Wachusett Harvest Proposal WA-20-124

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.

Proposal Location

The east side is bound by Route 62, the north and west sides are bound by private property, the boundaries of which have been blazed and tagged. The south side is bounded by Ball Brook.

Total Acres: 41

General Description

	Overstory Type(s)	Acres
Dominant	White pine/oak	15
Secondary	Northern Red oak	13

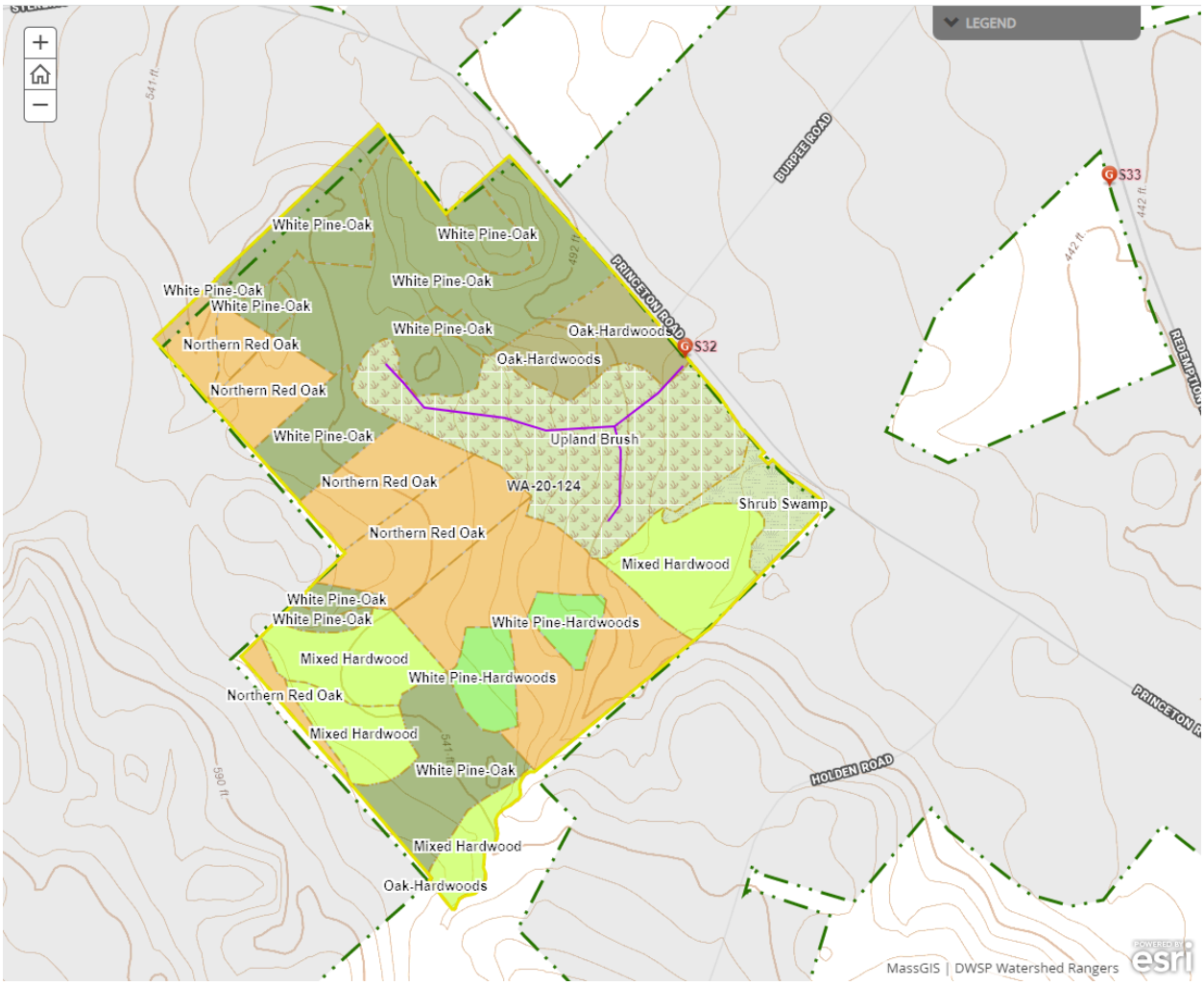
	Understory Type(s)
Dominant	Tree seedlings/saplings dominate site
Secondary	Mountain laurel prevalent

