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

Forest Management Project Summary

Project Title: Lot 5294
DWSP Harvest Permit Number: 5294
DWSP Proposal ID: WA-21-272
DCR Forest Cutting Plan File Number: 282-32246-21

Site Information
Watershed: Wachusett
Town(s): Sterling
Acres: 41
Nearest Road: Newell Hill Road
Natural Heritage Atlas overlap?: No
Public Drinking Water Supply Watershed?: Yes
Forest Types: Mixed oak, Northern red oak, pine/oak
Area of Critical Environmental Concern (ACEC)?: No
Soils: Chatfield-Hollis-Outcrop complex and Paxton fine sandy loam
Wetland Resources: There are streams and wetlands.
Vernal Pools: None known.

Harvest Information
Harvest Start Date: 03/31/2021
Harvest End Date: 06/30/2023
Number of Wetland Crossings: None
Number of Stream Crossings: One

Best Management Practices Applied
Stream Crossings: The stream will be protected by the use of timber bridges.
Filter Strips: There is no harvesting in the filter strip.
Wetland Crossings: None
Harvesting in Wetlands: None

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 property was purchased by the MDC in 1996. While many of the oaks in the southern end of the area are multi-stemmed, suggesting past logging, these trees are about 85 years old. Otherwise, there is no evidence of past harvest activities. This lot is characterized by ledge and bedrock outcrops that drop off to drainages on the east and west while generally gaining altitude going north. Most of the forest originated in about 1900 with some coming 20 to 30 years later. The overstory in these areas are dominated by red oak, black oak, white oak, white pine. Along the eastern side on the eastern slopes there is a good component of hickory. In the northern end at higher elevation there is a good component of chestnut oak. There's also hemlock and yellow birch near the intermittent streams on either side of this area. There is some black gum associated with the small wetlands in the north end. The understory is variably comprised of witch-hazel where the soil is deeper between the outcrops and huckleberry where the soil is thin. There is a good component of maple-leaved viburnum that is generally tall and fruit-bearing…hopefully suggesting that the local deer population is under some level of control.

There is a walled-off 8-acre section in the far northeast corner of this working unit that is much different in character than the rest of these 41 acres. This area was in pasture until much more recently than the balance of the area. The forest here originated in about 1964 and is comprised of red maple, red oak, white ash, white pine, black cherry, sugar maple, black birch and bigtooth aspen. Presumably due to the stream that bisects this area which has washed seeds in from the subdivisions upstream, there is a very significant amount of invasive species here. The understory is dominated by winged euonymus, honeysuckle, bittersweet, multiflora rose and buckthorn.

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.

Silvicultural Objectives

Given the good advance regeneration, it should be possible to create a new age class on 1/3rd of the manageable forest in this sale area. This will be accomplished by the removal of the overstory in patches of a variety of sizes that are well distributed throughout the area. Given the relative scarcity of chestnut oak on DCR property in the Wachusett watershed, special attention will be paid to ensuring that chestnut oak is well represented in this new age class. Some amount of partial cutting may occur in the forest between these openings primarily focused on removing trees of poorest health and vigor while encouraging species diversity by favoring the less well represented species such as chestnut oak, hickory and black gum where it may be growing outside of a wetland.

Cultural Resources

Although perhaps not culturally or archeologically significant, there is an interesting very large pile of rocks in the north end of this area as shown on the map. It presumably is the result of the dumping of rocks that originated from the property to the north.

Rare or Endangered Species

There is a lot of pileated woodpecker activity in this area and the resulting large number of cavities.

