

Wachusett Harvest Proposal WA-21-232

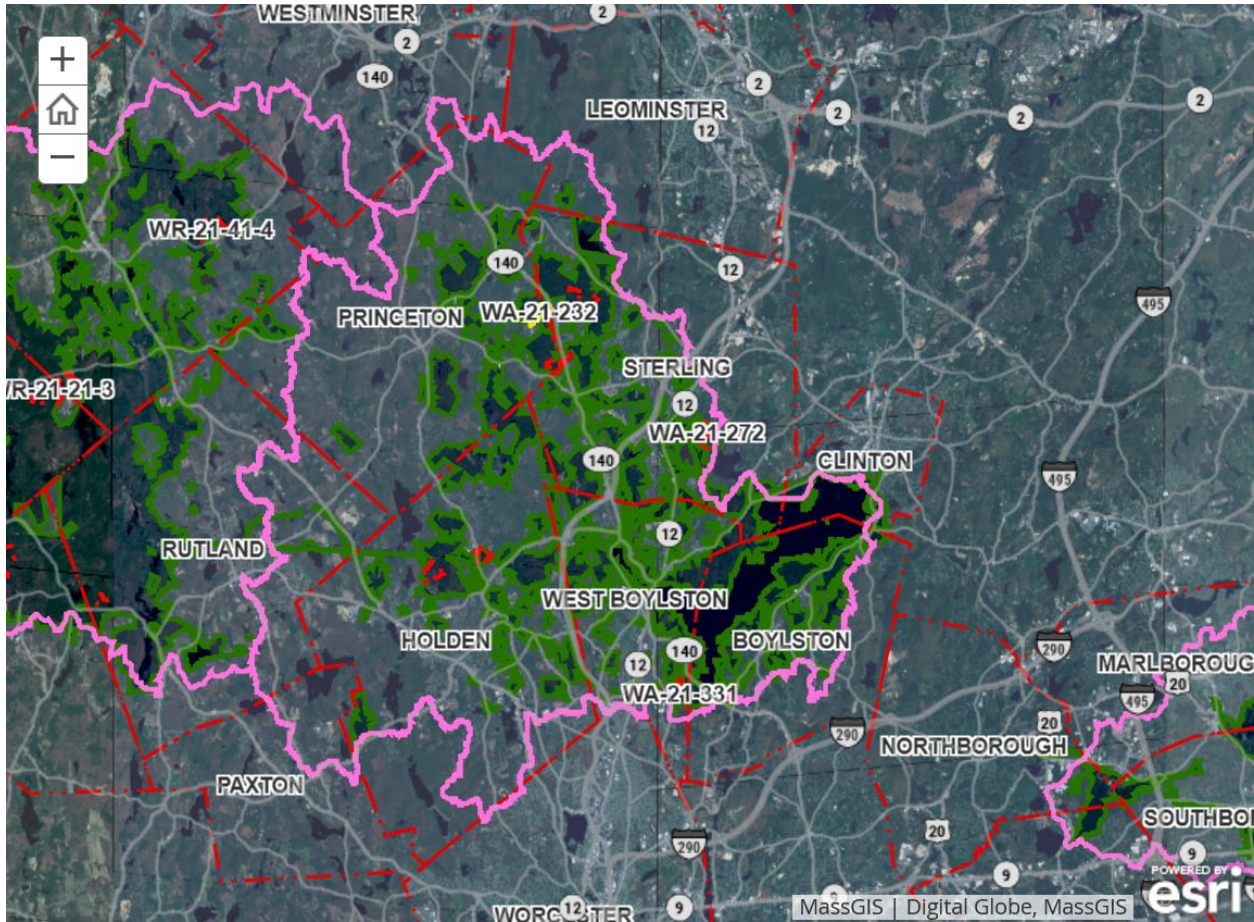
Proposal Goals

The primary goal is to promote a resilient, diverse forest through the creation of canopy openings that allow young forest to develop, release established healthy young trees, and remove groups of poor quality trees. With advance regeneration in some areas and small pockets of a second age class established, this will be an excellent opportunity to create a new well-defined age class within the working unit. This will be done by releasing the advance regeneration in some areas and expanding/defining a younger age class around current small openings. A secondary goal will be to prep cut the mountain laurel areas, creating some new regeneration.

Proposal Location

This proposal is located on the northern side of Houghton Road in Princeton. Starting with a short road frontage on Houghton Road heading northeasterly for about 2400 feet to the Stillwater River where the working unit follows the river northerly for about 400 feet. From there the property line heads easterly along abutting property for about 200 feet where it meets Redemption Rock Trail (Route 140). Northerly on Redemption rock trail for about 700 feet then southwesterly along an underground cable line for 2400 feet where it meets a field edge. From there the boundary of the working unit heads generally south for 450 feet or so until it meets up again with Houghton Road.

Total Acres: 72



General Description

	Overstory Type(s)	Acres
Dominant	White pine/hardwood	40
Secondary	Mixed hardwoods	21
Other	Oak/hardwood	5