Description of forest composition/condition:

A forest management operation was performed in most of this area in 2006. At that time, the understory in the red oak stand was primarily mountain laurel with very few young trees. Fortunately the mountain laurel was not exceedingly thick at that time. There was less mountain laurel and more young trees in the white pine-oak stand. For this reason, 5 openings were made in the white pine-oak stand totally 4.7 acres. In the red oak stand, with the goal of encouraging the establishment of advance regeneration, the overstory was heavily cut, removing approximately 50% of the stocking while requiring that the mountain laurel be mechanically damaged as much as possible. This was done in 3 large blocks totalling nearly 5 acres. This was very successful, and today there is excellent numbers and diversity of seedlings and saplings in these 3 blocks. It's clear that not only was there the estabishment of new seedlings following the harvest, but that the scattered regeneration that was struggling under the mountain laurel was able to take advantage of the increased light and has now grown above the laurel.
The age structure for Working Unit #124 is as follows: 12%, 0-20 years old, 6%, 21-40 years, 9%, 41-60 years, 16%, 61-80 years, 0%, 81-100 years and 57%, >100 years old. The oldest stands originated in about 1910 making them 109 years old.

Assessment of Terrestrial Invasive Species:

Sampling found terrestrial invasive species present in 10 of the 70 plots. All of these plots are in or near the abandoned field inside Gate S32. Oriental bittersweet is the most common species, present in 6 of the plots, along with honeysuckle and multifora rose.