Figures

- Figure 1. Forest Cutting Plan
- 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-B
- Figure 5. Post-Harvest Photographs, A-B

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	282-3274-21	Case No.	
Date Rec'd	2-10-2021	Nat. Hert	NO
Earliest Start	2-24-2021	Nat. Hert. Imp.	NO
River Basin	NASHUA	Pub. Dr. Wat	WORCHESTER
Gen. Obj.	CT	ACEC	NO

Site Information

Location

Town: Sterling — Lot 5294
Road: Newell Hill Road
Acres: 14 — Proposed Start Date: April 2021
Vol. MBF: 34.3 — Vol. Cds.: 134 — Vol. Tons: 13

Plan Preparer

Name: Gregory S. Buzzell
Address: 180 Beaman Rd.
Town, State, Zip: West Boylston, MA, 01583
Phone: 774-261-1841
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	BR		
Existing Structure	No	No		
Type of Bottom	ST	MU		
Bank Height (ft)	1	1		
Stabilization	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
Width (50', 100', or VA)	VA	VA	VA	

Service Forester Comments

* Skid Roads/Trails Are Existing
* Plan Reviewed under Snow Conditions

Codes

Type of Preparer: LF Mass. Lic. For; YH Lic. Tim. Har; TB Timber Buyer; LO Landowner; OT Other

Type of Crossing: CU Culvert; BR Bridge; FO Ford; PO Pond; OT Other

Stabilization: SE Seed; MU Mulch; CO Conferva; ST Straw; HB Hay Bales; OT Other

Mitigation: BR Brush; DR Dry; OT Other

Type of Bottom: LE Ledge; ST Stony; MU Mud; GR Gravel; 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	8.5	Red Maple	
Red Pine		Sugar Maple	
Pitch Pine		Red Oak	24.0
Hemlock		Black Oak	0.6
Spruce		White Oak	1.2
Other Sftwd.		Other Hdwd.	
White Ash		Total Mbf	34.3
Beech		Cordwood (Cds)	134
White Birch		SW Pulp (Tons)	12
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-3	ST-3	ST-4
Forest Type	OR	WO		
Acres	28	6.5		
Landowner Objective	LT	LT		
Designation of Trees	CT	CT		
Type of Cut	SH	SH		
Source of Regeneration	AD	AD		

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 (Cds 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: 1/29/2021

Service Forester

Determination and Status #280-32241-7.1

	Approved	Disapproved	Expires
Cutting Plan	☒	☐	2-10-2023

Signature of Service Forester/Director's Agent — Date: 2-23-2021

			Expires	Ser. For. Ini.
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; HE Hemlock; OM Mixed Oak; WK WPHem; RH Red Hdwd; RM Red Maple; WH WPHdwd; BC Black Cherry; BE Beech; WO WPOak; SW Swe/BirMap; SF Spruce/Fir; RP Red Pine; OH Oak/Hdwd; SM Sugar Maple; RS Red Spruce; OR N Red Oak; 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 Specimen*; HG Highgrade*; DL Diameter Limit*; OT Other*

Source of Regeneration
AD Advanced; NS Natural Seed; PL Plant; CO Coppice; DS Direct Seed; 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: DCR/DWSP/DWSM

Town: STERLING

File Number: 282-3224G-21

BMPs

The two vernal pools in the north end of the sale area are not certified vernal pools and so do not have filter strips. However, all verified vernal pools on DWSP property are treated as if they are certified and so all Vernal Pool BMPs will be followed.
No trees are being cut in any of the filter strips.

It is anticipated that SC-2 will be used if the soil conditions are dry enough. The very small intermittent stream that flows south from the area of the southern vernal pool, ends in a flat bowl area that cannot be called a proper wetland and there is no channel through it. Only in the immediate area of SC-2 are there a few highbush blueberries. Otherwise, this is still a red oak stand. During times when the stream is flowing heavily enough, the water collects and drains out as the map shows at SC-2. If this is occurring, the plan will be to use the route through the larger westerly openings that lead to SC-1. Regardless, appropriate armoring of the approaches to SC-2 and/or SC-1 will take place.

Silviculture

In order to release advance regeneration, 7 openings in the overstory are being created, covering 7.2 acres. These openings range from 0.4 to 1.9 acres in size with an average of 1.0 acre. They are well distributed throughout the sale area focusing on where the advance regeneration is well established.
Partial overstory removal is occurring in 1.1 acres, primarily focused on benefitting the scattered chestnut oak.

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

The forwarder haul roads between the openings have been flagged.

