

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: 5251A
DCR Forest Cutting Plan File Number:282-7220-15

Site Information

Watershed: Wachusett	Town(s): Sterling
Acres: 43.6	Nearest Road: Beaman Road
Natural Heritage Atlas overlap?:No	Public Drinking Water Supply Watershed?: Yes
Forest Types: White pine-hardwood/Red oak	ACEC?: No
Soils: Paxton fine sandy loam, extremely stony	
Wetland Resources: Wilder Brook with its associated bordering vegetated wetlands forms the western boundary of this sale area. A small intermittent brook originates in the middle of this area and flows south while another intermittent brook in the north end of the area joins Wilder Brook.	
Vernal Pools: None	

Harvest Information

DWSP Permit Start Date: 7/01/15	DWSP Permit End Date:6/30/17
Number of Wetland Crossings: None	Number of Stream Crossings: 2

Best Management Practices Applied

Stream Crossings	The stream crossing in the north end of the sale area will be crossed at an existing culvert which will be armored with tops if necessary. Depending on conditions at the time, the second, very rocky stream crossing will utilize bridging or poled ford. Tops may be used to armor the approaches of both crossings.
Filter Strips	No trees are 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 #: 025
Phone #: 508-792-7806 x317

NARRATIVES

General Description/Forest Composition/History:

This area is located in Sterling on the south side of Beaman Road just to the east of Wilder Road. Wilder Brook flows through this property from north to south and forms the western boundary of this timber sale area. This forest originated following a prolonged history of abandonment of pastures on this property. The first pasture to be abandoned was in the far southeast corner of the property. The present forest here originated in about 1915 and is dominated by red oak with a thick understory of white pine. It's likely that this block first came back to white pine, as is common for abandoned pastures, following abandonment in the 1800's. The early 1900's was the era of the clear cutting of "old-field" white pine stands which commonly developed in fields and pastures abandoned throughout the 1800's. Prior to the advent of cardboard boxes, the pine box was the dominant form of shipping container. These stands commonly converted to hardwood stands with the removal of the pine overstory.

The other stands throughout this sale area followed later pasture abandonments from the 1930's into the 1960's. These stands are typical of these conditions with crooked, multi-stemmed white pines dominating the overstory. A harvest in the 1970's in one of these stands led to what today is a well-stocked pole stand of hardwoods with a good component of red oak. There is good advance regeneration beneath much of the pasture pine overstory comprised of oak, red maple, white ash, elm, hickory, black birch, yellow birch and sugar maple.

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.

Due the history of the forest in this area, there is diversity of age classes with 9% of the forest under 20 years old, 20% is 21 to 40 years old, 19% 41 to 60 years old, 36% 61 to 80 years old and 16% 81 to 100 years old. However, there is still a deficiency in the proportion of the forest in the youngest age class. A combination regeneration and terrestrial invasive plant sampling scheme found adequate advance regeneration in 51% of the plots taken and another 25% of the plots with marginally adequate levels of regeneration. Given the general lack of young, free-to-grow forest, now is the time to capitalize on the well-distributed regeneration present and to create a piece of the Wachusett forest that is among the most diverse in the watershed.

Invasive species are present in this forest and were found on 16% of the plots taken. Most of these plots were in the north end of the sale area near Wilder Brook and its small tributary. A wide variety of invasive species are present including buckthorn, winged euonymus, honeysuckle, barberry and privet. Only one plot had greater than 25% ground cover of invasives with the other plots having far less.

Silvicultural Objectives:

There is ample advance regeneration of a species mix appropriate to the site to warrant release of a new age cohort by the removal of the overstory in patches. To that end, 11 openings in the overstory are being created. These openings range in size from 0.25 to 1 acre in size with an average of 0.5 acres. These have been well distributed throughout the working unit with adequate spacing between the patches to allow for future patches of a similar range of sizes. They have also been placed as to avoid the areas where invasive species are present at levels that we would expect to present a challenge to the success of

the release of the regeneration. Standards regarding green retention (live trees left within patches for structure and seed) have been followed.

Cultural Resources:

This lot was reviewed by the DCR archaeologist and all recommendations will be followed. There is no known cultural significance to this former pasture, either historically or pre-European contact. All stone walls on DCR property are valued as a cultural resource, so the stone walls on this property will be protected from damage to the extent possible.

