

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

Project Title: Lot 5255

DWSP Harvest Permit Number: 5255

DWSP Proposal ID: WA-15-268

DCR Forest Cutting Plan File Number: 241-7624-15

Site Information

Watershed: Wachusett

Town(s): Princeton

Acres: 50.7

Nearest Road: Coal Kiln Road

Natural Heritage Atlas overlap?: No

Public Drinking Water Supply Watershed?: Yes

Forest Types: White pine-oak/ Oak-hardwood

Area of Critical Environmental Concern (ACEC)?: No

Soils: A mix of excessively-drained outwash soils and well-drained till soils.

Wetland Resources: Babcock Brook forms the northwest border of this sale area and wetlands form the western border of the area.

Vernal Pools: There is a vernal pool in the northern end of the area.

Harvest Information

Harvest Start Date: 10/1/2015

Harvest End Date: 12/1/2017

Number of Wetland Crossings: One

Number of Stream Crossings: None

Best Management Practices Applied

Stream Crossings: There are no stream crossings.

Filter Strips: There are no trees being cut in the filter strip.

Wetland Crossings: A narrow unmapped wetland just north of the vernal pool only needs to be crossed to access a very small piece of the sale area. Depending upon conditions at the time, tops or corduroy will be used to minimize impact.

Harvesting in Wetlands: There is no harvesting in wetlands.

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 Princeton east of Coal Kiln Rd., north of the power line. Access to the lot will be through the gate and along the power line maintenance road. The forest is comprised primarily of white pine along with a typical mix of hardwood species including red, black and white oaks, red maple, black birch, black cherry and black gum (found in and near the wetlands). A severe thunderstorm in 1989 hit this area resulting in significant damage to the overstory trees. A subsequent salvage operation resulted in the establishment of now 25 year old forest on a significant portion of this area. The older forest is about 90 years of age. The southern half of this area is notable for its thick understory of mountain laurel which prevents the establishment of tree regeneration. The northern half, free of this inhibiting shrub layer, has excellent advance regeneration of a good variety of species.

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 50 acres as well as in the forest of the much larger area from which water flows into Babcock Brook, there is not the diversity in age structure which is the goal of watershed forest management. There are currently two age classes in this forest; 25 year old forest on 24% of the area and 90 year old forest on the remaining 76%. This 25 year old younger forest is concentrated disproportionately in the northern half of the area with the southern half devoid of regeneration due to the mountain laurel. The ideal protection forest would have 3 age classes of trees distributed throughout this sale area.

Silvicultural Objectives

In the northern half of the area where the advance regeneration is present, openings will be made in the overstory thereby releasing the young trees from the shade of the older and taller trees. Throughout the northern part of the sale area and including a far southern piece where mountain laurel is not prevalent, 9 openings have been marked totaling 8.3 acres with a range in size from 0.25 to 2.0 acres.

In the southern half, where the dense mountain laurel is preventing the establishment of a young forest, the goal will be the establishment of new trees rather than the release of existing trees. Experience and observation have shown that partial removal of the forest overstory in the presence of mountain laurel does not allow the establishment of young trees. It only creates conditions suitable for mountain laurel. The only way to create conditions that allow tree seedlings to establish is to remove a significant portion of the forest overstory with an emphasis on physically damaging the mountain laurel during the process. A scattering of suitable trees are left in these areas which should provide seeds along with the surrounding forest. This provides the opportunity for new tree seedlings to get established and grow quickly due to the ample sunlight before the mountain laurel can recover and form an inhibiting shrub

layer once again. To this end, 11.1 acres have been treated with this method in patches distributed throughout this zone with about and equal acreage left uncut.

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

The vernal pool will be protected using the DCRs Best Management Practices as described in Wachusett Land Management Plan.