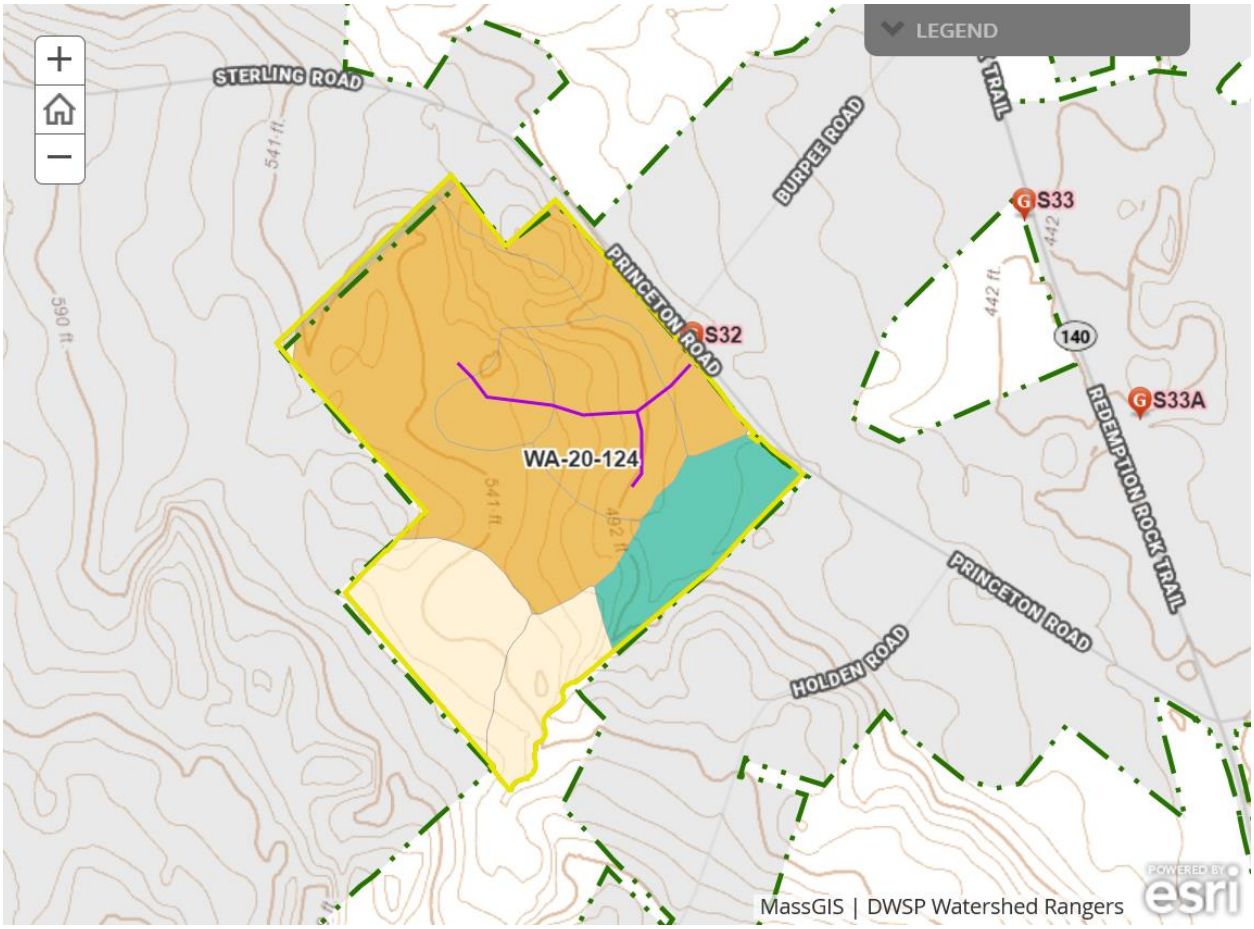


Soils

Drainage Class	%
Excessively Drained	26
Well Drained Thin	0
Well Drained Thick	64

Moderately Well Drained	0
Poorly to Very Poorly Drained	11

The Merrimac and Hinckley loamy sand outwash soils are the excessively drained soils and the well-drained thick soil is the Canton fine sandy loam, a soil of till origin.

