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: 5260
DCR Forest Cutting Plan File Number: 134-8093-16

Site Information

Watershed: Wachusett	**Town(s)**: **Holden**
Acres: 67	**Nearest Road: Manning Street**
Natural Heritage Atlas overlap?: No	**Public Drinking Water Supply Watershed?:** Yes
Forest Types:Mixed oak and White pine-Hardwoods	**ACEC?: No**
Soils: Primarily the well drained Paxton and Woodbridge fine sandy loam till soils along with the excessively drained Hinckley outwash soil. There is also the Whitman loam which is a poorly drained soil with a high seasonal water table.	
Wetland Resources: There is a wooded wetland that forms the sale boundary in the southwestern corner of the sale area. An arm of this wetland then runs northeasterly nearly dividing the lot in two. A small stream, tributary to the Quinapoxet River, flows southerly out of this area.	
Vernal Pools: There is a vernal pool in the wooded wetland near the stream and about 200' north of the stream crossing.	

Harvest Information

DWSP Permit Start Date: 7/1/16	**DWSP Permit End Date: 6/29/18**
Number of Wetland Crossings: 1	**Number of Stream Crossings: 1**

Best Management Practices Applied

Stream Crossings	The stream will be bridged.
Filter Strips	There are no trees marked in the filter strip.
Wetland Crossings	The narrow wetland adjacent to the stream crossing will be well armored with corduroy and tops.
Harvesting in Wetlands	No harvesting in wetlands will occur.

DWSP Forester supervising this harvest
Name: Greg Buzzell
Forester License #:025
Phone #:508-792-7806 x317

NARRATIVES

General Description/Forest Composition/History:

This property is the result of three separate land acquisitions each with its own land use history. A thick understory, whether of tree saplings or mountain laurel, is the defining character of this area. Logging in the mid-1980's prior to DCR acquisition is the primary reason. While these harvests seemed to have focused on the removal of white pine, fortunately a decent amount of pine was retained along with a variety of hardwoods especially red, black and white oaks, black birch, red maple and white ash. The understory is either thick mountain laurel with very little tree regeneration other than sassafras or thick advance regeneration comprised of red oak, white pine, red maple, black oak and black birch along with lesser numbers of yellow birch, hemlock, white oak and hickory.

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 of the lack of age diversity both in these 67 acres as well as in the 2,325 DCR-owned acres from which water flows into the Quinapoxet River. While past land use and management history has resulted in some diversity of tree ages, there is only 2% of the forest in trees less than 20 years old. The oldest trees, in the hemlock-hardwood stand in the narrow wetland, are about 120 years old. The ideal protection would have at least 3 age classes of trees distributed throughout this sale area.

Silvicultural Objectives:

Openings will be made in the overstory taking advantage of areas of good advance regeneration thereby releasing these younger trees from the shade of the older, taller forest. Thirteen openings will be made that range in size from about 1/4 to 1.8 acres in size. These openings total 13 acres which represents 19% of the manageable acreage in this area. A few mature trees will be retained within each of these openings, particularly the ones larger than ½ acre. These trees provided important structural diversity within these patches of young trees in the short term and especially in the long term as it is anticipated that these retained trees will never be cut but be allowed to live to their natural lifespan.

In the middle portion of the area, 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, about 8 acres have been treated with this method in two patches in this zone with two patches of about 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”.

Wildlife/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

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) FEB 2 2 FEB 2 2 2016

For DCR Use Only:

File Number	134-8093-16	Case No.	
Date Rec'd	2/22/16	Nat. Hert.	NO
Earliest Start	3/8/16	Nat. Hert. Imp.	NO
River Basin	NASHUA	Pub. Dr. Wat.	YES - WACHUSETT
Gen. Obj.	CT	ACEC	NO

Site Information

Location

Town Holden Lot 5260
Road Manning Street
Acres 67 Proposed Start Date 04/01/16
Vol. MBF 127.7 Vol. Cds. 119 Vol. Tons 138

Plan Preparer

Name Russell Wilmot
Address 180 Beaman St.

Town, State, Zip West Boyslton, MA, 01583
Phone 508-792-7806 Ext 318
Type of Preparer Mass. Licensed Forester
*Mass. Forester License # 426
*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			
Existing Structure	NO			
Type of Bottom	ST			
Bank Height (ft)	<1'			
Stabilization	CO			

Wetland Crossings

Indicate location on map	WC-1	WC-2	WC-3	WC-4
Length of Crossing	20'			
Mitigation	FR/DR			
Stabilization	CO			

Filter Strips

Indicate location on map	FS-1	FS-2	FS-3	FS-4
Width (50', 100', or 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
* SEE ATTACHED VERNAL POOL BMPs

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	89.7	Red Maple	
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	10.1
Hemlock		Black Oak	1.8
Spruce		White Oak	1.2
Other Sftwd.		Other Hdwd.	
White Ash		**Total Mbf**	102.8
Beech		**Cordwood (Cds)**	150
White Birch		**SW Pulp (Tons)**	71
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.

