

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

**Project Title**

<b>DWSP Harvest Permit Number:</b> 5248
<b>DCR Forest Cutting Plan File Number:</b> 282-6882-14

**Site Information**

<b>Watershed:</b> Wachusett	<b>Town(s):</b> Sterling
<b>Acres:</b> 48.3	<b>Nearest Road:</b> Beaman Street
<b>Natural Heritage Atlas overlap?:</b> No	<b>Public Drinking Water Supply Watershed?:</b> Yes
<b>Forest Types:</b> White pine, White pine-Mixed Oak, Oak-Hardwood, Mixed Oak	<b>ACEC?:</b> No
<b>Soils:</b> Paxton and Woodbridge fine sandy loams	
<b>Wetland Resources:</b>	
<b>Vernal Pools:</b> There is a potential vernal pool located in the far north end of the sale area. While it has yet to be determined if this is an actual vernal pool, DWSP's Conservation Management Practices regarding vernal pools are being followed.	

**Harvest Information**

<b>DWSP Permit Start Date:</b> 4/1/2014	<b>DWSP Permit End Date:</b> 7/1/2016
<b>Number of Wetland Crossings:</b> None	<b>Number of Stream Crossings:</b> None

**Best Management Practices Applied**

<b>Stream Crossings</b>	There are no stream crossings.
<b>Filter Strips</b>	A variable-width filter strips will be applied along Rocky Brook due to the status of the Wachusett Reservoir as an Outstanding Resource Water. Equipment will not be allowed in the filter strips according to Ch. 132.
<b>Wetland Crossings</b>	There are no wetland crossings.
<b>Harvesting in Wetlands</b>	There is no harvesting in wetlands.

**DWSP Forester supervising this harvest**

<b>Name:</b> Brian Keevan
<b>Forester License #:</b> 119
<b>Phone #:</b> 508-792-7806 ext.318

## **NARRATIVES**

### **General Description/Forest Composition/History**

This area is located deep within DCR/DWSP property about the same distance from Beaman Street to the south and Justice Hill Road to the north. It is bounded on the west and south sides by a stretch of Bailey Brook, on the east side by the power line, and on the north side by a stone wall. A stone wall running northwest-southeast divides this area into two roughly equal parts. The northern half was part of a larger acquisition in 1995, and the southern half was part of a larger acquisition in 2000.

The forest in the northern half is primarily stands of white pine and oaks (red, black and white) which originated in the 1920's following abandonment of the pasture. It was privately logged in the late 1990's just prior to state acquisition. Fortunately, this job was administered by a licensed forester who did a good of managing the forest. The result of the partial cutting is excellent advance regeneration comprised of white pine, red maple, black birch, red oak and other species.

The forest in the southern half originated in the late 1930's at about the time of the hurricane of 1938. However, aerial photos taken in 1933 confirm that there was no forest present that would have been old enough in 1938 to blow down. This fact, along with the lack of pit and mound features and the continued presence of juniper, lead to the conclusion that this forest did originate in the mid to late 1930's following abandonment of the pasture. White pine predominates on the upper slopes with more oak and other hardwoods lower down towards Bailey Brook. No management has occurred in this area however, good advance regeneration has built up throughout.

### **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 the timber sale area (47 acres) and surrounding forest lacks young forest. None of the forest in this 47 acre area, and only 8% of the forest in this subwatershed (the DCR owns 1,844 manageable acres), is comprised of young trees less than 20 years old. The ideal protection forest would have closer to 1/3<sup>rd</sup> of the area growing young trees. Water within this subwatershed flows into Bailey Brook and the Stillwater River on its way to Wachusett Reservoir.

### **Silvicultural Objectives**

Given the more than adequate advance regeneration throughout this area, openings will be made in the overstory to release young trees from the shade of older, taller trees, thereby creating a more diverse forest. Throughout this area, openings have been marked totaling 10.3 acres, ranging in size from 0.2 to 0.5 acres with an average size of 0.4 acres. These openings are well distributed throughout the working unit with adequate spacing between the patches to allow for future patches of a similar range of sizes (See

Figure 2). Standards regarding green retention (live trees left within patches for structure and seed) have been followed.

A second goal is to remove some of the overstory trees in the forest surrounding the new patches. This will target individual trees of poorest vigor and form to reduce competition for healthier trees. In the white pine stand south of the stone wall, partial cutting will occur on 9.2 acres. About a quarter of the stocking (total volume of trees in the area) will be removed. No cutting between the openings will occur north of the stone wall as the stocking in this area was adequately reduced by the management activity in the late 1990's.