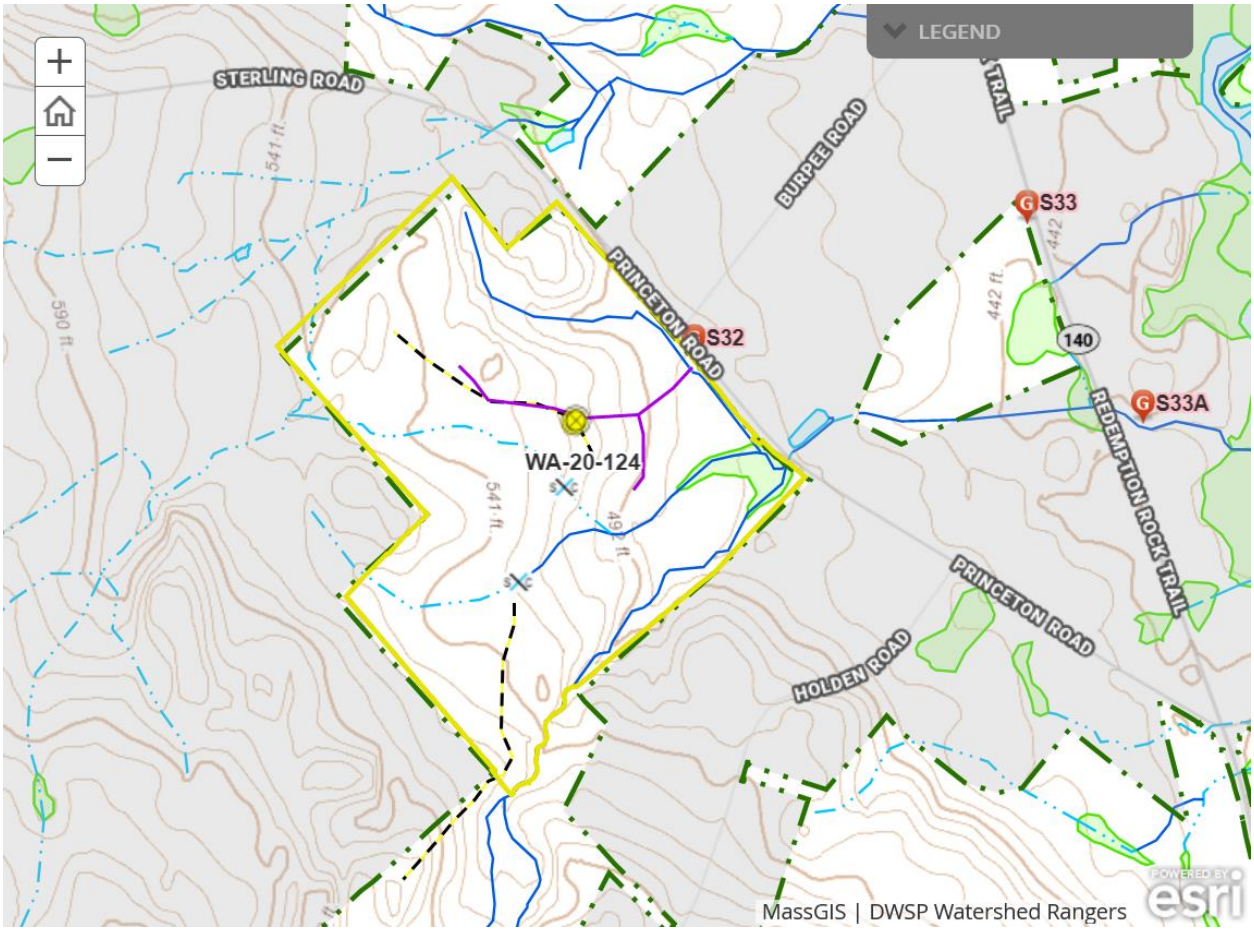


Wetlands

- Wetlands present? - **Yes**
- Streams present? - **Yes**
- Vernal pools present? - **None known**
- Seeps present? - **None known**
- Are stream crossings required? - **Yes**

- Are wetland crossings required? - **No**
- Is logging in filter strips planned? - **Yes** **(Riparian Zone Mgt)**
- Is logging in wetlands planned? - **No**

The two small, intermittent tributaries to Ball Brook are crossed at old stone culverts on the interior forest road.



Silviculture

Acres in Intermediate cuts: **10**

Acres in prep/establishment cuts: **0**

Acres in Regeneration cuts: **9**

Average regen opening size: **1.5**

Maximum regen opening size: **2**

Description of advance regeneration in proposal area:

There is excellent numbers and diversity of seedlings and saplings through much of this area. Sampling found adequate tree regeneration present in 45% of the plots. This regeneration is comprised primarily of white pine, red oak, red maple and black birch along with black cherry. Oak was present in 44% of the plots.
Where advance regeneration is lacking it is principally due to interfering levels of mountain laurel. This was the case in 36% of the plots.