Stand Treatment

Cutting Standards

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	WH	MO	HH	RM
Acres	20.0	32	6.0	9
Landowner Objective	LT	LT	LT	LT
Designation of Trees	CT	CT	CT	CT
Type of Cut	SH	SH	SH	SH
Source of Regeneration	AD/SE	AD/SE	AD/SE	AD/SE

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.

Signature of landowner(s) — Date: 2/12/16

Service Forester

Determination and Status

	Approved	Disapproved	Expires
Cutting Plan	☒	☐	2-22-2018

Signature of Service Forester/Director's Agent — Date: 3-3-2016

			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 — 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

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

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 Wachusett

Town: Holden

File Number: 134-8093-16

BMPs

There is one stream crossing & wetland crossing on this site in the same spot. Since there is a narrow wetland on either side of the stream the approach will be well armored with corduroy. The crossing will be used when it is in a frozen, dry or otherwise in a stable condition.

Silviculture

In order to release advance regeneration, 13 openings in the overstory are being created, covering 13.14 acres. These openings range from 0.25 acres to 1.82 acres in size with an average of 1.0 acre. They are well distributed throughout the northern and southern portions of this sale area and take advantage of the advance regeneration comprised of pine, oak, maple, and other hardwoods. The middle portion of this sale is characterized by a thick understory of mountain laurel which is inhibiting the development of tree species with the exception of sassafras. In addressing this issue we will remove portions of the overstory in two separate sections covering 7.9 acres and in the process it will mechanically damage the mountain laurel and scarify the soil which will encourage tree establishment.

Objectives

The main 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. A secondary objective is to reduce the amount of mountain laurel interference and encourage tree establishment in these areas.

Other

The stream has a filter strip and there will be no harvesting in the filter strip. There are two vernal pools on site and no harvesting will occur within 100' of either of them.