	Understory Type(s)
Dominant	Tree seedlings/saplings dominate site

Secondary	Mountain laurel prevalent
-----------	---------------------------

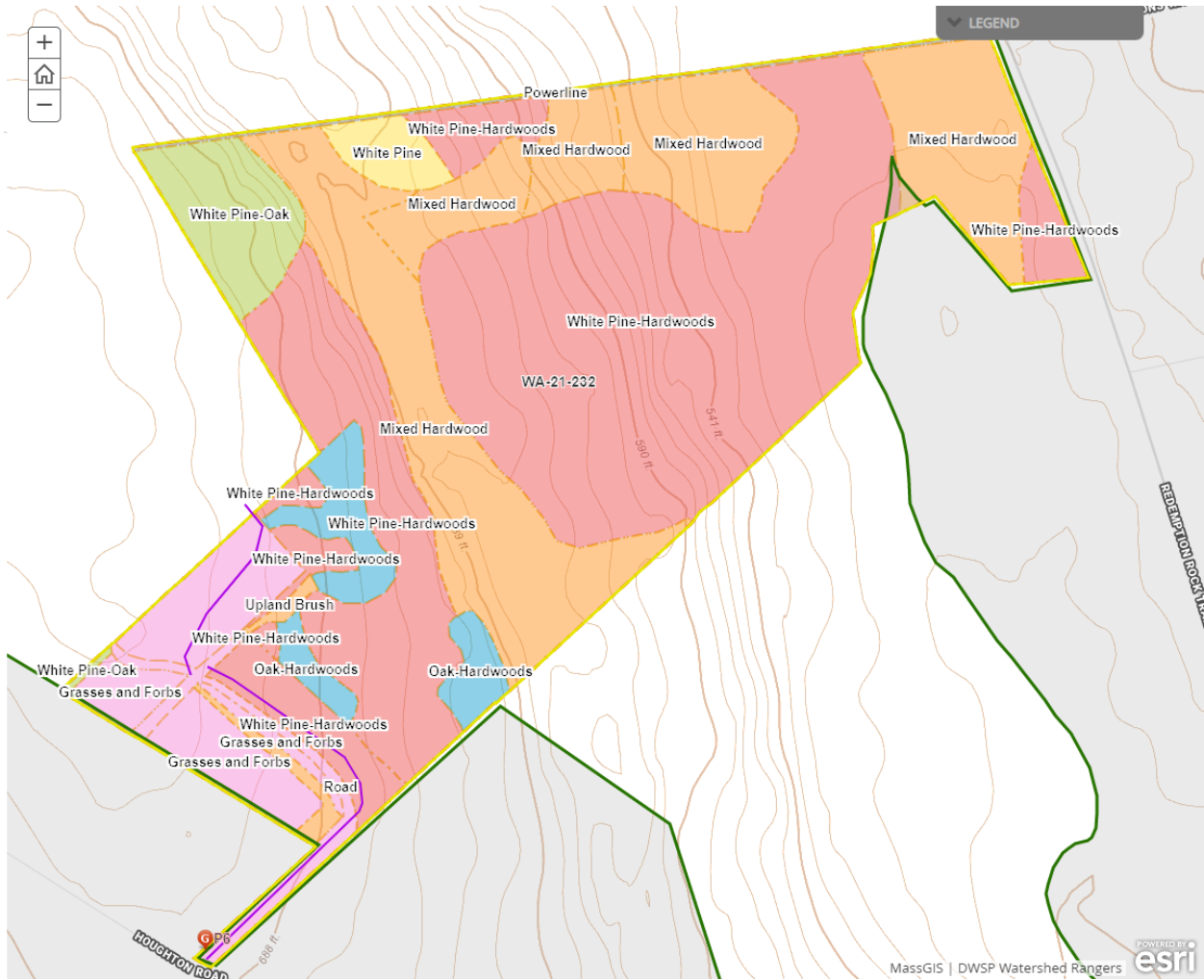
Description of forest composition/condition:

This working unit was acquired in 1996 and was previously owned by U.S. Farms Inc. The land was managed by Forester Joe Lee between 1978-1996. Just before the working unit was purchased in February of 1996, Joe Lee oversaw a shelterwood harvest that covered a larger portion of U.S. Farms land and only a couple sections of this working unit. The harvest resulted in some small stands of young mixed hardwoods and other areas with very advanced hardwood and pine regeneration under a mature canopy. There are also sections of interfering mountain laurel on the drier sites, while witch-hazel is more prevalent along the stream. Some sections have no regeneration including areas with mature hemlock which is slowly dying or has died from the hemlock woolly adelgid. White pine is the dominant species within the working unit and is of fair quality with a lot of multi-stemmed or burly trees. The remaining species on the site include red oak, white oak, black oak, white ash, elm, paper birch, black birch, yellow birch, bigtooth aspen, hemlock, American beech, and Eastern hophornbeam. Musclewood and black gum are present along the stream and pitch pine appears on the hilltop. Pine snags are prevalent on this site with no stick nests noted. There are several uprooted trees down along the Stillwater River. The site conditions are variable with dry uplands and benches with leaky hillsides followed by very damp lowlands.

The age structure is as follows; 0% 0-20 years old, 4% 21-40 years old, 10% 41-60 years old, 2% 61-80 years old, 84% 81-100 years old and 0% >100 years old.

Assessment of Terrestrial Invasive Species:

Invasives were found on 5 plots out of 132 total plots taken. Four of the plots were in a field and one plot was right next to a field. Bittersweet was the only invasive found during sampling.

