

Acres: 83.8

Nearest Road: Redemption Rock Trail (Rt. 140)

Natural Heritage Atlas overlap?: Yes

Public Drinking Water Supply Watershed?: Yes

Forest Types: White pine-hardwood/White pine

Area of Critical Environmental Concern (ACEC)?: No

Soils: The Paxton fine sandy loam, a well-drained till soil.

Wetland Resources: Justice Brook borders the sale area on the west, an intermittent stream forms the eastern border and two very small intermittent brooks flow through the interior of the sale area.

Vernal Pools: There is a vernal pool about 450' north of the landing.

***Harvest Information***

Harvest Start Date: 10/1/2015

Harvest End Date: 12/1/2017

Number of Wetland Crossings: None

Number of Stream Crossings: Two

***Best Management Practices Applied***

Stream Crossings: Two small very rocky intermittent brooks will be crossed. Depending on conditions at the time (e.g. flowing or dry), bridging, pole ford or corduroy will be used. Tops may be used to armor the approaches.

Filter Strips: No trees are marked in the filter strips.

Wetland Crossings: No wetlands will be crossed.

Harvesting in Wetlands: No harvesting in wetlands will occur.

***DWSP Forester supervising this harvest***

Name: Greg Buzzell

Forester License number: 025

Phone number: 774-261-1841

Email: greg.buzzell@mass.gov

## **Narrative**

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

This area is located in Sterling on the east side of Redemption Rock Trail (Rt. 140) at the Sterling-Princeton town line. Purchased by the state in 1996, this former pasture was logged at least twice before acquisition...the first time in the mid-1980s and the second in the mid-1990s. The result of these harvests has been the establishment of good and diverse advance regeneration throughout the area. The overstory is typical of former pastures with a significant component of white pine along with red, black and white oaks, shagbark hickory, red maple, black and yellow birch, black cherry and sugar maple. The hardwoods dominate at the higher elevations. Most of this forest originated in about 1920 following abandonment of the pasture.

Notable features in this site are several areas of extremely rocky ground. There are a couple of small areas where surface boulders are so prevalent that even trees are not present. One area, about 5 acres in size, while growing a stand of white pines, is so rocky that no logging has occurred since the pasture was abandoned.

### ***Site Selection***

The ideal watershed protection forest is one which best serves the function of the land as a producer of high quality drinking water in both short- and long-term. This forest must be vigorous and diverse in tree species and ages, be actively accumulating biomass and actively regenerating. Such a forest will be ideally suited to be resilient to and quickly recover from small- and large-scale disturbances such as diseases, insect infestations, ice storms and hurricanes.

This area was selected for management because both within the forest of these 83 acres as well as in the forest of the much larger area from which water flows into Justice Brook and into the Stillwater River, there are too few acres of young forest. There is no young forest in this 83 acre area and only 9% of the forest in this subwatershed, of which the DCR owns 1,778 manageable acres, is comprised of young trees less than 20 years old. The ideal protection forest would have closer to 1/3rd of the area growing young trees.

This area was also selected in order to take advantage of the excellent understory of seedlings and saplings resulting from the previous harvests.

### ***Silvicultural Objectives***

There is enough advance regeneration of a species mix appropriate to the site (a mix similar to the overstory) to warrant release of a new age cohort by the removal of the overstory in patches. In this area, 21 openings have been marked totaling 16.7 acres. These range in size from 0.2 to 2.0 acres in size with an average of 0.8 acres. These openings are primarily distributed with adequate spacing between the patches to allow for future patches of a similar range of sizes. The excessively rocky 5 acre area will not be cut during this operation. Standards regarding green retention (live trees left within patches for structure and seed) have been followed.

### ***Cultural Resources***

There are no known or documented significant historic or archeological resources in this area. According to models that predict the likelihood of the past use of a site by Native Americans, this area ranks as “Not Sensitive” due to its hilly, rocky character.

### ***Rare or Endangered Species***

NHESP has determined that certain state-listed sensitive species or habitats may exist within the lot proposal area. To protect them from unnecessary disturbance, detailed information regarding affected species and their locations is not included in this report. DWSP will coordinate with NHESP and follow recommendations to protect these species during the proposed activity.

