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

Forest Management Project Summary

Project Title: Lot 5258
DWSP Harvest Permit Number: 5258
DWSP Proposal ID: WA-15-324
DCR Forest Cutting Plan File Number: 241-7794-16

Site Information
Watershed: Wachusett
Town(s): Princeton
Acres: 86
Nearest Road: Houghton Road
Natural Heritage Atlas overlap?: No
Public Drinking Water Supply Watershed?: Yes
Forest Types: Oak-Hardwoods/White pine-oaks
Area of Critical Environmental Concern (ACEC)?: No
Soils: The Hinckley fine sandy loam (excessively drained outwash soil) and the Montauk-Scituate-Canton association which are deep, well drained soils of till origin.
Wetland Resources: East Wachusett Brook and two intermittent tributaries with associated bordering vegetated wetlands flow north to south through this area.
Vernal Pools: There is one verified vernal pool in the southwest part of the sale area and another potential, but yet to be verified vernal pool a little south of the small pond near the eastern boundary of the property.

Harvest Information
Harvest Start Date: 7/1/2016
Harvest End Date: 12/1/2017
Number of Wetland Crossings: None
Number of Stream Crossings: Six

Best Management Practices Applied
Stream Crossings: These small intermittent stream crossings will most likely occur when the streams are dry in which case they will be crossed using poled fords or corduroy. If any stream is flowing then bridging will be used.
Filter Strips: There are no trees marked in the filter strips.
Wetland Crossings: There are no wetland crossings.
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 Princeton with frontage on the north side of Houghton Road. This forest originated after the abandonment of these two pastures in about 1930 and there is no evidence that any tree cutting has occurred since that time. The forest in the west pasture is dominated by red oak along with red maple, black birch, white pine, hickory, white oak, eastern hophornbeam and beech. The forest in the east pasture has a similar mix of species however white pine is the dominant species. Shrub species are primarily hazelnut, witch-hazel, mountain laurel, viburnums and blueberries. There is good advance regeneration scattered through most of this area and is made up of a similar mix of species as is the overstory.

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 86 acres as well as in the 1,200 DCR-owned acres from which water flows down East Wachusett Brook and into the Stillwater River. Presently there is only one age class in this forest, the 86 year old forest stands that developed following the abandonment of the pastures. Since 1930, no harvesting or natural disturbance has initiated the development of at least a second age class of trees. 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. Eighteen openings will be made (11 in the west pasture and 7 in the east pasture) that range in size from about 1/3rd to nearly 2 acres in size. These openings total nearly 14 acres, which represents 16% 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.

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. Care will be taken to minimize disturbance to stone walls or any other cultural artifact if any are found.

Rare or Endangered Species

None known.

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)

For DCR Use Only:

File Number	241-7794-16	Case No.	
Date Rec'd	9/21/15	Nat. Hert.	NO /
Earliest Start	10/6/15	Nat. Hert. Imp.	NO
River Basin	NASHUA	Pub. Dr. Wat.	YES-WACHUSETT
Gen. Obj.	LT	ACEC	NO

Site Information

Location

Town Princeton Lot 5258
Road Houghton Rd
Acres 86 Proposed Start Date 10/01/15
Vol. MBF 127.7 Vol. Cds. 119 Vol. Tons 138

Plan Preparer

Name Russell Wilmot
Address 180 Beaman St.
Town, State, Zip West Boylston, 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	SC5	SC6
Type of Crossing	BR	PO	PO	PO	PO	PO
Existing Structure	NO	NO	NO	NO	NO	NO
Type of Bottom	GR	GR	ST	ST	ST	ST
Bank Height (ft)	2'	<1'	<1'	<1'	1'	1'
Stabilization	ST	CO	CO	CO	CO	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				

Filter Strips

Indicate location on map	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6
Width (50', 100', or VA)	VA	VA	VA	VA	VA	VA

FS-7	FS-8	FS-9
VA	VA	VA

Service Forester Comments

* ALL SKID ROADS/TRAILS ARE EXISTING.
* APPLY VERNAL POOL BMPs (see ATTACHED)
* 50' BUFFER STRIP ALONG HOUGHTON Rd. (MAINTAIN)

RECEIVED
SEP 18 2015

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	101.7	Red Maple	
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	16.7
Hemlock		Black Oak	8.6
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	
White Ash		**Total Mbf**	127.7
Beech		**Cordwood (Cds)**	119
White Birch		**SW Pulp (Tons)**	138
B & Y Birch	6.0	**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	OH	MH	WO	WP
Acres	26.0	26.0	13.0	21.0
Landowner Objective	LT	LT	LT	LT
Designation of Trees	CT	CT	CT	CT
Type of Cut	SE	SE	SE	SE
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 9/12/15

Service Forester

Determination and Status

	Approved	Disapproved	Expires
Cutting Plan	☒	☐	9-21-2017

Signature of Service Forester/Director's Agent — Date 10-5-2015

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

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: Dee/Duse/Owen

Town: Princeton

File Number: 241-7794-16

BMPs

There are 6 stream crossings on this site. SC-1 & SC-2 are filled with gravel from the road. SC-1 will be bridged to get into the harvest area from the road. SC-6 will only be used for the one opening. The site has very deep & rocky soils so harvesting will only occur in summer or winter when conditions are suitable.