Wildlife/Rare or Endangered Species:

There are no critical habitats or known rare or endangered plants or wildlife. All DWSP Best Management Practices for wildlife management such as the maintenance and encouragement of mast-producing species, snag and den trees are being followed.

FIGURES

Figure 1. Forest Cutting Plan

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

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
(Effective Date: 1/1/04)

NOV 07 2014

For DCR Use Only:

File Number 800-792-18 Case No. _____
Date Rec'd 10-2-14 Nat. Hert. NO
Earliest Start 12-22-14 Nat. Hert. Imp. NO
River Basin NEPSIA Pub. Dr. Wat. UNDESIGNATED
Gen. Obj. LT ACEC NO

Site Information

Location

Town Sterling Lot 5251
Road Beaman Road
Acres 35.4 Proposed Start Date 12/1/14
Vol. MBF 39.1 Vol. Cds. 55 Vol. Tons 132
43.6 64

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/PS	BR/PS		
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		

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 SLIC TRAILS / ACRES ARE BEATING
* BUFFER STRIP ALONG ALL WATER BODIES.

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	PD 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.

If Other (OT) is used in any category an explanation must be given on an attached narrative page

Forest Products

Products to be Harvested*

Species	Mbf/Cds		Mbf/Cds
White Pine	30.9	Red Maple	
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	416.9
Hemlock		Black Oak	415.7
Spruce		White Oak	0.1
Other Sfrwd.		Other Hdwld.	
White Ash		Total Mbf	39145.6
Beech		Cordwood (Cds)	5564
White Birch		SW Pulp (Tons)	132
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.

Cutting Standards

Indicate location on map	ST-1	ST-2	ST-3	ST-4
Forest Type	WH	OR	WP	MH
Acres	12.2	10.8	1.5	10.9
Landowner Objective	LT	LT	LT	LT
Designation of Trees	CT	CT	CT	CT
Type of Cut	SH	SH	CT	SH
Source of Regeneration	AD	AD	n/a	AD

Stand Treatment

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]

Signature of landowner(s)

Date

10/2/14

Service Forester

Determination and Status

Approved Disapproved Expires 10-2-2016

[Handwritten Signature] 10-15-2014

Signature of Service Forester/Director's Agent Date

Extension 1 2 Expires 1 Ser. For. Ints. 1

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	Designation of Trees	Type of Cut	Source of Regeneration
WP White Pine	CT Cut Tree	SH Shelterwood	AD Advanced
WK WP/Hem	LT Leave Tree	ST Seed Tree	SE Natural Seed
WH WP/Hdwld	SB Stand Boundary	CC Clear Cut	NT Non Com Thin
WO WP/Oak	OT Other	SE Selection	PL Plant
RP Red Pine	Landowner Objective	SA Salvage	CO Coppice
SR Red Spruce	LT Long-term Mgt.	SN Sanitation	HG Highgrade*
	ST Short-term Har.	DL Diameter Limit*	DS Direct Seed
		OT Other*	OT Other

*If Other (OT) or a non-standard system is used an explanation must be given on attached narrative page.

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: DeB, D&P

Town: Stoughton

File Number: 282-2220-15

BMPs	<p>SC-1 and SC-2 are on intermittent streams. Bridging will not be required if the streams are dry. In this case, tops or poles will be used to prevent damage to the stream. The approaches to the streams will be protected with tops unless the ground is adequately frozen or snow-covered.</p>
Silviculture	<p>In order to release advance regeneration, 12 openings in the overstory are being created, covering 4.9 acres. These openings range from 1/4 to 1/2 acre in size with an average of 0.4 acres. They are well distributed throughout the area taking advantage of the advance regeneration comprised of white pine, oaks and other hardwoods. A thinning will occur on an additional 3 acres in a small piece of Stand 1 and all of Stand 3 where 25-30% of the stocking will be removed. The trees of poorest vigor are the targets for removal with an overall goal of encouraging improved growth on the better residual trees.</p>
Objectives	<p>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 although there is diversity in middle-aged and older stands owing to the gradual abandonment of these former pastures.</p>
Other	