### **Figures**

- Figure 1. Forest Cutting Plan
- Figure 2. Maps of harvest area showing approximate boundary, proposed openings and other features
- Figure 3. General locus map showing the location of the proposed timber harvest
- Figure 4. Pre-Harvest Photographs, A-C
- Figure 5. 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)

MAY 12 2015

### For DCR Use Only:

File Number 282-7619-10 Case No. \_\_\_\_\_  
Date Rec'd 5-12-15 Nat. Hert. YES 1  
Earliest Start 5-20-15 Nat. Hert. Imp. NO  
River Basin WACHUSETT Pub. Dr. Wat. YES-WACHUSETT  
Gen. Obj. LT ACEC NO

Site Information

### Location

Town Sterling LOT 5254  
Road Redemption Rock Trail (Rt. 140)  
Acres 83.8 Proposed Start Date 7/1/15  
Vol. MBF 181.6 Vol. Cds. 117 Vol. Tons 460

### Plan Preparer

Name Gregory S. Buzzell  
Address 180 Beaman Rd.  
Town, State, Zip West Boylston, MA, 01583  
Phone 508-792-7806 Ext 317  
Type of Preparer Mass. Licensed Forester  
\*Mass. Forester License # 25  
\*Required for land under Ch61, Ch61A or Forest Stewardship

### Landowner

Name DCR/DWSP/OWM Wachusett/Sudbury  
Mailing Address 180 Beaman St.  
Town, State, Zip West Boylston, MA 01583  
Phone 608-792-7806  
Ch61  Ch61A  Stew  \*Case # \_\_\_\_\_  
Est. Stumpage Value \_\_\_\_\_

### Licensed Timber Harvester\*\*

Name To be supplied when known.  
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 <u>Yes</u>	BR <u>Yes</u>		
Existing Structure	No	No		
Type of Bottom	ST	ST		
Bank Height (ft)	1'	1'		
Stabilization	CO	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	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

ALL SKID ROADS/TRAILS ARE EXISTING  
PLEASE CONSIDER USING VERNAL POOL BMPs  
(see attached)

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.

Forest Products

### Products to be Harvested\*

Species	Mbf/Cds		Mbf/Cds
White Pine	174.4	Red Maple	
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	2.8
Hemlock		Black Oak	3.6
Spruce		White Oak	0.6
Other Sftwd.		Other Hdwd.	
White Ash		<b>Total Mbf</b>	181.6
Beech		<b>Cordwood (Cds)</b>	117
White Birch		<b>SW Pulp (Tons)</b>	460
B & Y Birch		<b>HW Pulp (Tons)</b>	
Black Cherry		<b>Chips (Tons)</b>	

\*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.

Stand Treatment

### Cutting Standards

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	WO			
Acres	83.8			
Landowner Objective	LT			
Designation of Trees	CT			
Type of Cut	SH			
Source of Regeneration	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 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.

*[Handwritten Signature]*

5/11/15

Signature of landowner(s)

Date

Service Forester

### Determination and Status

Approved  Disapproved  Expires

Cutting Plan

5-12-2017

*[Handwritten Signature]*

5-26-2015

Signature of Service Forester/Director's Agent

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

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 Blck 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

**Source of Regeneration**  
 AD Advanced  
 CT Commercial Thin  
 NT Non Com Thin  
 CO Coppice  
 DS Direct Seed  
 OT Other

# Forest Cutting Plan

## Narrative Page

Use only if further explanation is required of information on pages one or two or if "other" was used in any category.