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

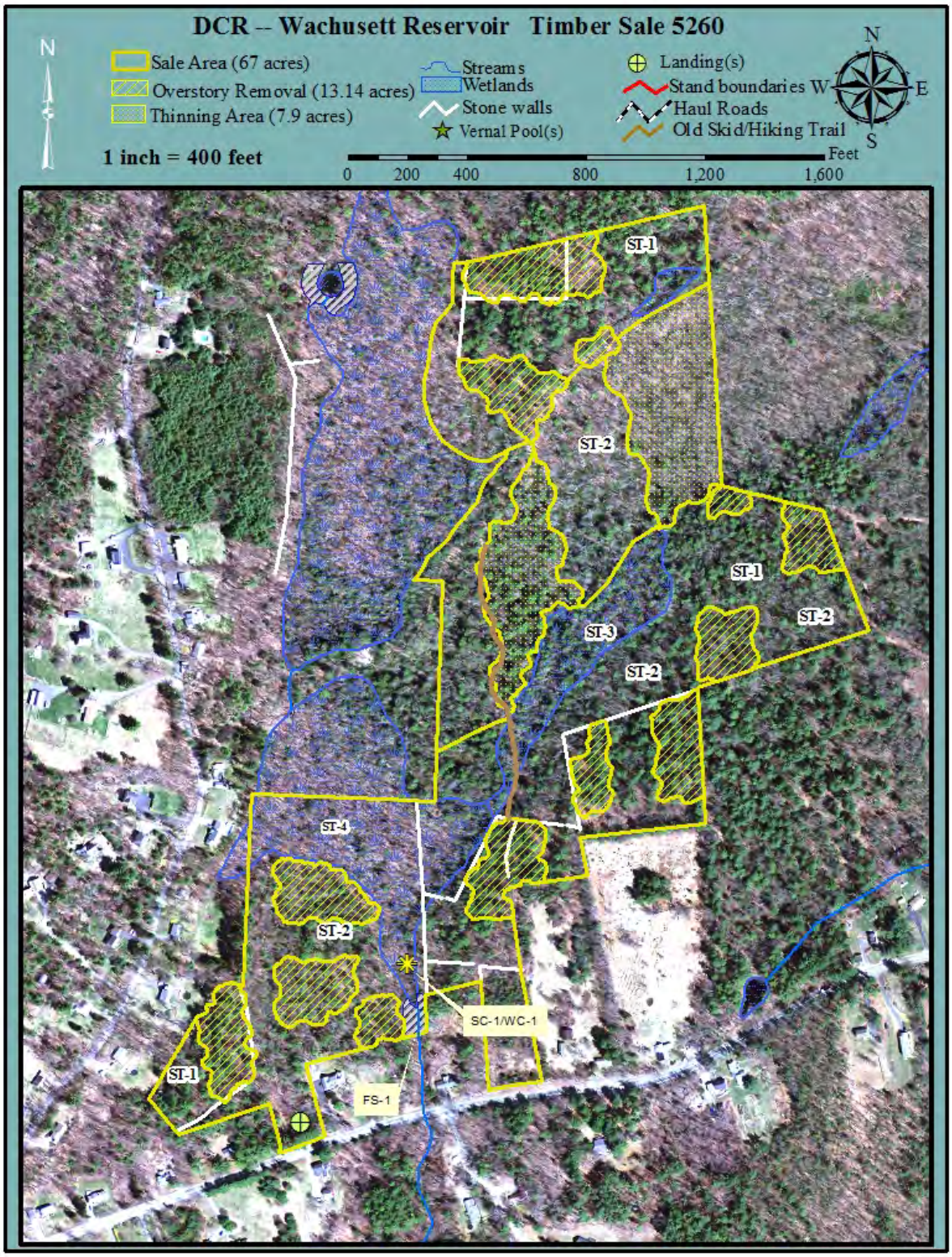

Figure 3. General locus map showing the location of the proposed timber harvest

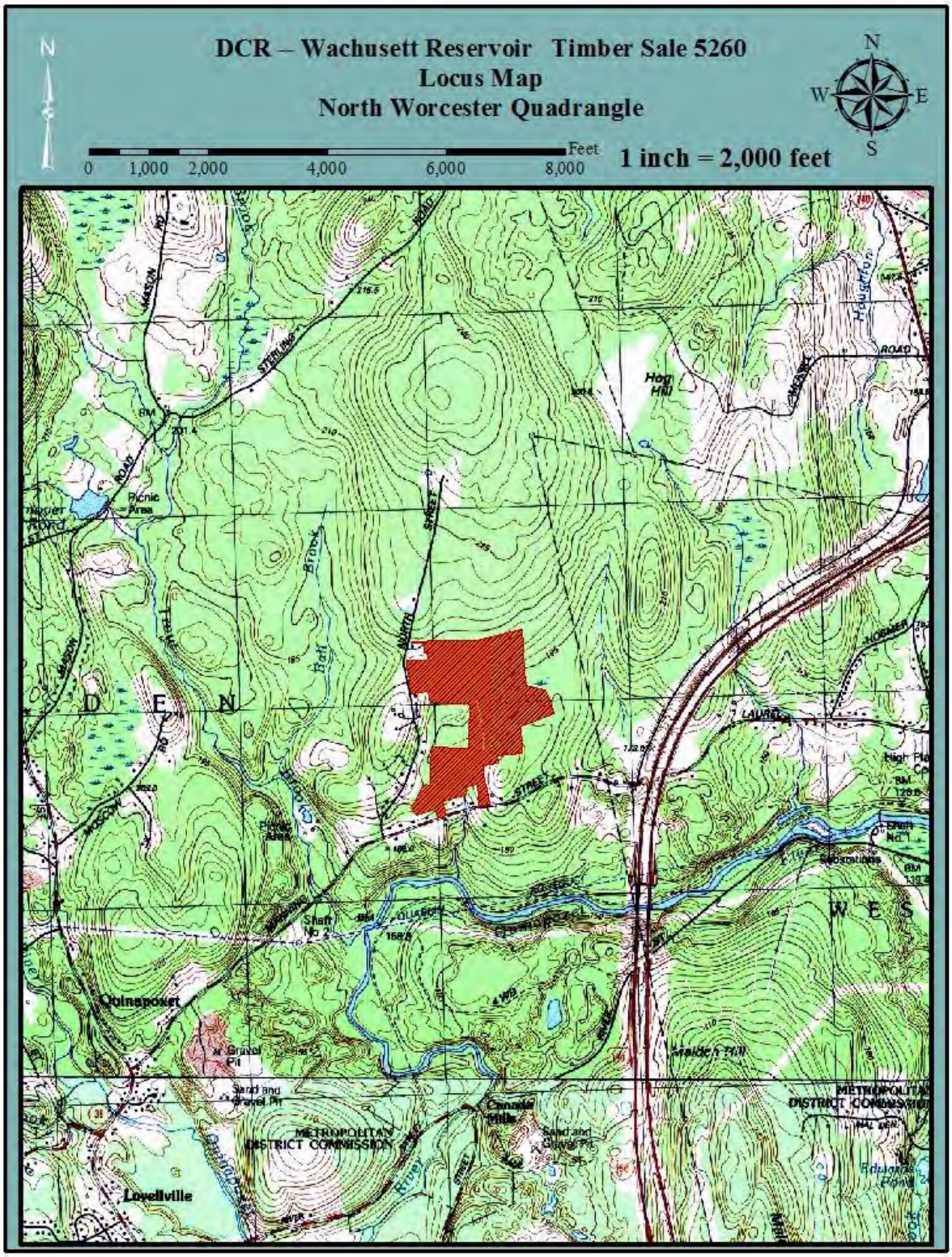

Figure 4. Pre-Harvest Photographs, A-C

A. The overstory is being removed to release the thick white pine and hardwood regeneration.

B. The location of the stream crossing.

C. An area of thick mountain laurel where a significant portion of the overstory is being removed to allow for the establishment of tree species.