Of the 48 acres in this timber sale, trees are being removed from 19.5 acres.

### **Cultural Resources**

This lot was reviewed by the DCR archaeologist and all recommendations will be followed. There is no known cultural significance to these two former pastures, 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 is a potential vernal pool located in the far north end of the sale area. While it has yet to be determined if this is an actual vernal pool, DWSP's Conservation Management Practices regarding vernal pools are being followed. Otherwise, there are no critical habitats or known rare or endangered plants or wildlife.

### **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 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 18 2014

**For DCR Use Only:**

File Number 882-6882-4 Case No. \_\_\_\_\_  
 Date Rec'd 2-18-14 Nat. Hert. NO /  
 Earliest Start 3-5-14 Nat. Hert. Imp. NO  
 River Basin NASHUA Pub. Dr. Wat. YES - Local/State  
 Gen. Obj. LT ACEC NO

**Site Information**

**Location** Lot 5248

Town Sterling  
 Road Beaman  
 Acres 48.3 Proposed Start Date April 2014  
 Vol. MBF 128 Vol. Cds. 98 Vol. Tons 200

**Landowner**

Name DCR - Division of Water Supply Protection  
 Mailing Address 180 Beaman Street  
 Town, State, Zip West Boylston, MA 01583  
 Phone (978) 835-4816  
 Ch61  Ch61A  Stew  \*Case # \_\_\_\_\_  
 Est. Stumpage Value \_\_\_\_\_

**Plan Preparer**

Name Brian Keevan  
 Address 180 Beaman Street  
 Town, State, Zip West Boylston, MA 01583  
 Phone (508) 792-7806 ext 318  
 Type of Preparer Mass. Licensed Forester  
 \*Mass. Forester License # 119  
 \*Required for land under Ch61, Ch61A or Forest Stewardship

**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** N/A

Indicate location on map	SC-1	SC-2	SC-3	SC-4
Type of Crossing				
Existing Structure				
Type of Bottom				
Bank Height (ft)				
Stabilization				

**Harvesting in Wetlands** N/A

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** N/A

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			

**Service Forester Comments**

ALL SKID ROPE / TRAIL ARE EXISTING.  
PLAN REFINED UNDER SNOW CONDITIONS

**Codes**

Type of Preparer	Type of Crossing	Stabilization	Mitigation	Type of Bottom	Note:
LF Mass. Lic. For.	CU Culvert	SE Seed	FR Frozen	LE Ledge	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.
TH Lie. 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			

LOT 5248

**Products to be Harvested\***

Species	Mbf/Cds		Mbf/Cds
White Pine	104.5	Red Maple	1
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	15.1
Hemlock		Black Oak	5.8
Spruce		White Oak	
Other Sftwd.		Other Hdwd.	
White Ash		<b>Total Mbf</b>	127.7
Beech		<b>Cordwood (Cds)</b>	98
White Birch		<b>SW Pulp (Tons)</b>	200
B & Y Birch	1.5	<b>HW Pulp (Tons)</b>	
Black Cherry		<b>Chips (Tons)</b>	

\*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	WP	WO	OH	MO
Acres	12.1	17.5	5.6	7.3
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 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]*

2/14/14

Signature of landowner(s)

Date

**Determination and Status**

Approved  Disapproved  Expires 2-18-2016

*[Handwritten Signature]* 3-3-2014  
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

Forest Products

Stand Treatment

Landowner

Service Forester

Codes

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

# Forest Cutting Plan

Narrative Page (Lot 5248 – Powers Pasture Lot)

Landowner: DCR DWSP

Town: W. Baglston

File Number: 282-6882-14

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>The landing was placed on Beaman Road in order to utilize an existing cart path for access, and to avoid a northern route down the power line from Justice Hill Road and having to place a large bridge for an extended period of time over Rocky Brook. There are no stream crossings or wetland crossings, and no work in any filter strips. Appropriate waterbars and mulching can help with any erosion of the steeper portions of the main access trail.</u></p>
Silviculture	<p><u>In order to release advance regeneration, 25 openings in the overstory are being created, covering 10.3 acres. These openings range from 0.17 to 0.6 acres 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, red maple, hickory and black birch. A thinning will occur on an additional 9.2 acres 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 as well as the establishment of a desired understory layer.</u></p>
Objectives	<p><u>The objective of this operation is to diversify the age structure of the forest in this 46.7 acre working unit by removing the overstory in patches thereby releasing the advance regeneration. There is currently essentially zero diversity in age structure as 99% of the forest is between 70 and 90 years old (estimates by increment coring of the origin of these stands place them between 1923 and 1938).</u></p>
Other	<p><u>The northern half of this property was treated/thinned in the early 1990's, and has copious well-developed advance regeneration. The southern half appears to never have received any cutting, but there are good amounts of smaller regeneration which are going to get released. The thinning is limited therefore to the southern half of the lot.</u></p>

