# 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:** Lot 5264 |
| **DCR Forest Cutting Plan File Number: 282-8469-17** |

**Site Information**

| | |
|---|---|
| **Watershed: Wachusett** | **Town(s)**: Sterling |
| **Acres:** 73.3 | **Nearest Road: Justice Hill Road** |
| **Natural Heritage Atlas overlap?:No** | **Public Drinking Water Supply Watershed?:** Yes |
| **Forest Types:White Pine-Hardwood, Oak-Hardwood** | **ACEC?: No** |
| **Soils:Paxton fine sandy loam** | |
| **Wetland Resources:There is a small wetland just to the west of the top of the hill. An intermittent stream is just south of the top of the hill and flows southerly.** | |
| **Vernal Pools:There is one vernal pool located within the wetland.** | |

**Harvest Information**

| | |
|---|---|
| **DWSP Permit Start Date: 11/30/16** | **DWSP Permit End Date:12/7/18** |
| **Number of Wetland Crossings: 0** | **Number of Stream Crossings:** 0 |

**Best Management Practices Applied**

| | |
|---|---|
| **Stream Crossings** | |
| **Filter Strips** | |
| **Wetland Crossings** | |
| **Harvesting in Wetlands** | |

| **DWSP Forester supervising this harvest** |
|---|
| **Name:Russell Wilmot** |
| **Forester License #:426** |
| **Phone #:508-792-7806x318** |

# NARRATIVES

## General Description/Forest Composition/History:

The "Stuart Pasture" is a typical abandoned pasture that is dominated by low quality white pine. A timber sale in the early 1990's removed the best quality pines and left the trees with multi-stemmed crowns. In addition to white pine the overstory is dominated by black birch, red oak, red maple, black cherry along with a smaller component of paper birch and bigtooth aspen. The logging in the early 1990's has led to a developed mid story made up of red maple, black birch, red oak and paper birch poles. There is good advance regeneration made up of red oak, red maple, white pine, white oak, hickory, black cherry and white ash.

## 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 73 acres as well as the 1779 acres that the DCR owns that flow into the Stillwater River. This operation will contribute a little over 15 acres of additional young forest towards the goal of having 3 age classes of forest well distributed throughout this forest.

## Silvicultural Objectives:

Because of the good advance regeneration, openings will be made to release this regeneration resulting in a new age cohort. With the ultimate goal of having at least three distinct age cohorts within every working unit, removing the overstory on one third of this working unit will result in approximately 20 acres of new age class. The species composition will be roughly the same as it is now since the advance regeneration is just as diverse as the overstory. However, the proportion of the species will change. There is far less white pine in the advance regeneration than there is in the overstory and this is appropriate given the character of the soil on this hill which is better suited to hardwoods than pine. This operation will focus making openings that will remove the low quality multi-stemmed white pines.

## Cultural Resources:

The west corner of this working unit has an intricate (but faded and previously damaged by logging) network of stonewalls, along with a cellar hole measuring 25'x15'. No cutting is going to occur in this immediate area.

## Wildlife/Rare or Endangered Species:

There are no critical habitats or known rare or endangered plants or wildlife. All Best Management Practices regarding the retention of snag trees, trees with cavities and other valuable wildlife habitat features will be employed.

## 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-D**

**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 10 2016

**For DCR Use Only:**

| | | | |
|---|---|---|---|
| File Number | 282-8469-17 | Case No. | |
| Date Rec'd | 11/10/16 | Nat. Hert. | NO |
| Earliest Start | 11/16/16 | Nat. Hert. Imp. | NO |
| River Basin | NASHUA | Pub. Dr. Wat. | WACHUSETT |
| Gen. Obj. | CT | ACEC | NO |

## Site Information

### Location

Town Sterling Lot 5264
Road Justice Hill Road
Acres 73.3 Proposed Start Date 12/01/16
Vol. MBF 86.5 Vol. Cds. 142 Vol. Tons 515

### 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 |
|---|---|---|---|---|
| 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 | | | | |
| 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

* REVIEWED UNDER DROUGHT CONDITIONS.
* ALL SKID TRAILS / ROADS ARE EXISTING
* SEE ATTACHED VERNAL POOL BMPS

## 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 | 76.3 | Red Maple | 1.5 |
| Red Pine | | Sugar Maple | |
| Pitch Pine | | Red Oak | 3.0 |
| Hemlock | | Black Oak | 3.6 |
| Spruce | | White Oak | 1.3 |
| Other Sftwd. | | Other Hdwd. | |
| White Ash | | **Total Mbf** | 86.5 |
| Beech | | **Cordwood (Cds)** | 142 |
| White Birch | | **SW Pulp (Tons)** | |
| B & Y Birch | 0.8 | **HW Pulp (Tons)** | |
| Black Cherry | | **Chips (Tons)** | 515 |

