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: 5255
DCR Forest Cutting Plan File Number: 241-7624-15

Site Information

Watershed: Wachusett	**Town(s)**: **Princeton**
Acres: 50.7	**Nearest Road: Coal Kiln Rd.**
Natural Heritage Atlas overlap?: No	**Public Drinking Water Supply Watershed?:** Yes
Forest Types: White pine-oak/ Oak-hardwood	**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

DWSP Permit Start Date: 10/1/15	**DWSP Permit End Date: 12/01/17**
Number of Wetland Crossings: One	**Number of Stream Crossings: 0**

Best Management Practices Applied

Stream Crossings	There are no stream crossings.
Filter Strips	There are no trees being cut in the filter strip along Babcock Brook.
Wetland Crossings	A narrow unmapped wetland just north of the vernal pool only needs to 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: Russ Wilmot
Forester License #: 426
Phone #: 508-792-7806 x318

NARRATIVES

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.

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

For DCR Use Only:

File Number	244-760415	Case No.	
Date Rec'd	5-22-15	Nat. Hert.	NO
Earliest Start	6-9-15	Nat. Hert. Imp.	NO
River Basin	NASHUA	Pub. Dr. Wat.	WEST BOYLSTON
Gen. Obj.	LT	ACEC	NO

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	20'			
Mitigation	OT			
Stabilization	CO			

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 SKID TRAILS TO BE EXISTING
* NO HARVESTING ACTIVITIES IN STAND 3 (ST-3)
* PLEASE CONVERT 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	103	Red Maple	
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	5.4
Hemlock		Black Oak	1.4
Spruce		White Oak	0.6
Other Sftwd.		Other Hdwd.	
White Ash		**Total Mbf**	110.5
Beech		**Cordwood (Cds)**	136
White Birch		**SW Pulp (Tons)**	228
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	WO	OM	MH	
Acres	35.1	5.5	10.1	
Landowner Objective	LT	LT	LT	
Designation of Trees	CT	CT	OT	
Type of Cut	SH	SH	OT	
Source of Regeneration	AD	AD	n/a	

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: 5/22/15

Service Forester

Determination and Status

	Approved	Disapproved	Expires
Cutting Plan	☒	☐	5-22-2017

Signature of Service Forester/Director's Agent — Date: 6-3-2015

			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: [illegible]

Town: [illegible]

File Number: [illegible]

BMPs

WC-1 is across a very narrow unmapped wetland. Depending upon conditions at the time, tops or corduroy may be used to minimize rutting.
No trees are marked within FS-1.
No trees are marked within 100' of the vernal pool.

Silviculture

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.
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.
There are no trees being cut and so there will be no activity in ST-3.

Objectives

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.

Other

Portions of the existing atv\biking trail will be used as part of the forwarder trail network.