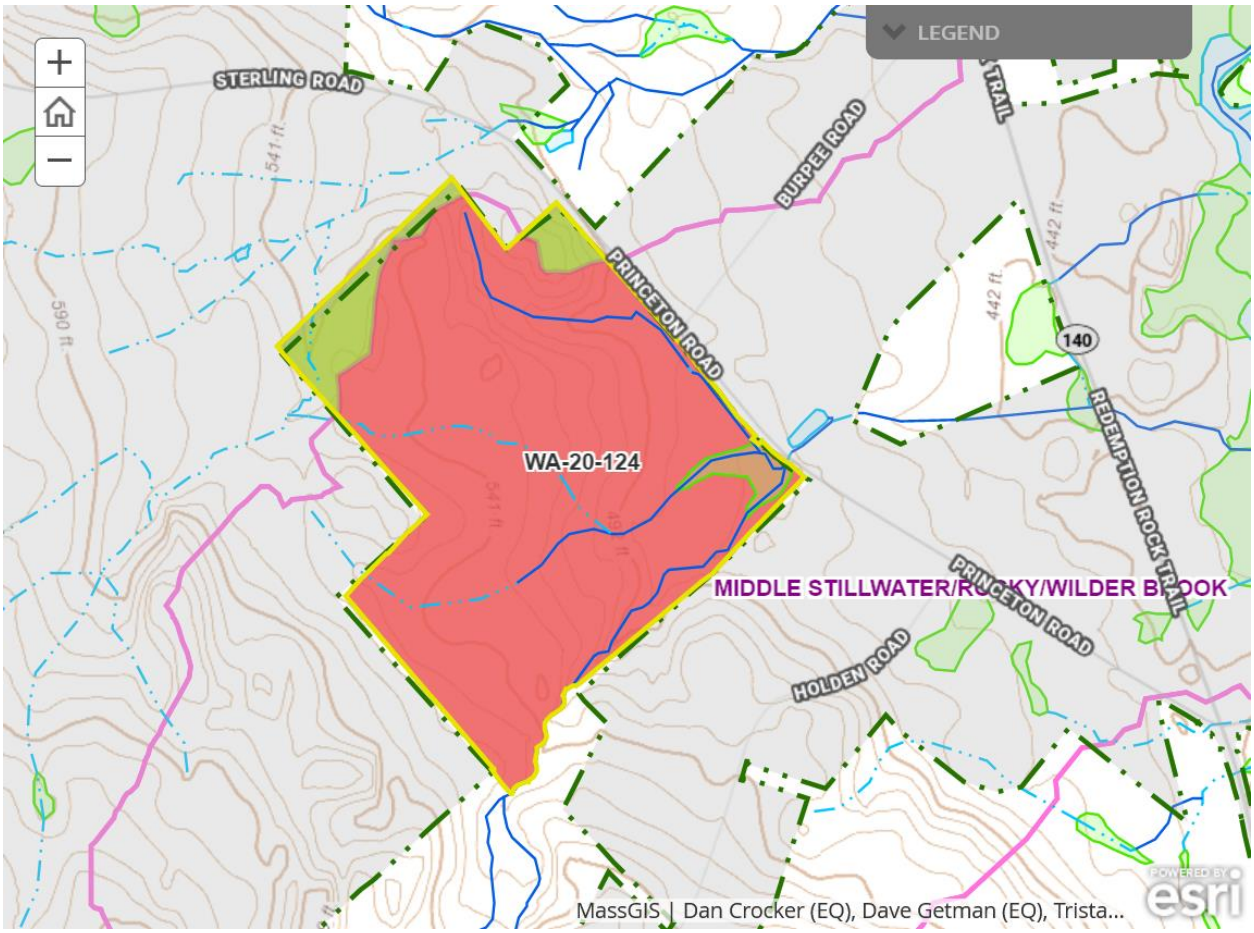
General comments on silviculture proposed:

With the goal of forest management being the establishment of a young class on about 1/3rd or 13.5 acres in this working unit, the presence of good advance regeneration, well distributed throughout this area, should make this achievable. With 4.7 acres of young forest created in 2006, this operation will seek to create an additional 8.8 acres. This will come primarily from the 5 acres that were heavily cut in 2006. Given the location and spacing of the overstory removals in 2006 and where adequate advance regeneration is currently present, the remaining newly released young age class will primarily be the result of the expansion of the 2006 patches rather than new openings, surrounded by older forest. For this reason, the typical average opening size of 1 acre will likely be exceeded.
Additional partial cutting of the overstory between the openings may occur on up to 10 acres focusing on removing the trees of poorest vigor while maintaining as much species diversity as possible.