*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 | WH | WO | OH | MH |
| Acres | 33 | 18 | 6 | 16 |
| Landowner Objective | LT | LT | LT | LT |
| Designation of Trees | CT | CT | CT | CT |
| Type of Cut | SH | SH | SH | SH |
| 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: 11/9/16

## Service Forester

### Determination and Status

| | Approved | Disapproved | Expires |
|---|---|---|---|
| Cutting Plan | ☒ | ☐ | 11-10-2018 |

Signature of Service Forester/Director's Agent — Date: 11-17-2016

| | | | 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

*If Other (OT) or a non-standard system is used an explanation must be given on attached [illegible]

# 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

Town: Sterling

File Number: 282-8409-17

| | |
|---|---|
| BMPs | There are no stream or wetland crossings. The Landing is .47 miles from the sale area (located on Justice Hill Road). The haul road to access the sale is (95%) preexisting. |
| Silviculture | In order to release advance regeneration, 15 openings in the overstory are being created, covering 15.4 acres. These openings range from 0.34 acres to 1.86 acres in size with an average of 1.03 acres. They are well distributed throughout the sale area. |
| 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 | In between the openings near the streams and vernal pool have skid trail flagging. There is an underground phone line that is also used as a trail that runs from east to west near the southern boundary of the sale. |