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

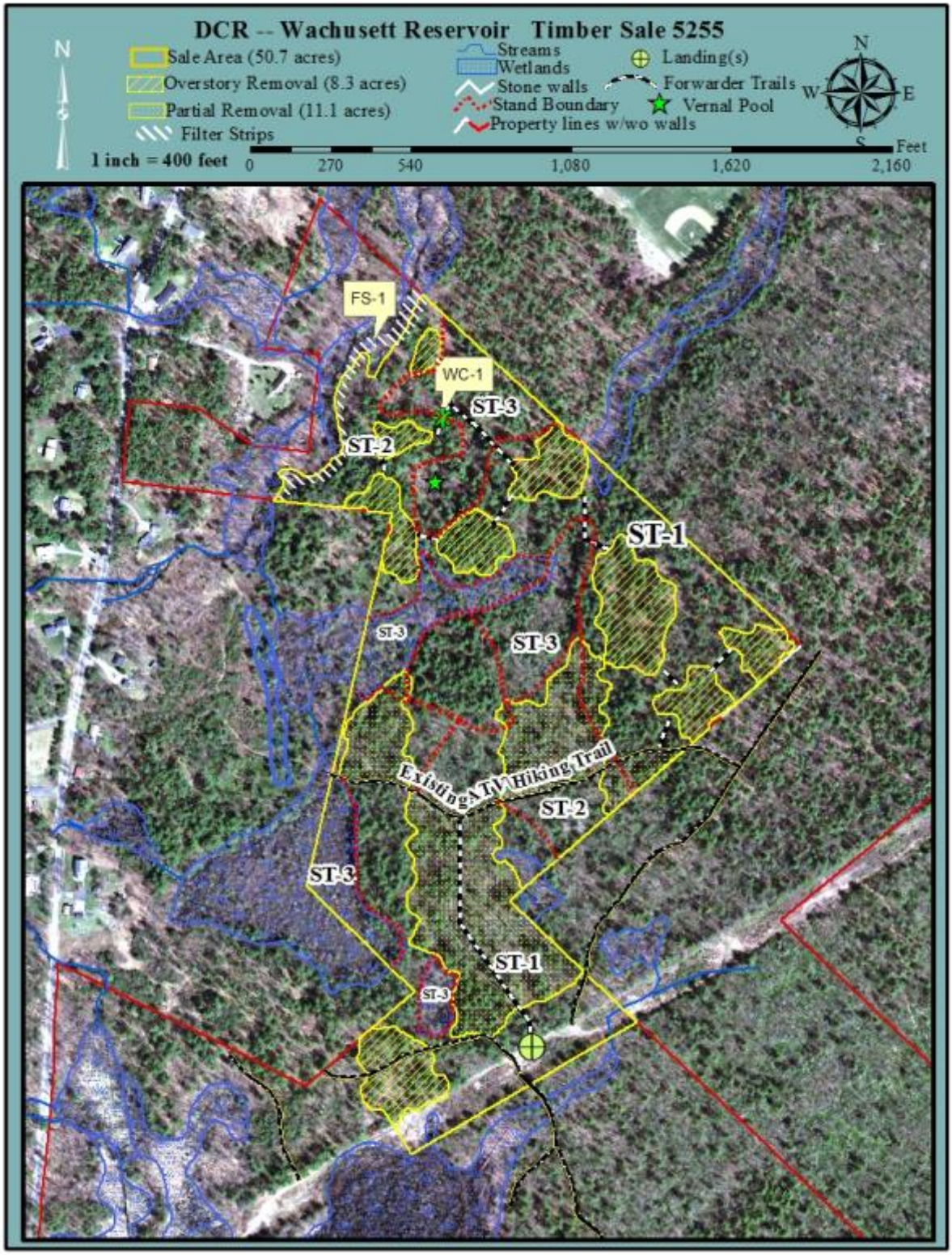

Figure 3. General locus map showing the location of the proposed timber harvest

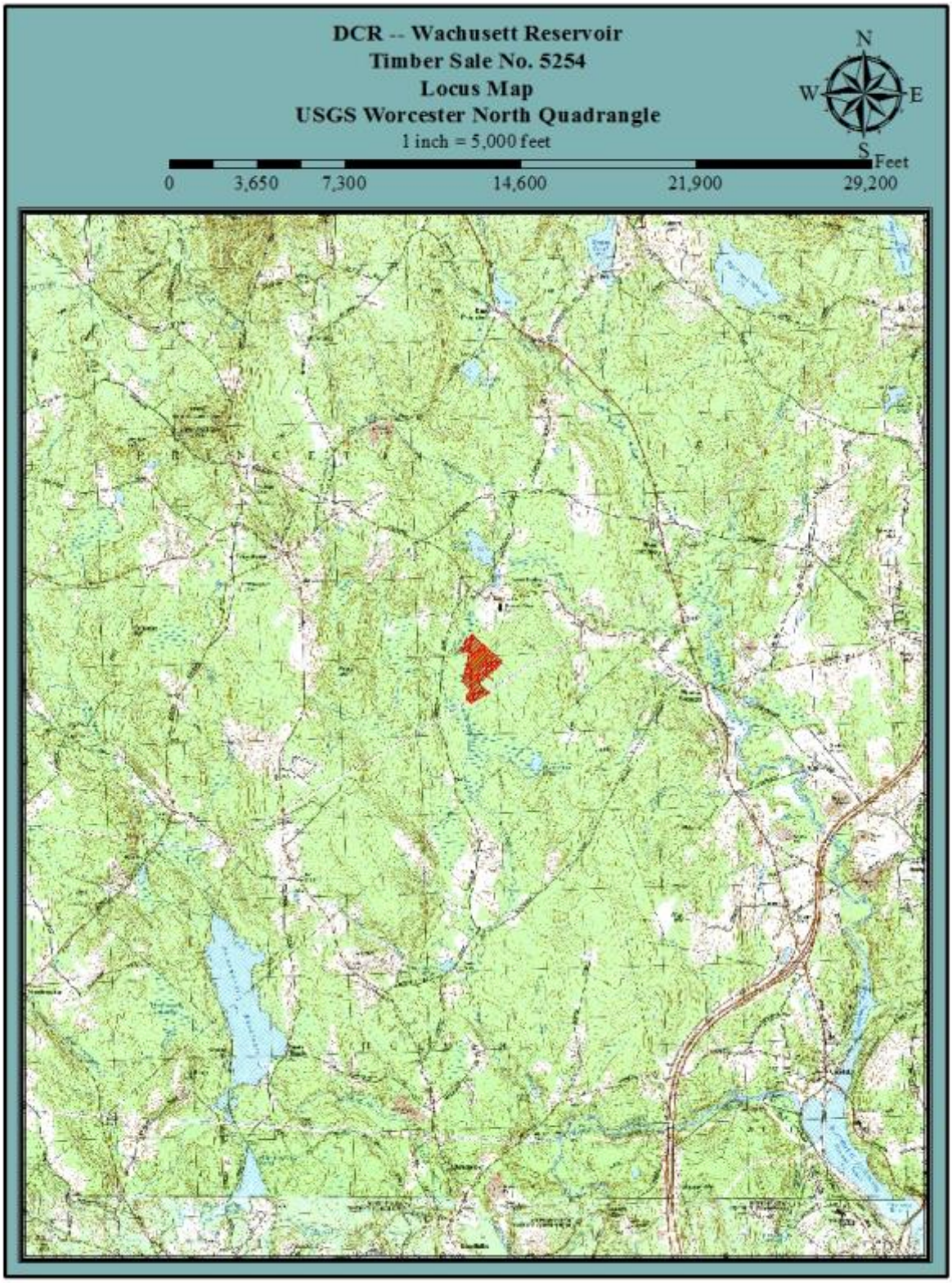

Figure 4. Pre-Harvest Photographs, A-C

A. The 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.