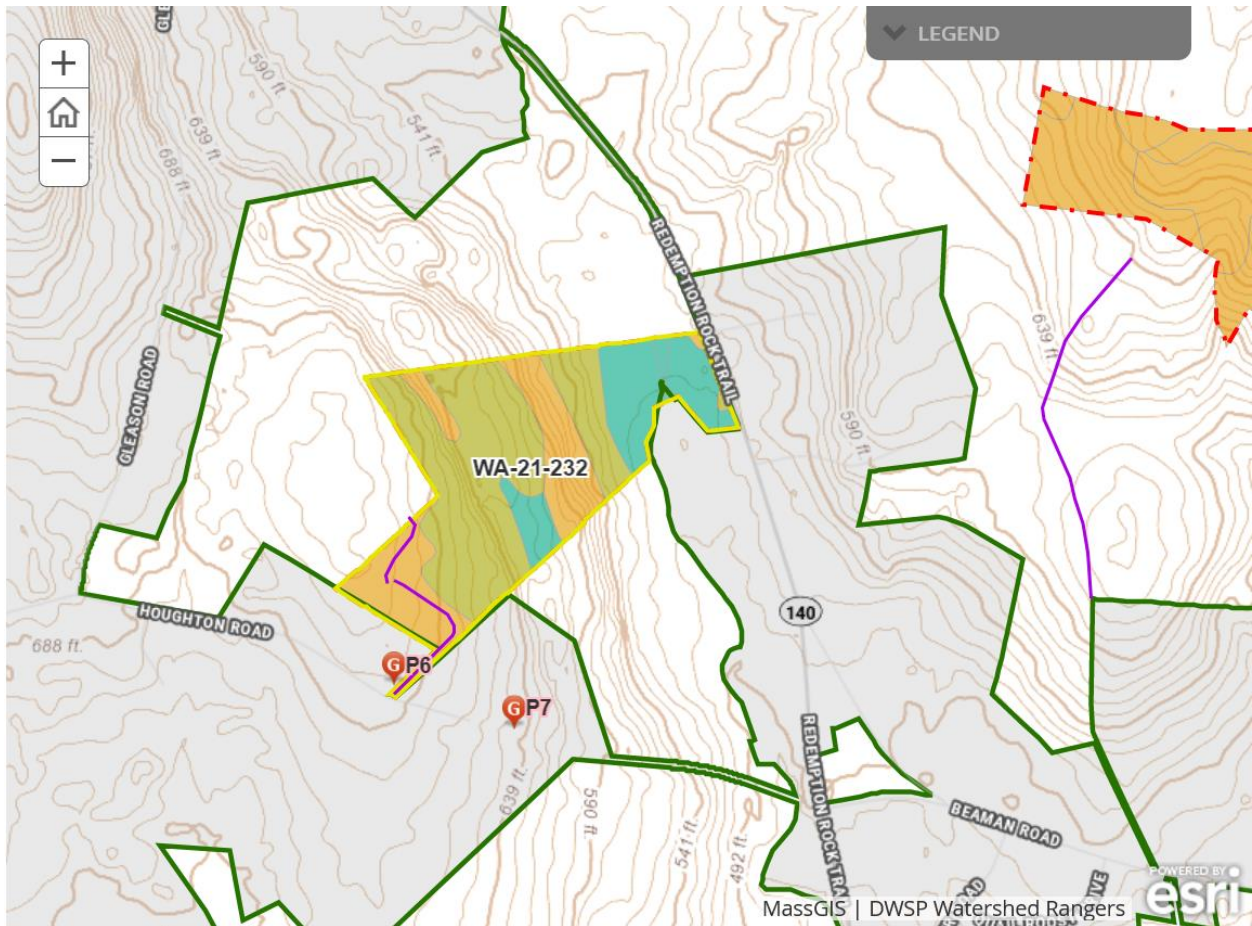


Soils

Drainage Class	%
Excessively Drained	0
Well Drained Thin	0
Well Drained Thick	86
Moderately Well Drained	1

Poorly to Very Poorly Drained	13
-------------------------------	----

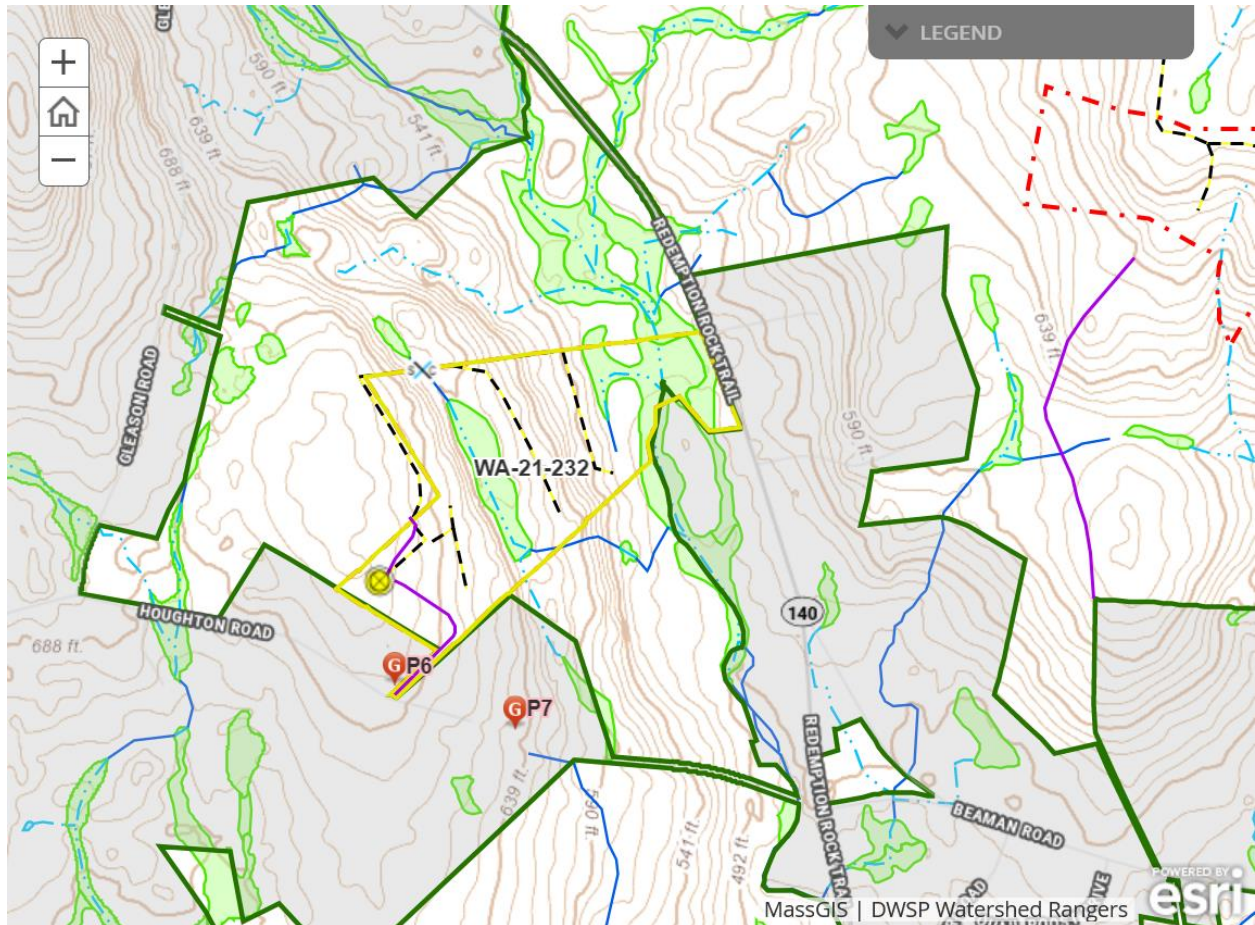
Soils within this working unit are mostly Montauk-Scituate-Canton association, Montauk Canton, and Paxton which are all well-drained soils. Moderately well drained Woodbridge soils making up only 0.2 acres and the remaining land being the wetland/stream areas with poorly drained Ridgebury-Whitman and Walpole.