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

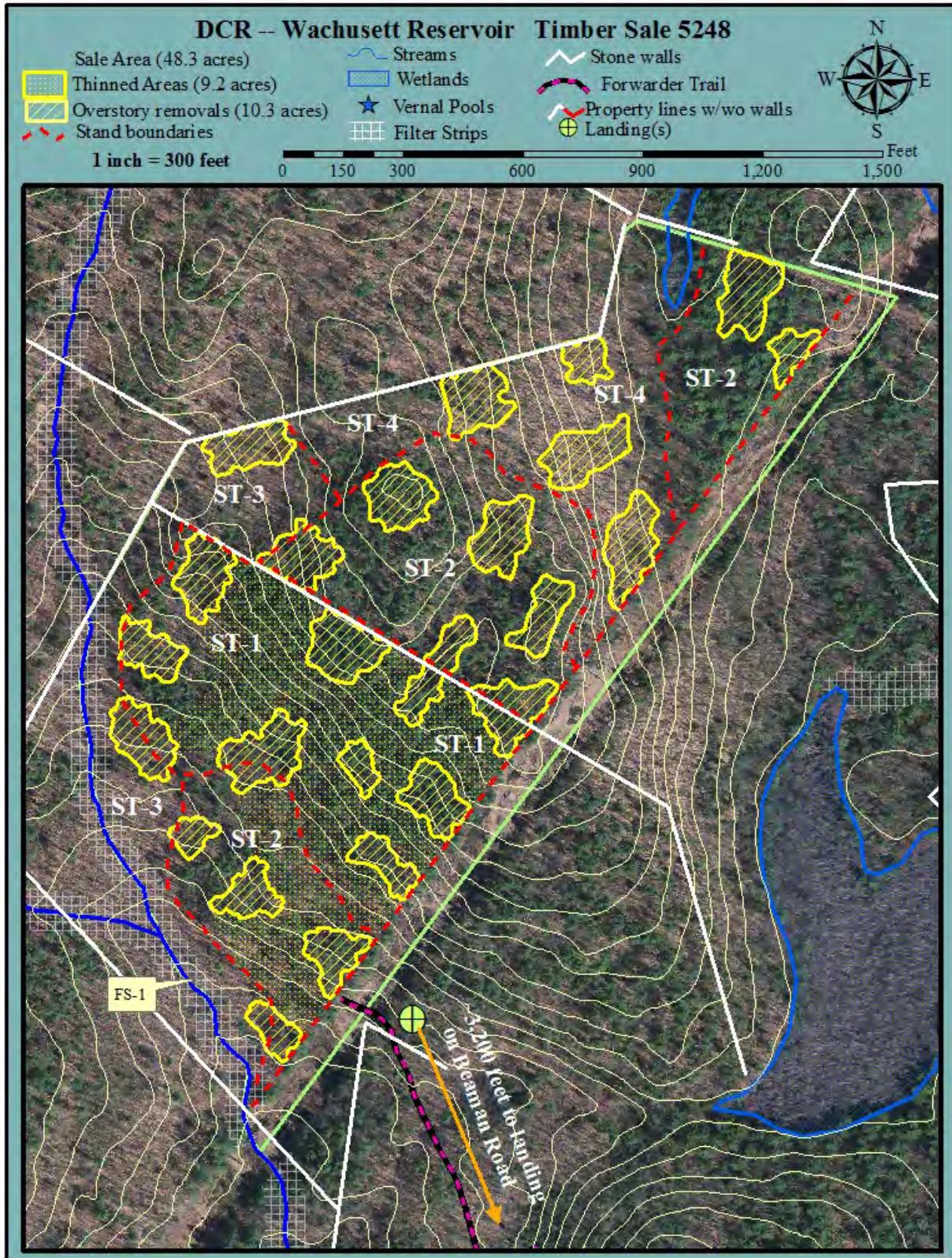
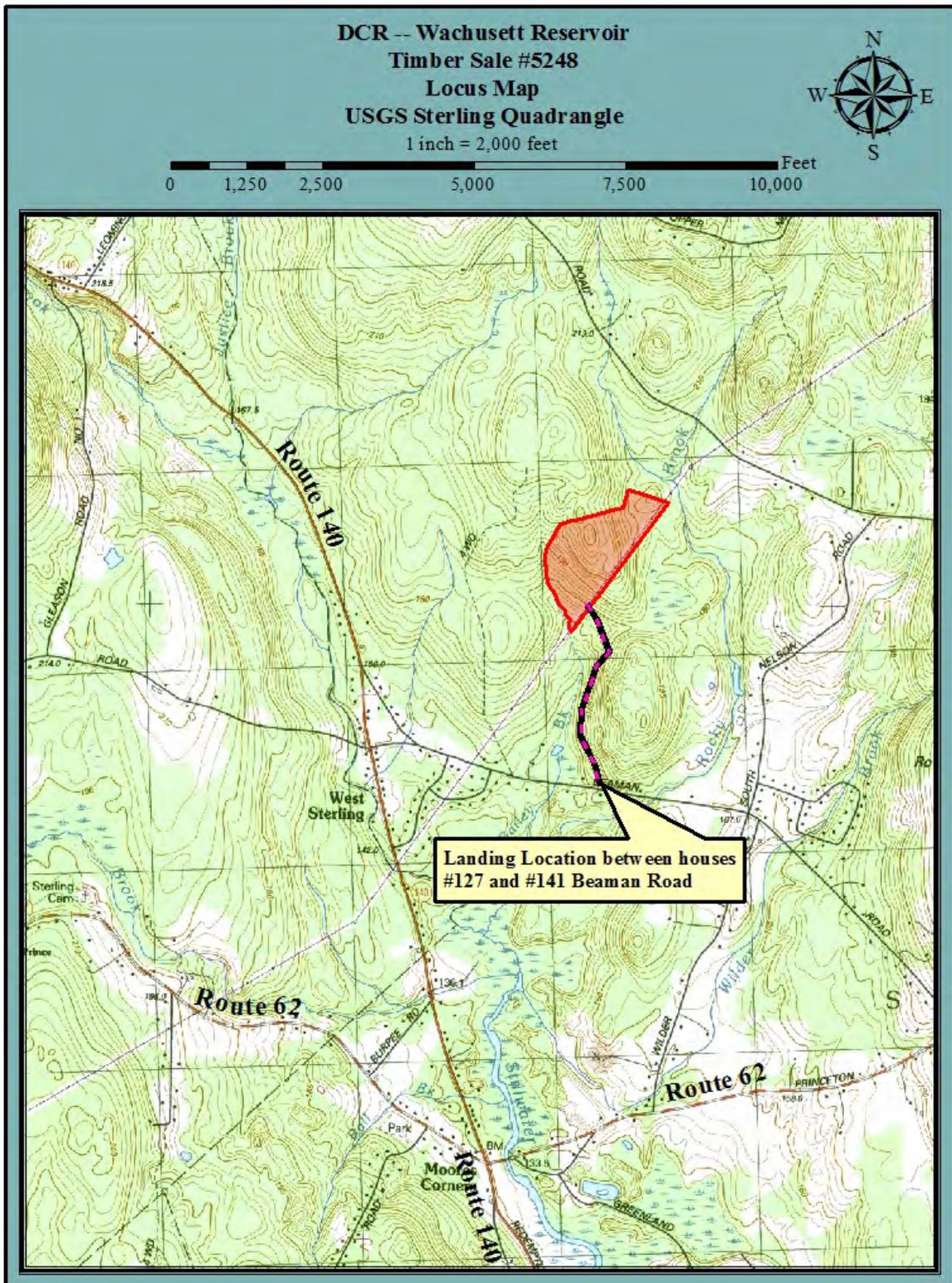


Figure 3. General locus map showing the location of the proposed timber harvest.



**Figure 4. Pre-Harvest Photographs, A-C.**



A. 85 year-old red oaks with good white pine and hardwood regeneration at base of ledge outcrop in northern part of sale area.



B. White pine-oak stand with good advance regeneration in northern part of sale area.



C. 80 year-old white pine stand in southern part of sale area during a snow-squall.