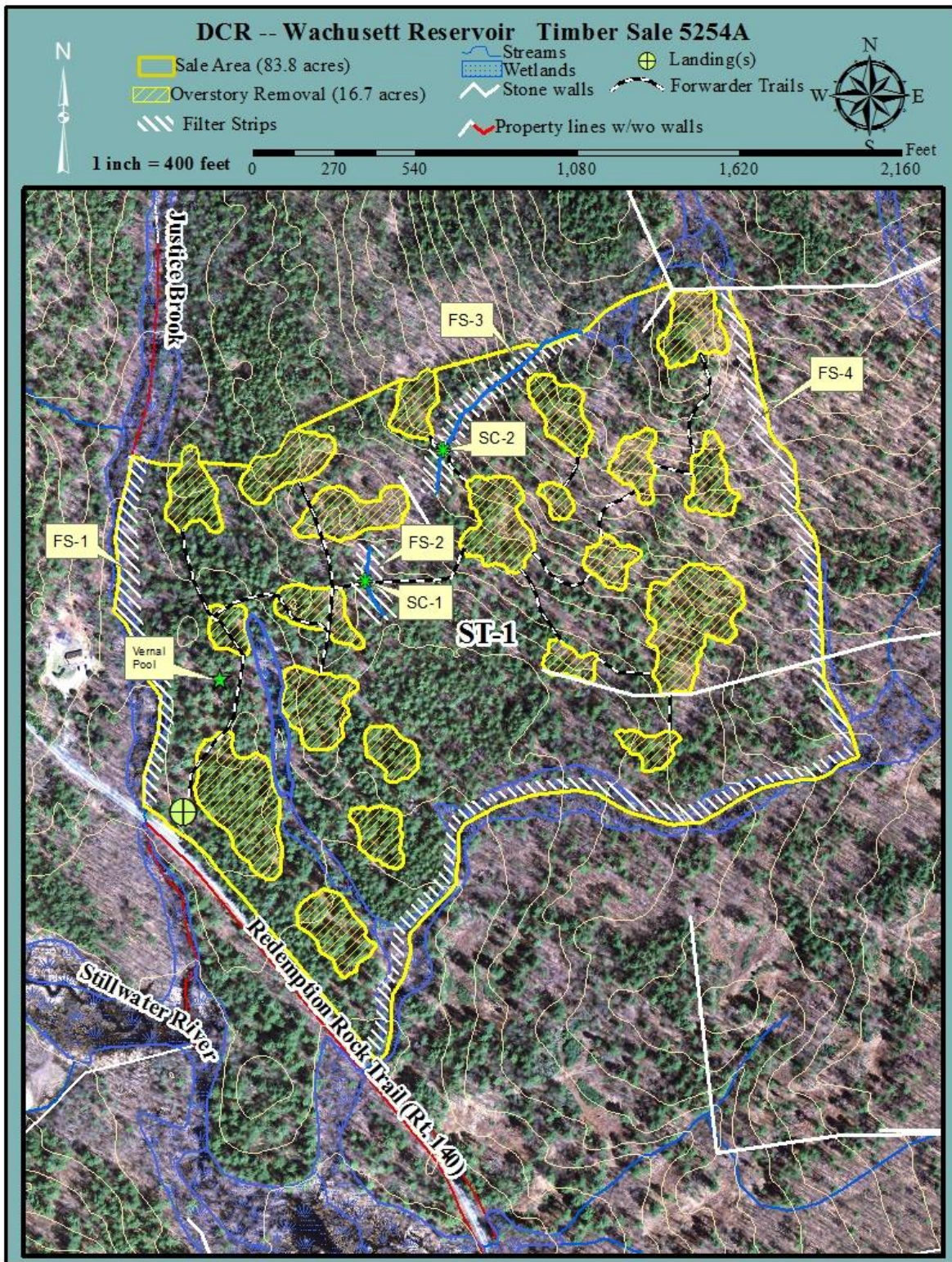
Landowner: DCR DWS P

Town: Sterling

File Number: 282-9612-15

BMPs	<p><u>SC-1 and SC-2 are on very small, rocky intermittent brooks. Bridging will only be required if work is occurring when the streams are flowing. Otherwise, depending on conditions at the time, poles or tops may be used to prevent damage to the stream banks and bottoms.</u></p> <p><u>No trees are marked within any of the filter strips.</u></p> <p><u>No trees are marked within 100' of the vernal pool. However, a preexisting forwarder trail, which will be used, is within 100' of the vernal. Depending upon conditions at the time, tops or corduroy may be used to minimize rutting on the section of the trail nearest the vernal pool.</u></p>
Silviculture	<p><u>In order to release advance regeneration, 21 openings in the overstory are being created, covering 16.7 acres. These openings range from 1/5th to 2 acres in size with an average of 0.8 acres. They are well distributed throughout the area taking advantage of the advance regeneration comprised of white pine, oaks and other hardwoods. No trees have been marked between any of these patches.</u></p>
Objectives	<p><u>The objective of this operation is to diversify the age structure of the forest by removing the overstory in patches thereby releasing the advance regeneration. The current age structure is limited with an insufficient component of young forest.</u></p>
Other	

Figure 2. Maps of harvest area showing approximate boundary, proposed openings and other features





**Figure 4. Pre-Harvest Photographs, A-C**



**A. Landing location on Rt. 140.**



**B. White pine/hardwood stand where most of the overstory is being removed to release the abundant diverse regeneration beneath.**



C. One of the small areas of extreme rockiness. A porcupine had several dens among these rocks during the winter of 2015.

**Figure 5. Post-Harvest Photographs, A-B**



A. An area of overstory removal with excellent hardwood regeneration.



B. Note the large white pine that was retained in this opening. It provides important structural diversity.