Wetlands

- Wetlands present? - **Yes**
- Streams present? - **Yes**
- Vernal pools present? - **None known**
- Seeps present? - **None known**
- Are stream crossings required? - **Yes**
- Are wetland crossings required? - **Yes**
- Is logging in filter strips planned? - **No** ([Riparian Zone Mgt](#))
- Is logging in wetlands planned? - **No**

There is an existing underground cable line that crosses the wetland/stream and will most likely be used as the primary crossing location. An unmapped intermittent stream in the middle of the lot, connecting the upper and lower wetlands, will also need to be crossed. BMPs will be implemented as described in the LMP.



Silviculture

Acres in Intermediate cuts: **0**

Acres in prep/establishment cuts: **10**

Acres in Regeneration cuts: **24**

Average regen opening size: **1**

Maximum regen opening size: **2**

Description of advance regeneration in proposal area:

Regeneration sampling found good amounts of regeneration present on 41% of the 132 plots taken and were generally on the western half of the working unit. No regeneration was found on 23% of the plots taken and were concentrated on the northern and eastern areas of the working unit. Interfered plots were found on 19% of the plots and were located mostly in the southern and eastern sections of the working unit and comprised of mountain laurel and witch-hazel. Marginal regeneration was found on 15% of the plots taken and were scattered throughout the unit. The regeneration is made up of white pine, red maple, red oak, black birch, hickory, white ash, Eastern hophornbeam, yellow birch and black gum.

General comments on silviculture proposed:

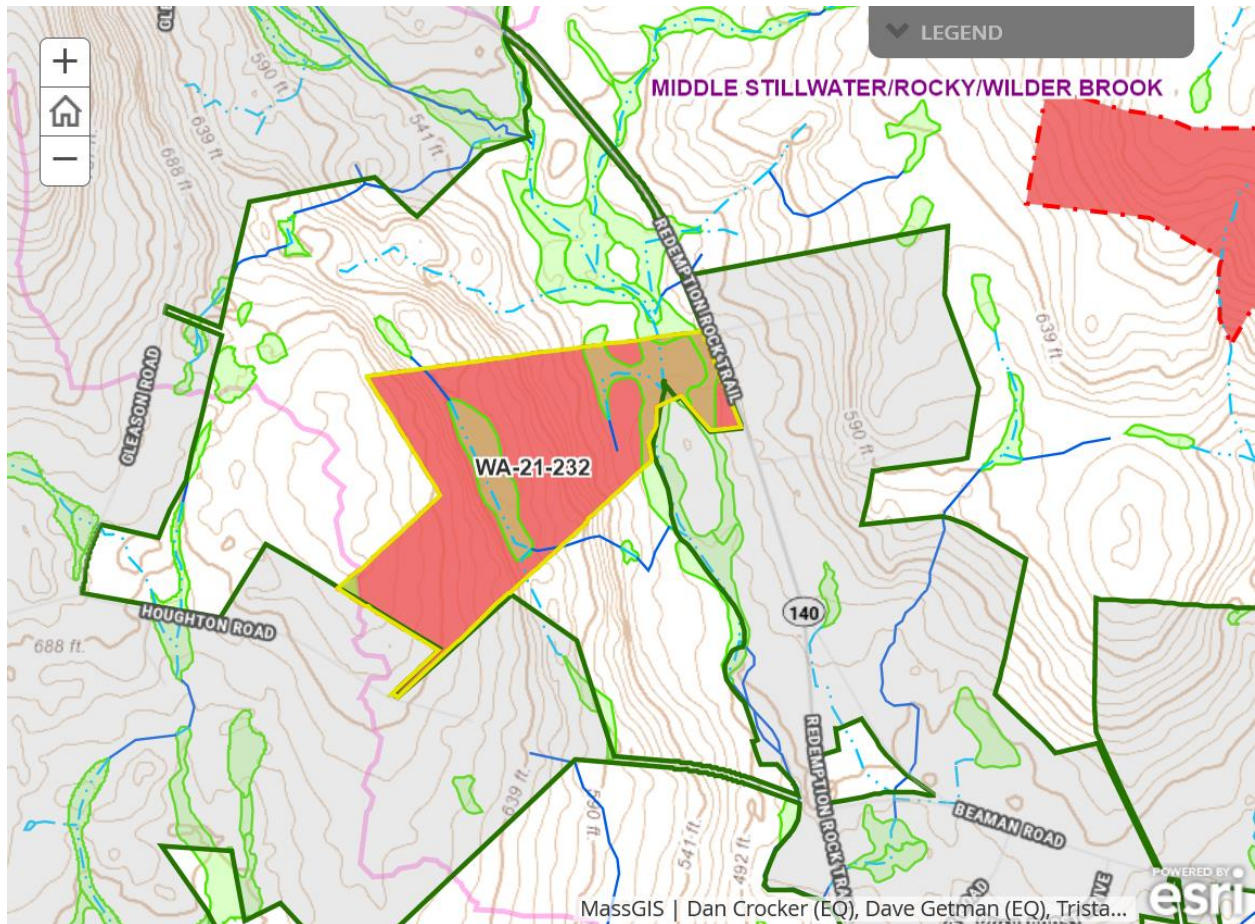
With advance regeneration in some areas and small pockets of a second age class established, this would be an excellent opportunity to create a new well-defined age class within the working unit. This would be done by releasing the advance regeneration in some areas and expanding/defining a younger age class around these current small openings. Some prep cutting will occur in the interfered areas where openings should not be made. The prep areas will have the goal of damaging as much mountain laurel as possible to encourage regeneration.



Subwatershed Analysis

Sub-watershed number	Total DCR-owned Acres	Acres Regenerated on DCR Land in the last 10 years	Acres Remaining for Regenerating Up to the 25% / 10 Year	Acres part of this proposal
20 (Middle Stillwater/ Rocky/ Wilder Brook)	1123	44	236	72

The proposed level of cutting falls below the 25% threshold.