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-C

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 **MAY 22 2015**
(Effective Date: 1/1/04)

For DCR Use Only:

File Number	<u>44-2044</u>	Case No.	
Date Rec'd	<u>3-23-15</u>	Nat. Hert.	<u>NO</u>
Earliest Start	<u>6-9-15</u>	Nat. Hert. Imp.	<u>NO</u>
River Basin	<u>NESHU</u>	Pub. Dr. Wat.	<u>YES/NO/NEST</u>
Gen. Obj.	<u>LT</u>	ACEC	<u>NO</u>

Site Information

Location

Town Princeton Lot 5255
Road Coal Kiln Rd.
Acres 50.7 Proposed Start Date 7/1/15
Vol. MBF 110.5 Vol. Cds. 136 Vol. Tons 228

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				
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	<u>20'</u>			
Mitigation	<u>OT</u>			
Stabilization	<u>CO</u>			

Filter Strips

Indicate location on map	FS-1	FS-2	FS-3	FS-4
Width (50', 100', or 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 SWAMP CREEKS/STREAMS ARE EXISTING
* NO HARVESTING ACTIVITIES IN SWAMP (T-F-S)
* PLEASE CONSIDER USING VEGETAL POOL BUFFER
(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*

Table with 4 columns: Species, Mbfs/Cds, Species, Mbfs/Cds. Rows include White Pine, Red Pine, Pitch Pine, Hemlock, Spruce, Other Sftwd., White Ash, Beech, White Birch, B & Y Birch, Black Cherry.

*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. Mbfs = thousand board feet.

Stand Treatment

Cutting Standards

Table with 5 columns: Indicate location on map, ST-1, ST-2, ST-3, ST-4. Rows include Forest Type, Acres, Landowner Objective, Designation of Trees, Type of Cut, Source of Regeneration.

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.

[X] 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 of landowner(s)

Handwritten date: 8/22/15

Signature of landowner(s)

Date

Service Forester

Determination and Status

Approved Disapproved Expires

Cutting Plan [X] [] 3-22-2017

Handwritten signature and date: 6-3-2015

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

Legend table with columns: Forest Types, Designation of Trees, Type of Cut, Intermediate Harvests, Non-Standard Systems, Source of Regeneration.

Forest Cutting Plan

Narrative Page

Landowner: Mr. Wolf

Town: Lincoln

File Number: 241-7654-15

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

BMPs	<p><u>WC-1 is across a very narrow unmapped wetland. Depending upon conditions at the time, tops or corduroy may be used to minimize rutting.</u></p> <p><u>No trees are marked within FS-1.</u></p> <p><u>No trees are marked within 100' of the vernal pool.</u></p>
Silviculture	<p><u>In order to release advance regeneration, 9 openings in the overstory are being created, covering 8.3 acres. These openings range from 1/4th to 2 acres in size with an average of 0.9 acres. They are well distributed throughout the area taking advantage of the advance regeneration comprised of white pine, oaks and other hardwoods.</u></p> <p><u>In other portions of ST-1 and ST-2 where mountain laurel dominates the understory and has inhibited tree regeneration, a shelterwood establishment cut will occur with the removal of approximately 50% of the stocking.</u></p> <p><u>There are no trees being cut and so there will be no activity in ST-3.</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 and to establish regeneration in areas where it is currently lacking. The current age structure is limited with an insufficient component of young forest.</u></p>
Other	<p><u>Portions of the existing atv/hiking trail will be used as part of the forwarder trail network.</u></p>