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

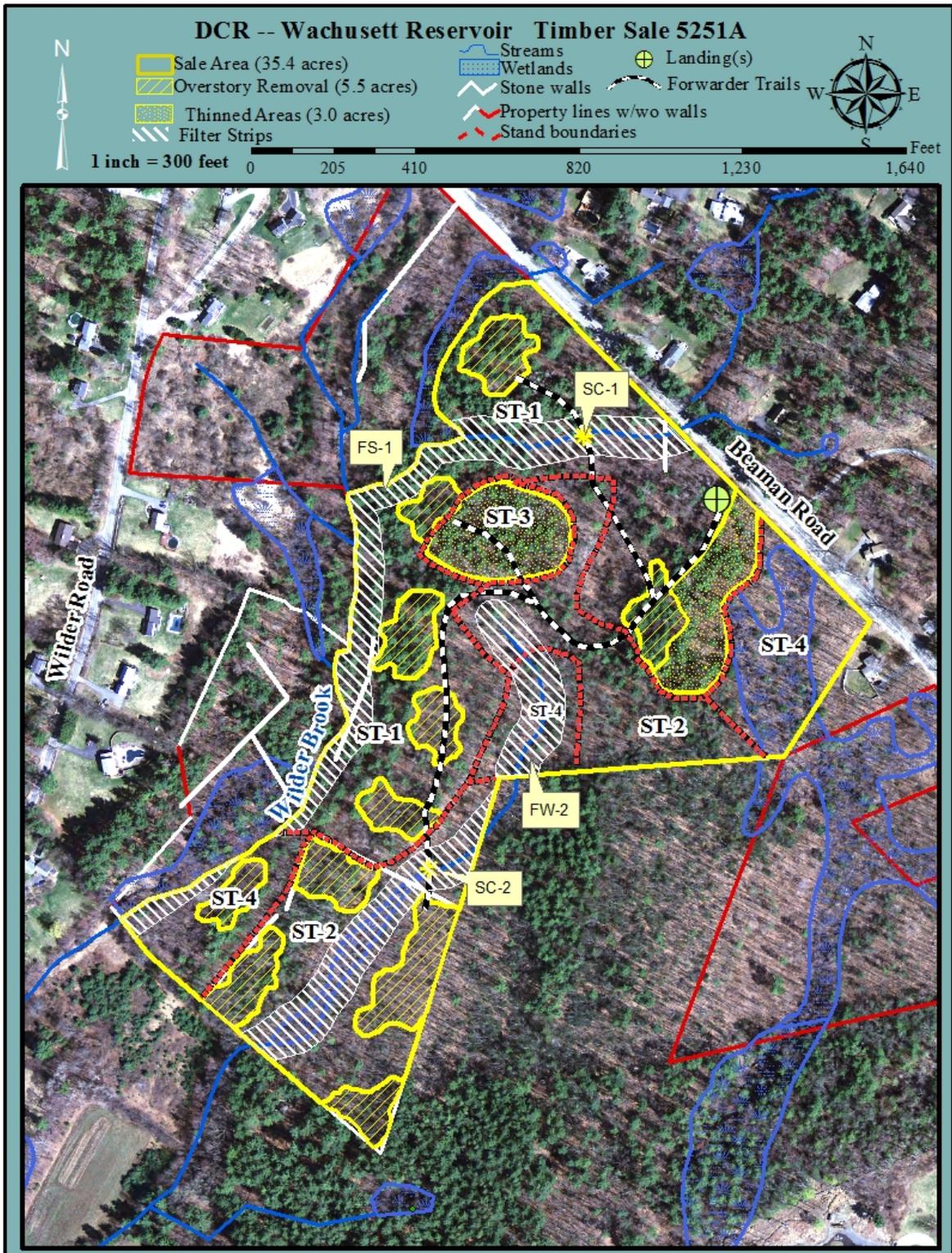


Figure 3. General locus map showing the location of the proposed timber harvest

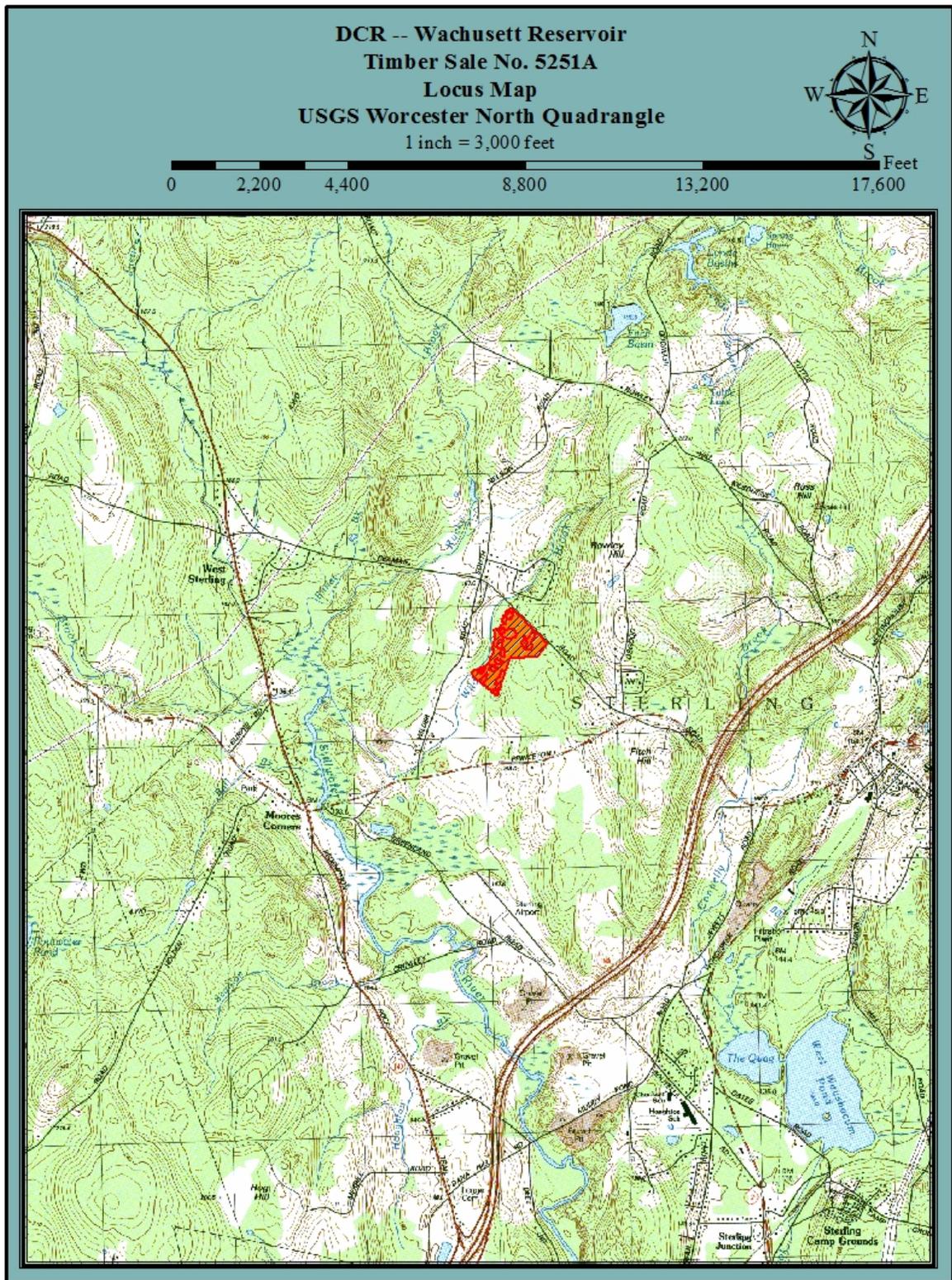


Figure 4. Pre-Harvest Photographs, A-C



A. One of the overstory removal patches in the oak stand with good white pine regeneration. Note the stone wall in the background that once formed the boundary of this former pasture.



B. Another opening in the oak stand. The two oaks (one nearer to the viewer than the other) in the center of the photo are not being cut so as to provide valuable structure diversity to this future young patch of forest.



C. This is an overstory removal patch in the white pine-hardwood stand. There is a good understory of hardwood species including a good amount of oak. The white pine in the middle of the photo and the paper birch to the right are being retained.

Figure 5. Post-Harvest Photographs, A-C



A. This opening was made in the oak stand to release the young white pine and oak regeneration. The white oak on the left side of the photo was retained in order to provide valuable structure in this now younger patch of forest.



B. This opening was made in a portion of the white pine-hardwood stand near Wilder Brook. In addition to the white pine regeneration, there is a wide diversity of hardwood species including oaks, black cherry, elm, red maple and sassafras..



C. Another opening showing a variety of species being released from the shade of the overstory. As is visible in the other photos as well, there is an unfortunate amount of browsing by deer on the hardwood stump sprout clumps. A couple of these can be seen in the center-foreground of this photo.