Harvesting Limitations

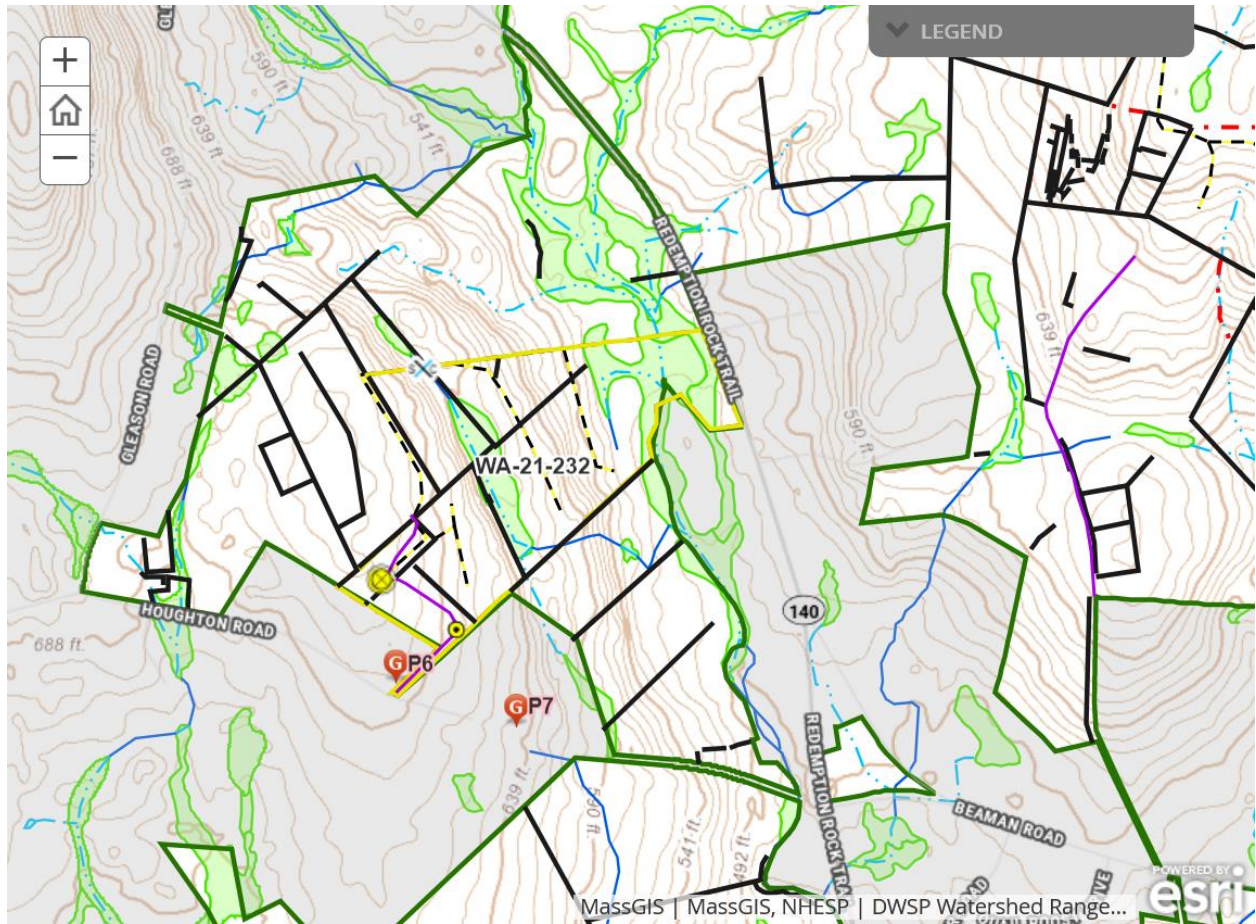
Forwarder required: **Yes**

Feller/processor required: **Yes**

Steep slopes present: **No**

Comments on harvesting limitations:

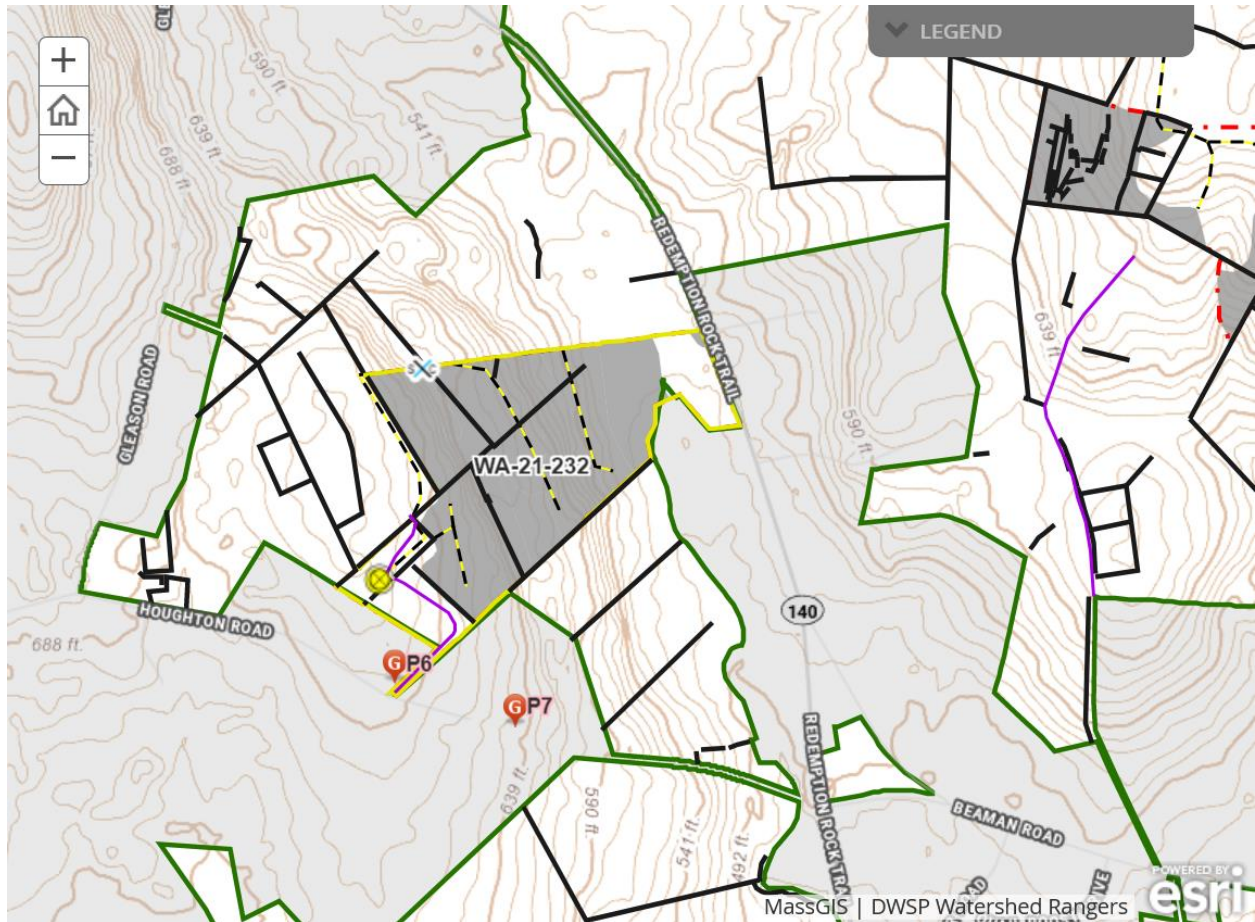
Some sections of this harvest will require the protection of advance regeneration. For this reason a processor and forwarding will be required.