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

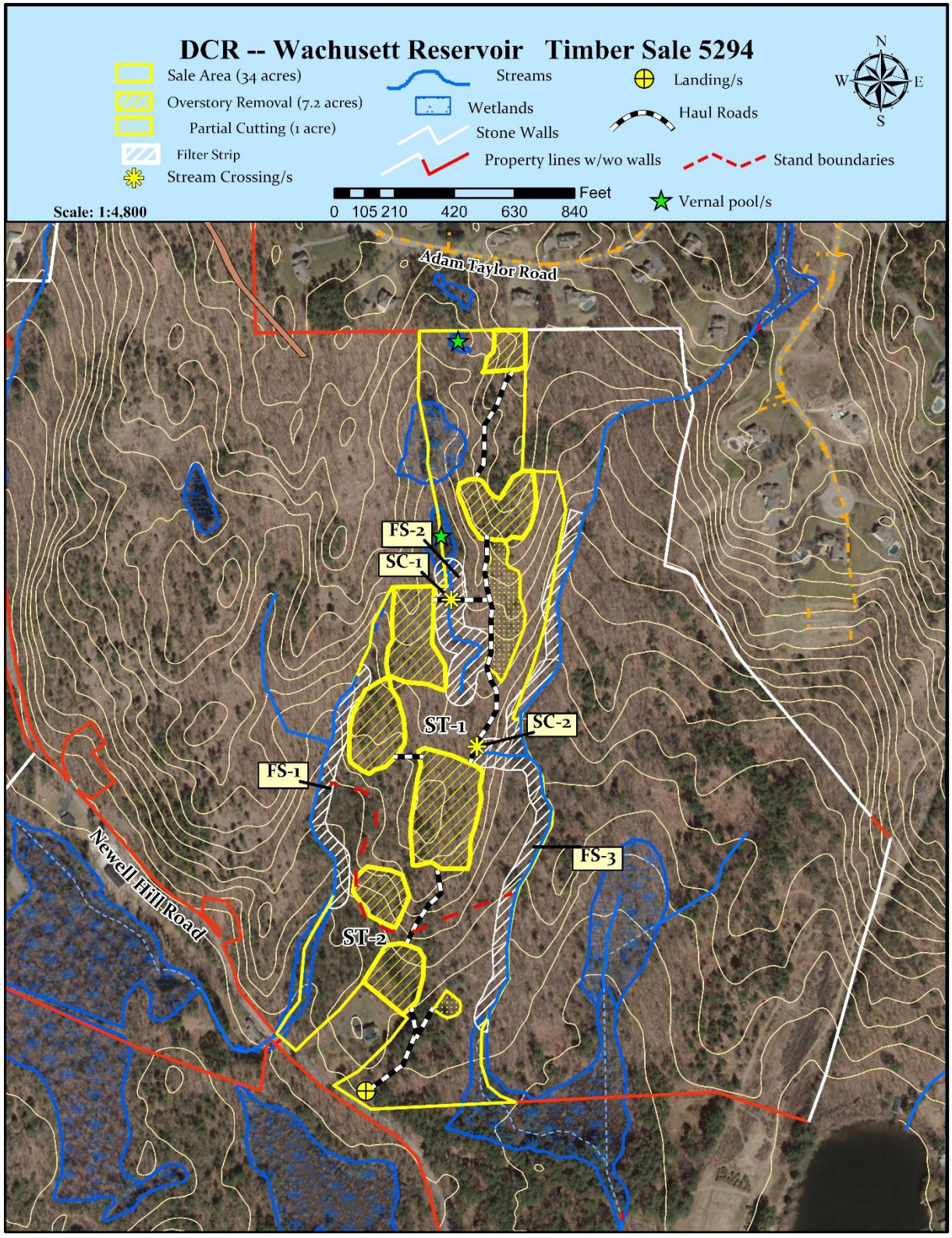

Figure 3. General locus map showing the location of the proposed timber harvest

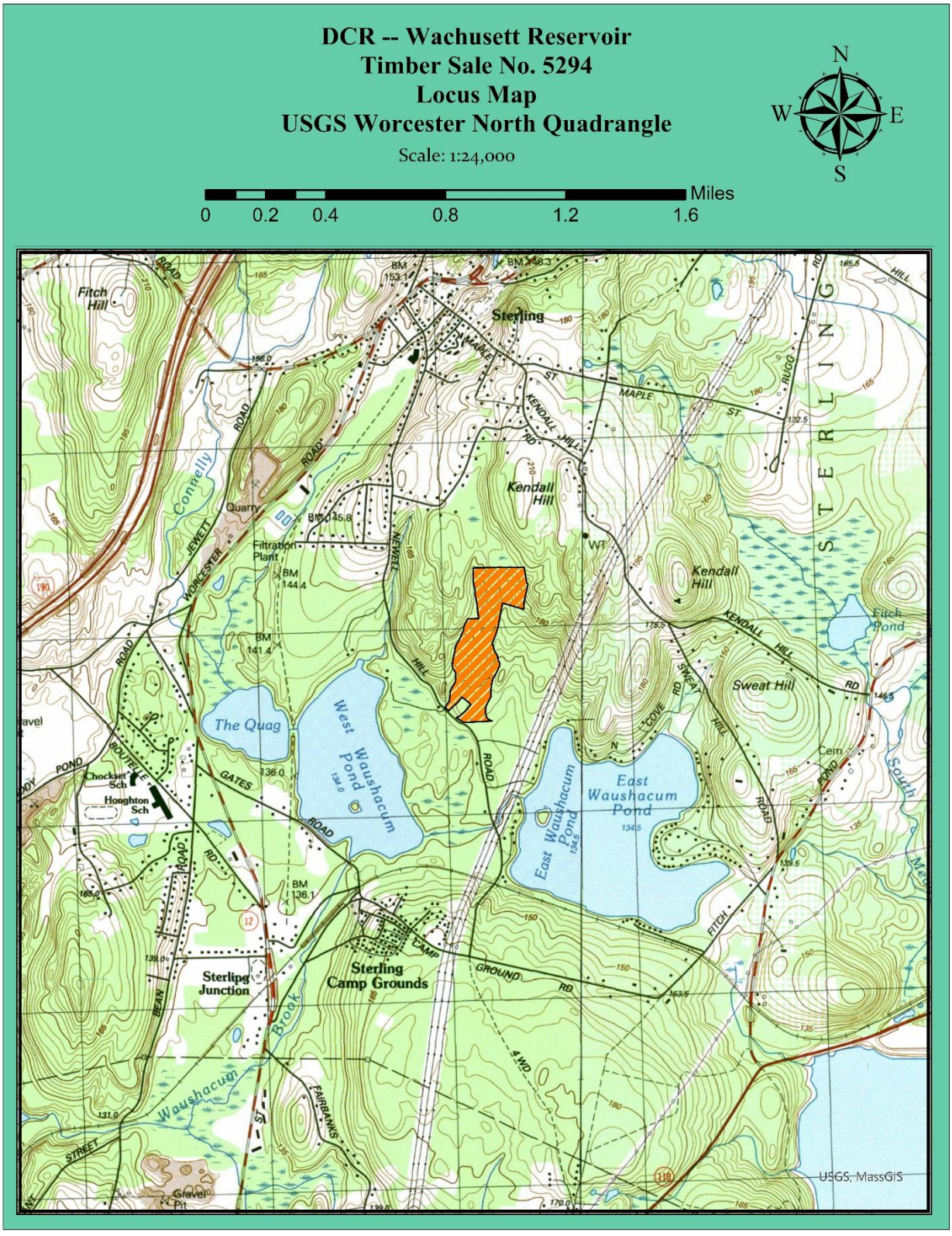

Figure 4. Pre-Harvest Photographs, A-B

A. Oak marked for harvest with better site situated white pine regeneration to be released.

B. Oak marked for harvest with better site suited white pine regeneration and a large diameter oak retention tree.

Figure 5. Post-Harvest Photographs, A-B

A. An opening with good protection of the diverse regeneration. Note the two white pines and the oak which were retained within the opening to provide diversity in structure.

B. This small stream was well protected when it was crossed using appropriate BMPs.