Silviculture

In order to release advance regeneration, 18 openings in the overstory are being created, covering 13.92 acres. These openings range from 0.37 acres to 1.84 acres in size with an average of 0.77 acre. They are well distributed throughout the area taking advantage of the advance regeneration comprised of oaks, hickories, other hardwoods and some pine.

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.

Other

Because of the topography and resource areas, The western main landing will be located directly across the road from SC-1 where a previous landing was installed.

All streams on site have filter strips and there will be no harvesting in the filter strips. They have been left off the map on purpose because of limited space on the map.

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

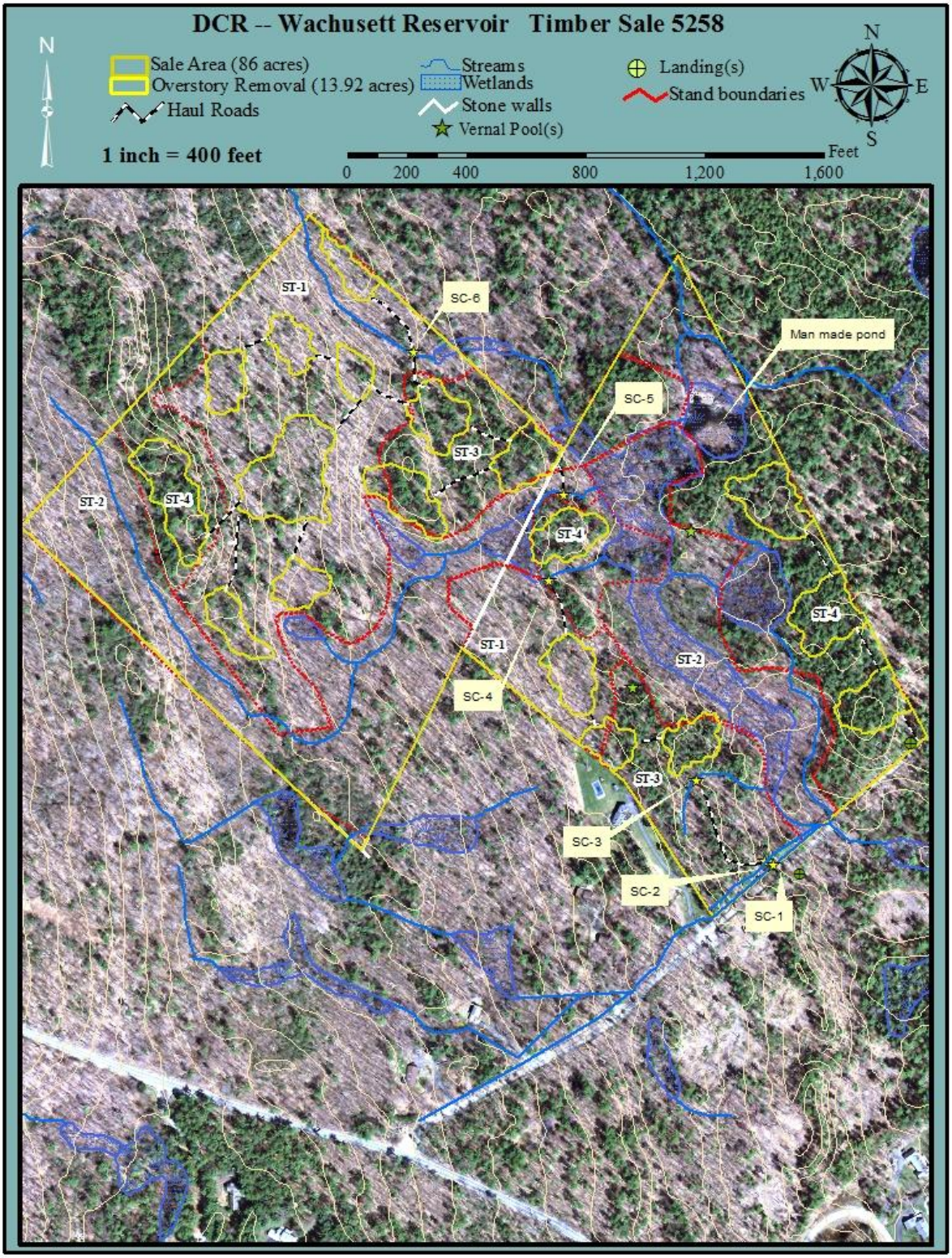

Figure 3. General locus map showing the location of the proposed timber harvest

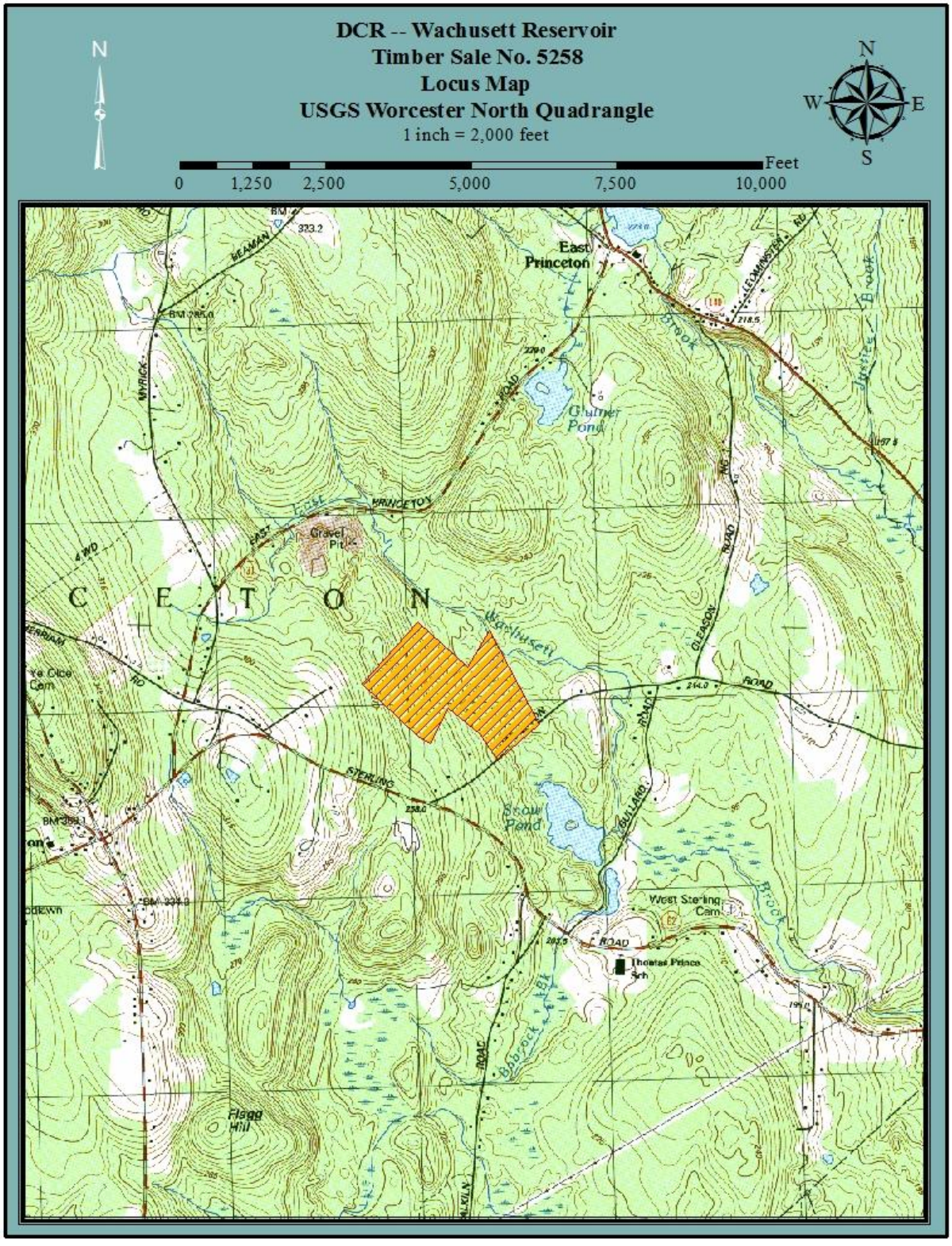

Figure 4. Pre-Harvest Photographs, A-D

A. This is the location of the easterly of the two landings along this unpaved stretch of Houghton Road in Princeton.

B. The overstory in this area is being removed to release the young hardwood and white pine saplings. The large white oak in the center of the photo is being retained in order to provide structural diversity.

C. This white pine dominated overstory is being removed to release the diverse hardwood saplings. Note the black cherry tree in the middle of the photo which is being retained to provide structural diversity as well as species diversity.

D. One of the numerous stream crossings that are necessary to access this area. This intermittent stream will be protected from damage whether the stream is flowing or not with the proper application of Best Management Practices.

Figure 5. Post-Harvest Photographs, A-B

A. An area of overstory removal with white pine and hardwood regeneration. The hemlock and the pine snags were retained to provide structural and habitat diversity.

B. Another area of overstory removal with good white pine and hardwood regeneration. In this area, the white oak was retained.