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

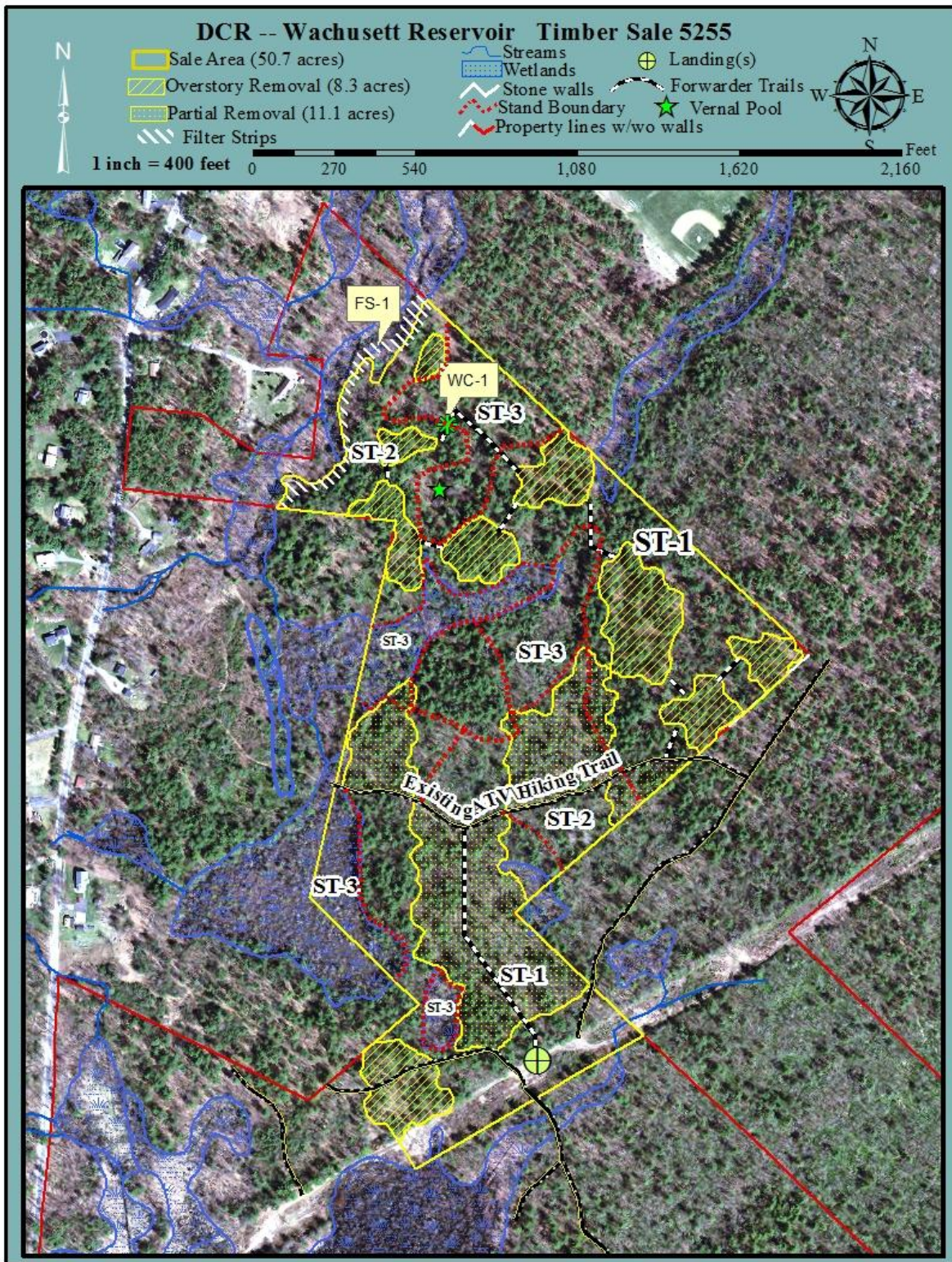


Figure 3. General locus map showing the location of the proposed timber harvest

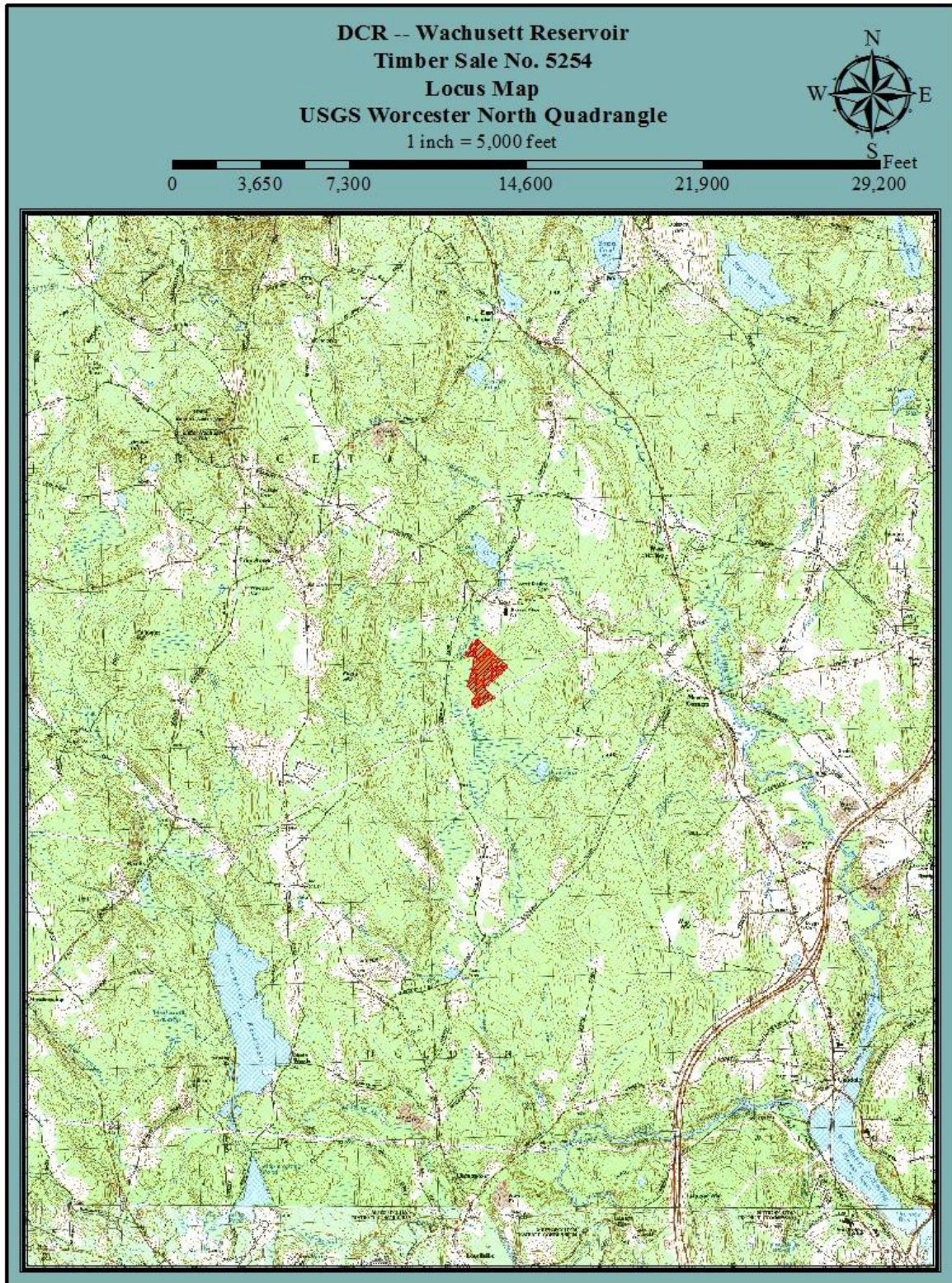


Figure 4. Pre-Harvest Photographs, A-C



A. The access road under the power lines on Coal Kiln Road.



B. This shows the thick mountain laurel understory which prevents the establishment of young trees.



C. An area with plenty of seedlings and saplings and a good diversity of species where the overstory will be removed.

Figure 5. Post-Harvest Photographs, A-C



A. The landing area. The logs were placed along the edge of the powerline to prevent unauthorized vehicular access into the forest.



B. This is one of the areas where a thick mountain laurel understory which prevented tree regeneration from becoming established. The additional sunlight from the removal of some of the overstory trees along with the damage to the mountain laurel, should allow seedlings to germinated and thrive.



C. This was an area with a good number and diversity of seedlings and saplings. Most of the overstory has been removed so the young trees can now thrive.