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

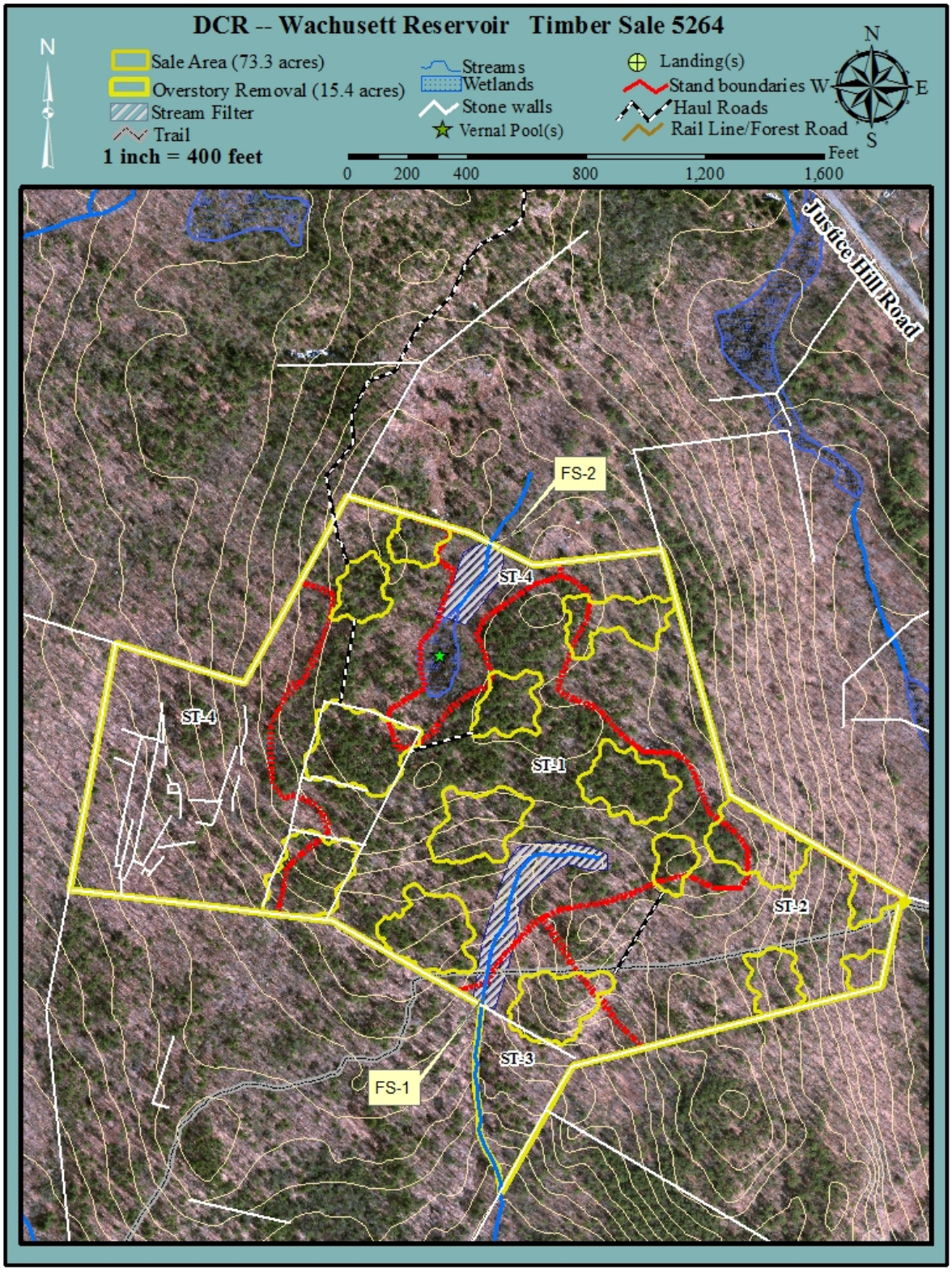

**Figure 3. General locus map showing the location of the proposed timber harvest**

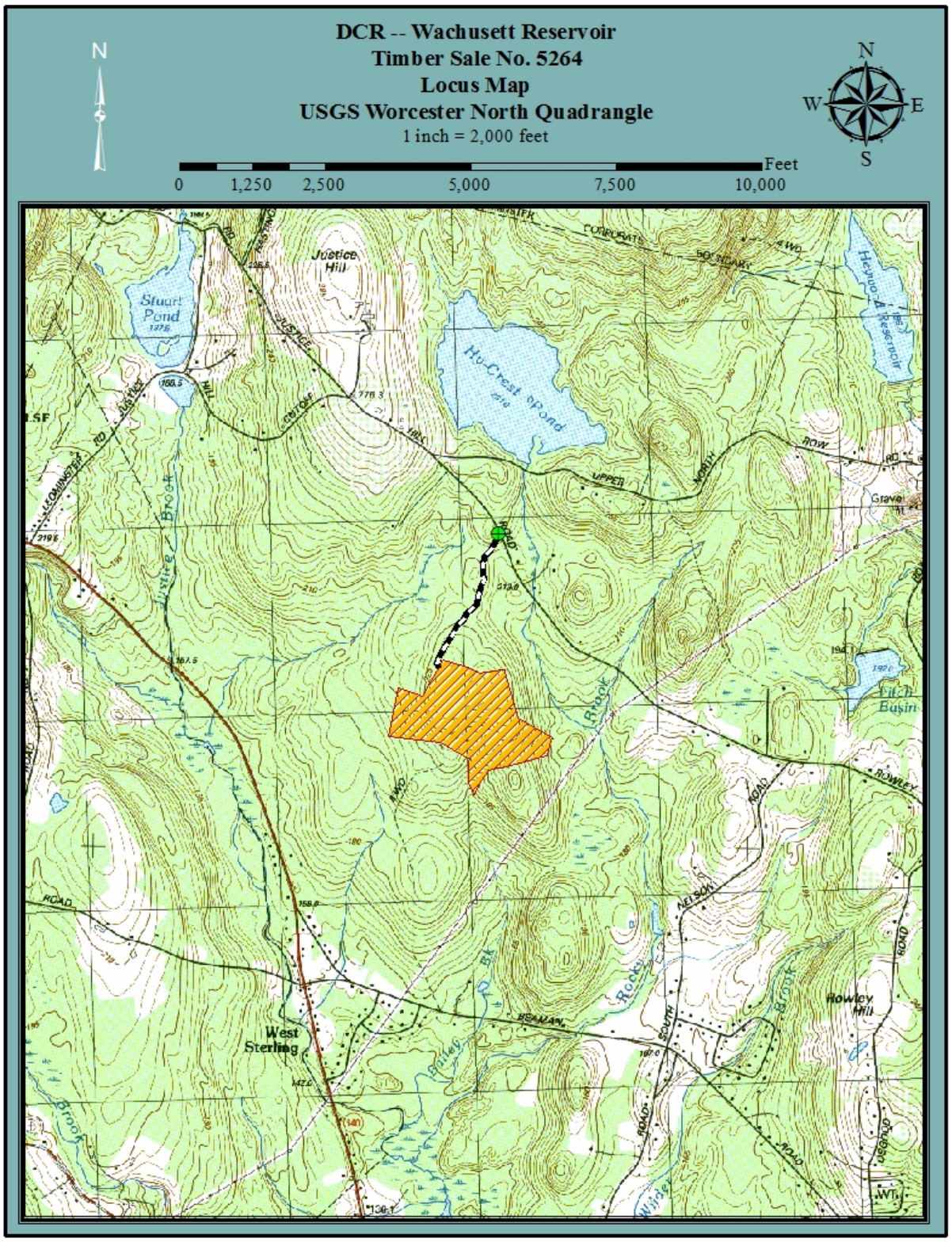

**Figure 4. Pre-Harvest Photographs, A-D**

A. Landing location on Justice Hill Road in Sterling.

B. This is a dying white pine which will be retained after the harvest to benefit various wildlife.

C. An area of overstory removal to release the young trees beneath. Notice the abundant oak advance regeneration in the foreground.

D. This large diameter black cherry will be retained in this opening and will provide ample soft mast for wildlife in addition to being a long term seed source for the site.

**Figure 5. Post-Harvest Photographs, A-C**

A. The landing area as seen from Justice Hill Road.

B. The black cherry in the foreground and the other overstory hardwoods were retained in this overstory removal area where there is good hardwood and white pine regeneration.

C. In this area of good hardwood regeneration, the dead pine snags were retained for their habitat diversity value.