Cultural Resources

Comments on Cultural Resources:

No cultural resources known on lot, other than stone walls.



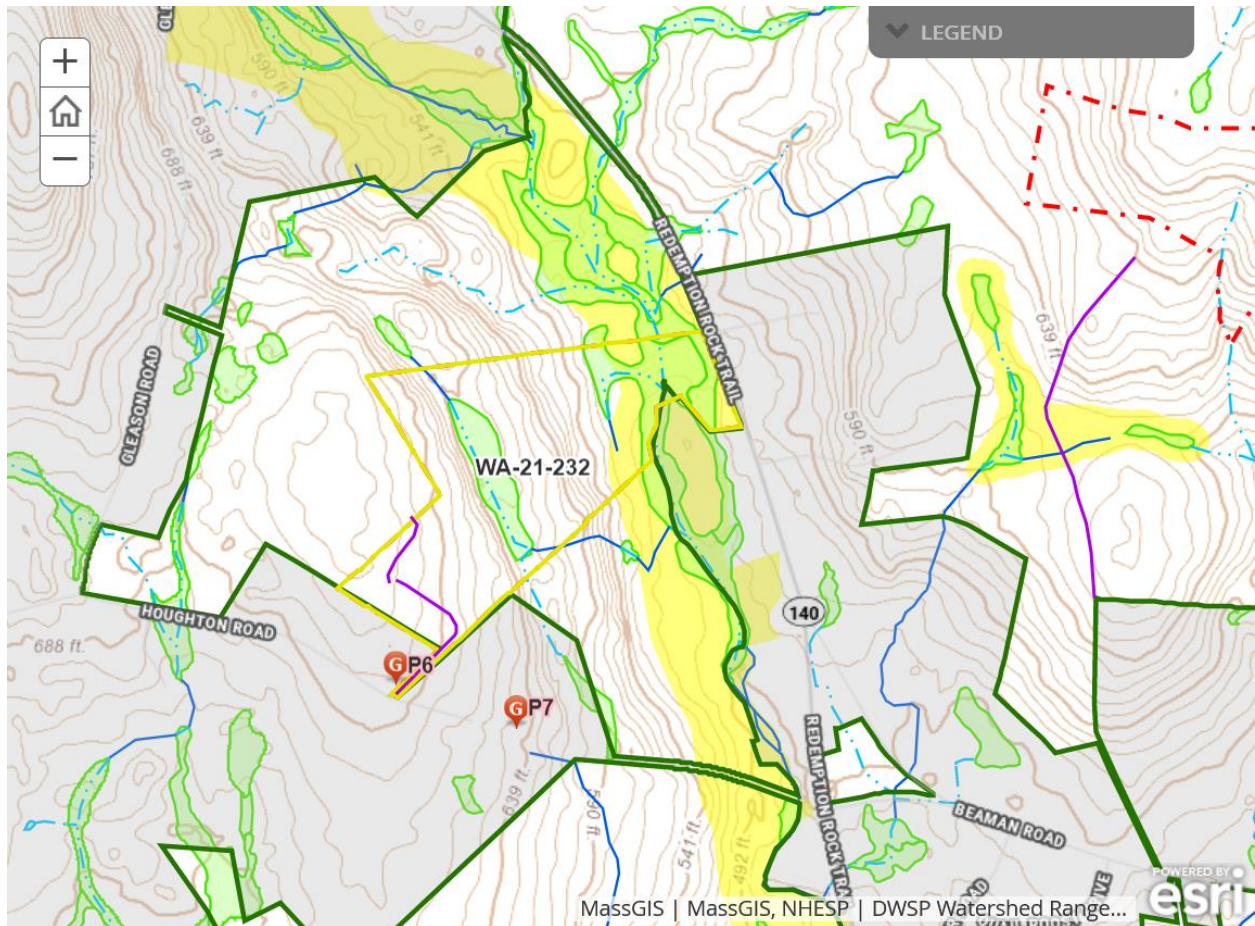
Wildlife Resources & Rare and Endangered Species

General Wildlife Comments:

Active beaver site and a good duck population at the time. A lot of deer activity by the Stillwater. There are some large exposed boulders and an interesting wetland along the Stillwater, just downstream of where Justice Brook and Keyes Brook meet. Some large white oak trees were noted and may be important food sources for wildlife.

Comments on Rare Species/Habitats:

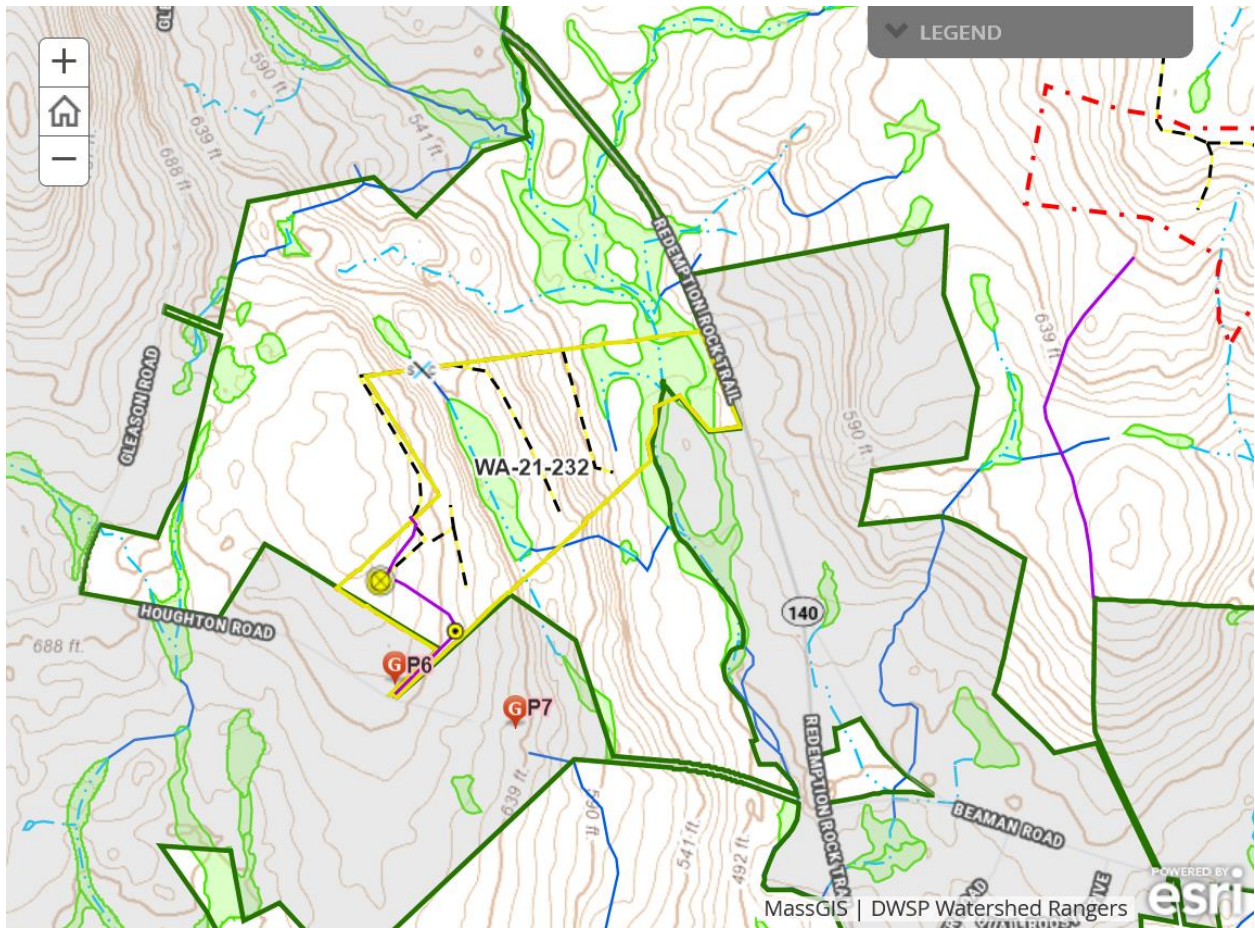
NHESP has determined that certain state-listed sensitive species or habitats may exist within the lot proposal area. To protect them from unnecessary disturbance, detailed information regarding affected species and their locations is not included in this report. DWSP will coordinate with NHESP and follow recommendations to protect these species during the proposed activity.



Environmental Quality Engineering

Comments on EQ Issues:

One stream crossing is proposed. The stream crossing was identified in the field with flagging and a water quality sample was collected at the proposed crossing. EQ staff will collect water quality samples at the stream crossings. Background samples will be collected downstream from the proposed stream crossing prior to logging in order to establish baseline conditions, while downstream and upstream samples will be collected to measure the effects of ongoing logging operations, and after, to determine whether there are any measurable impacts.



Forest Access Engineering

Gravel needed: No

Landing work needed: No

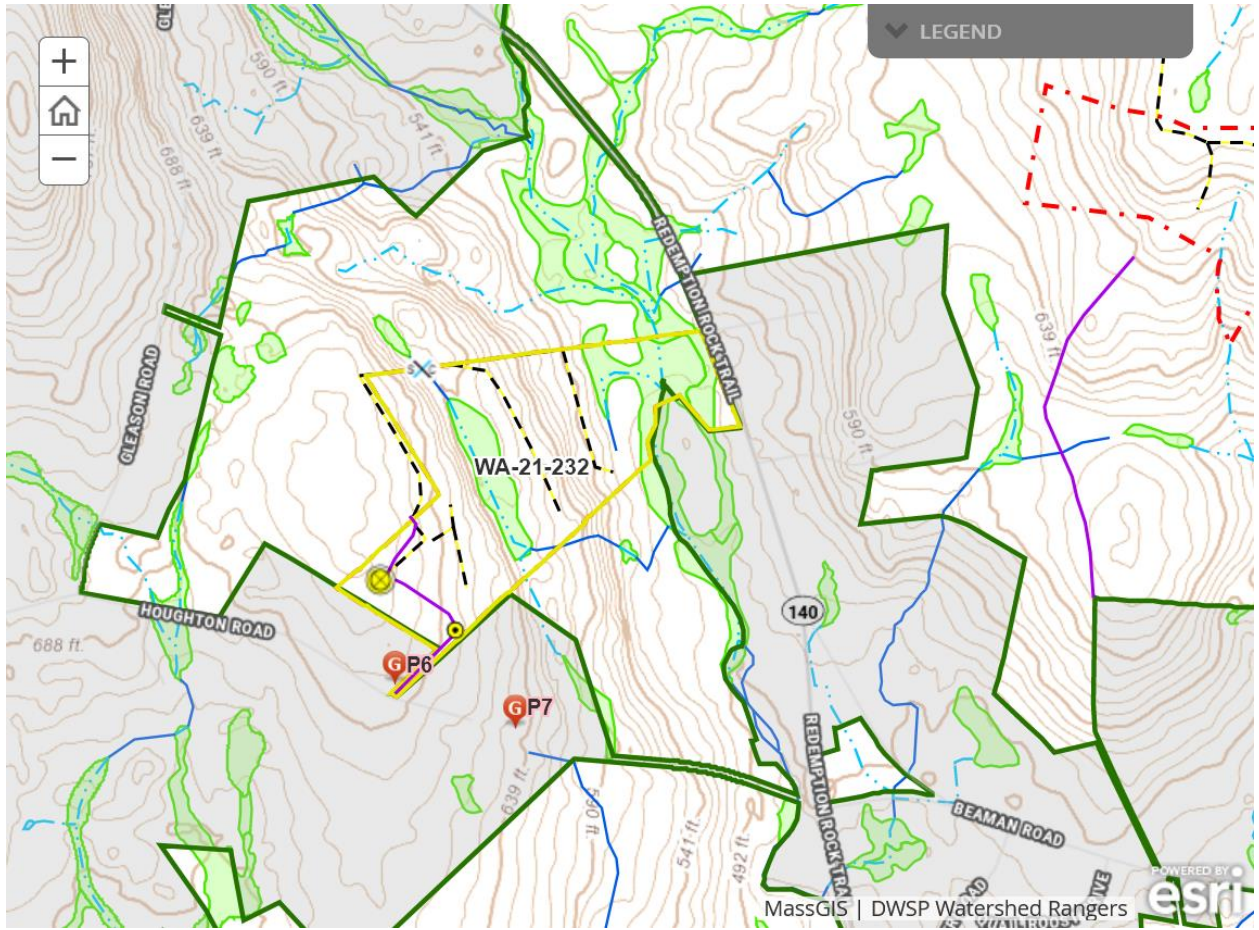
Culverts needed: No

Work needed on permanent bridges: No

















Beaver issue: No

Further comment on access needs:

No engineering work is anticipated to be needed prior to harvest.



DWSP FY 2021 Forestry Proposals – Master Legend for story maps

<p>DWSP Gates</p>  <hr/> <p>Landings</p>  <hr/> <p>Crossings</p> <p>Xng</p>  Stream Crossing	<p>QWWS Watershed Boundaries</p>  <hr/> <p>Vernal Pools</p> <p>Status</p> <ul style="list-style-type: none"> Not a vernal pool Potential vernal pool DCR verified vernal pool <p>Streams - Quabbin</p> <p>FType</p> <ul style="list-style-type: none"> Coastline/Shoreline Stream/River Swamp/Marsh Submerged Stream Artificial Path Canal/Ditch Pipeline Dam/Weir Connector Unknown Other <p>Water Bodies - Quabbin</p> <p>FType</p> <ul style="list-style-type: none"> Reservoir Lake/Pond Stream/River Swamp/Marsh <p>Streams - Ware River</p> <p>FTYPE</p> <ul style="list-style-type: none"> Stream/River Canal/Ditch <p>Water Bodies - Ware River</p> <p>FTYPE</p> <ul style="list-style-type: none"> Reservoir Lake/Pond Stream/River Swamp/Marsh Other <p>Streams - Wachusett</p> <p>EQ_Stream_Type</p> <ul style="list-style-type: none"> Aqueduct Ditch/Canal Intermittent Stream Perennial Stream <p>Waterbodies - Wachusett</p> <p>EQ_Wetland_Type</p> <ul style="list-style-type: none"> Reservoir Lake, Pond, Wide River, Impoundment Wetland, Marsh, Swamp, Bog <p>NHESP Priority Habitats</p>  <hr/> <p>NHESP Certified Vernal Pools</p> <p>NHESP Certified Vernal Pools</p> 	<p>Forest Cover Type - Filled</p> <p>CoverTypeFull</p> <ul style="list-style-type: none"> White Pine-Hardwoods Oak-Hardwoods White Pine-Oak WetHard Mixed Hardwood White Pine Grasses and Forbs White Pine-Hemlock Mixed Oak Northern Red Oak Red Maple Powerline WetMixed Error - Not DWSP Red Pine Shrub Swamp Upland Brush Northern Hardwood Road Beaver Pond Hemlock Hemlock-Hardwoods Mixed-Oak Norway Spruce Pitch Pine WetCon Abandoned Orchard Black Birch-Hardwoods Gravel Pit Northern Hardwoods Pitch Pine-Oak Water Oak, Mixed White pine - oak Mixed hardwoods Hemlock - hardwoods White pine - hardwoods Black Birch-Hardwood Field, mowed Oak - hardwoods Abandoned Field Beaver Meadow Chestnut Oak Heath Mixed hardwood White pine/hardwoods <p>Forest Cover Type - Outline</p> 	<p>SubWatersheds (QWWS-filled)</p> <p>Subwatershed Name</p> <ul style="list-style-type: none"> ASNEBUMSKIT BROOK Barre Falls Belchertown Shoreline Blackington Swamp Cadwell Creek Cunningham East Br. Fever Brook East Prescott North Fed. Forest Stream Gate 20 Rd. Stream Gate 52 Shoreline Gates Brook Gibbs Brook Josslin Juckett Hill East MIDDLE STILLWATER/ROCKY/WILDER BROOK Mary Tamplin Drainage Middle Br. Swift Lower Moosehorn Brook NORTH STILLWATER/KEYES BROOK Northeast Shoreline Parker Prescott Brook Quabbin Park East RES. SHORELINE EAST Sherer Rd. North TROUT BROOK Thurston Brook Underhill Brook WACHUSETT BROOK Ware West Prescott Middle West Prescott North West Prescott South Whitney Hill Southeast Whitney Hill West Other <p>Subwatersheds (WA-outline)</p>  <hr/> <p>Subwatersheds (QWR-outline)</p>  <hr/> <p>Subwatersheds</p> 	<p>Forestry Proposal Boundaries</p>  <hr/> <p>Towns</p>  <hr/> <p>Water Supply Property Boundary</p>  <hr/> <p>Proposed Skid Trails</p>  <hr/> <p>Stone Walls - WA</p>  <hr/> <p>StoneWalls - QWR</p>  <hr/> <p>Stony Soils</p> <p>Stoniness</p> <ul style="list-style-type: none"> extremely stony very stony <hr/> <p>Soils - Drainage</p> <p>Drainage Class</p> <ul style="list-style-type: none"> Excessively Drained Well Drained Thick Well Drained Thin Moderately Well Drained Poorly To Very Poorly Drained <hr/> <p>Quabbin and Ware River Cultural Resources Inventory (Public view)</p> <p>Type</p> <ul style="list-style-type: none"> No Value/Blank Agrarian Cellar Hole Civic Commercial Industrial Military Other Residential Shed Unknown <hr/> <p>QWWS Percent Slope</p> <ul style="list-style-type: none"> 0 - 7 > 7
--	--	---	---	--