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
18 (Middle Stillwater/Rocky/Wilder Brook)	2189	99	448	41

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



Harvesting Limitations

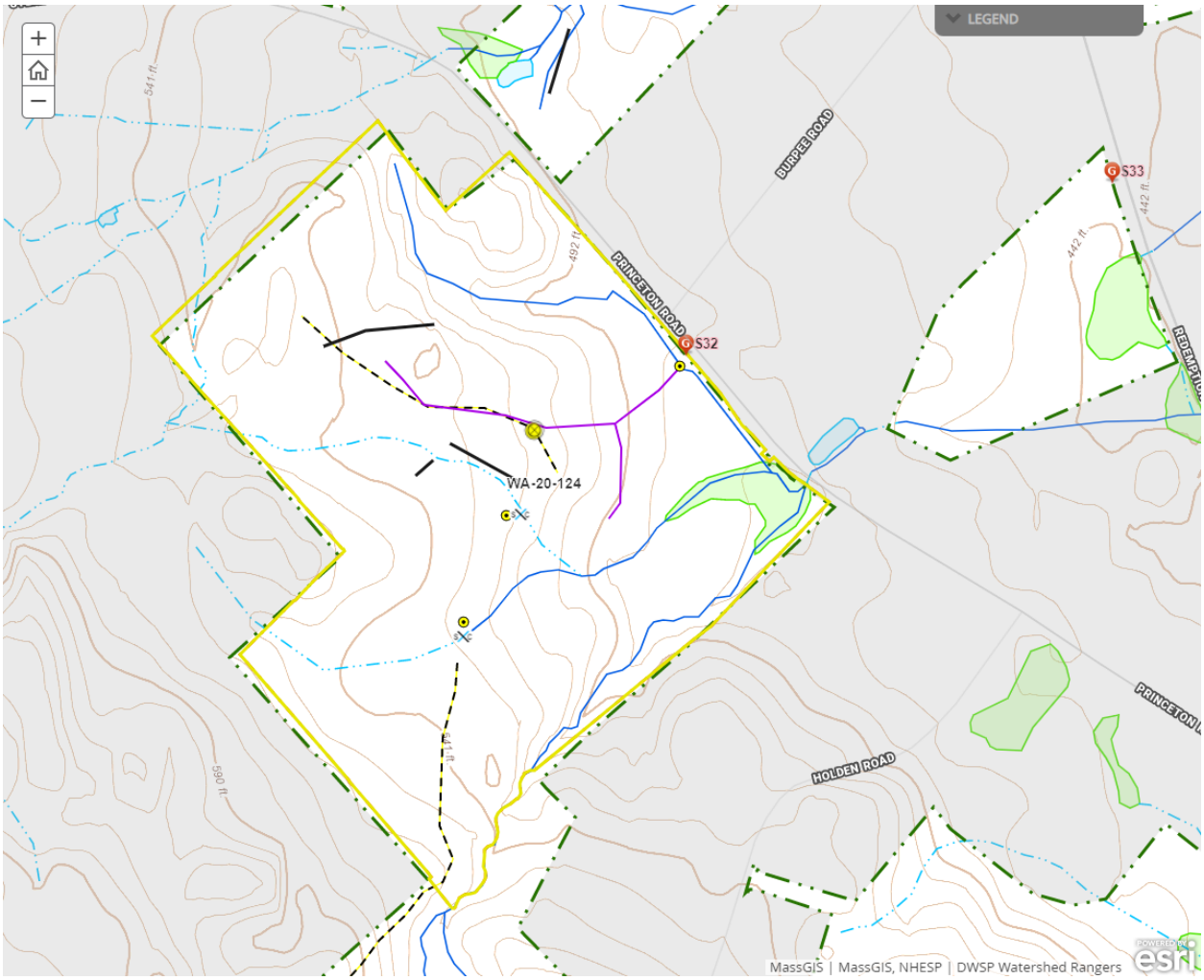
Forwarder required: **Yes**

Feller/processor required: **Yes**

Steep slopes present: **No**

Comments on harvesting limitations:

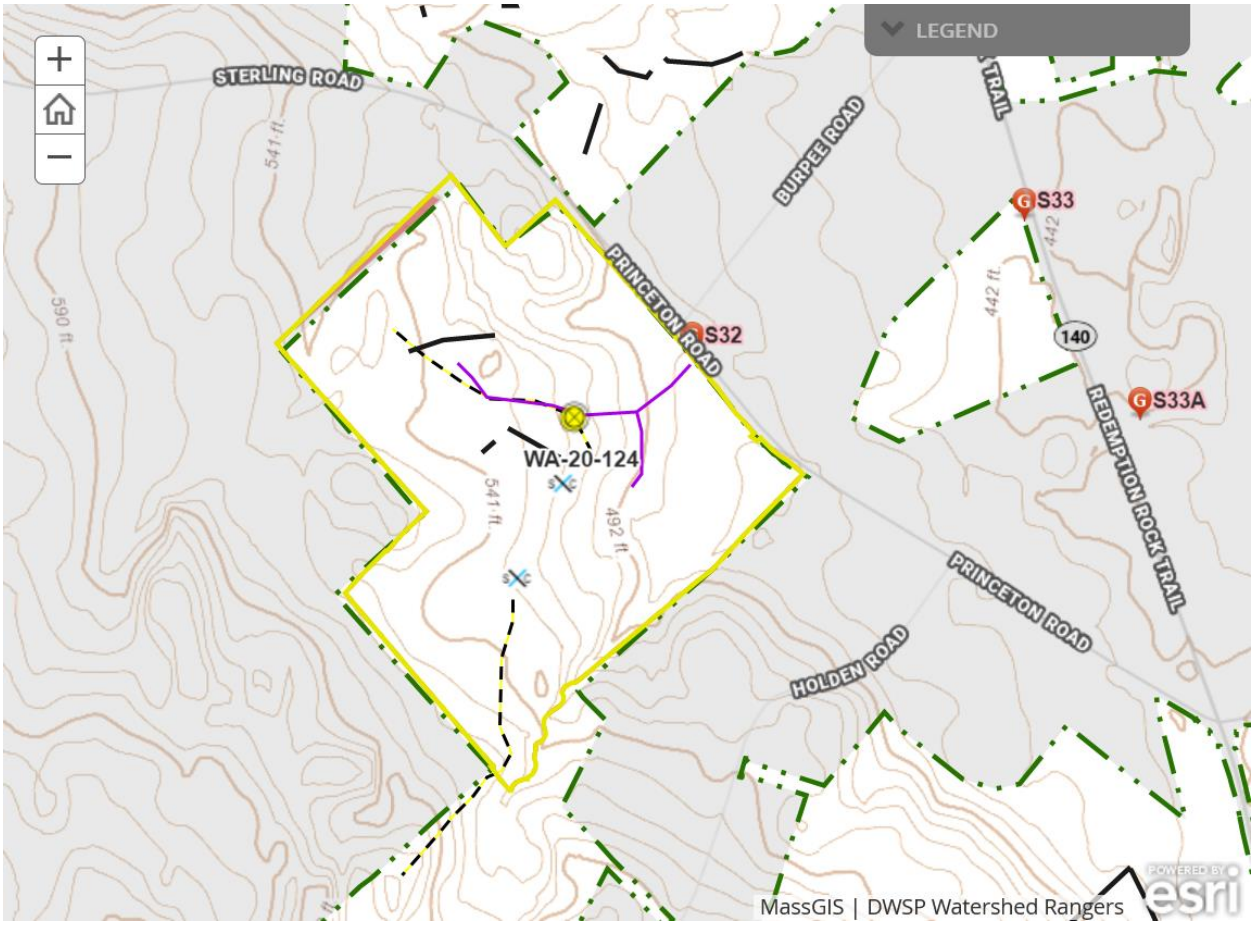
With advance regeneration present and a desire to protect as much of it as possible during the harvest, a cut-to-length harvesting system will be employed.



Cultural Resources

Comments on Cultural Resources:

This area has been assessed by the DCR Archaeologist for both known sites of cultural or archaeological importance as well as for potential use by pre-Contact Native Americans; none are known or documented, though the site is considered potentially sensitive for pre-Contact sites. DWSP will follow any additional recommendations from DCR's Archaeologist regarding protection of sensitive sites.



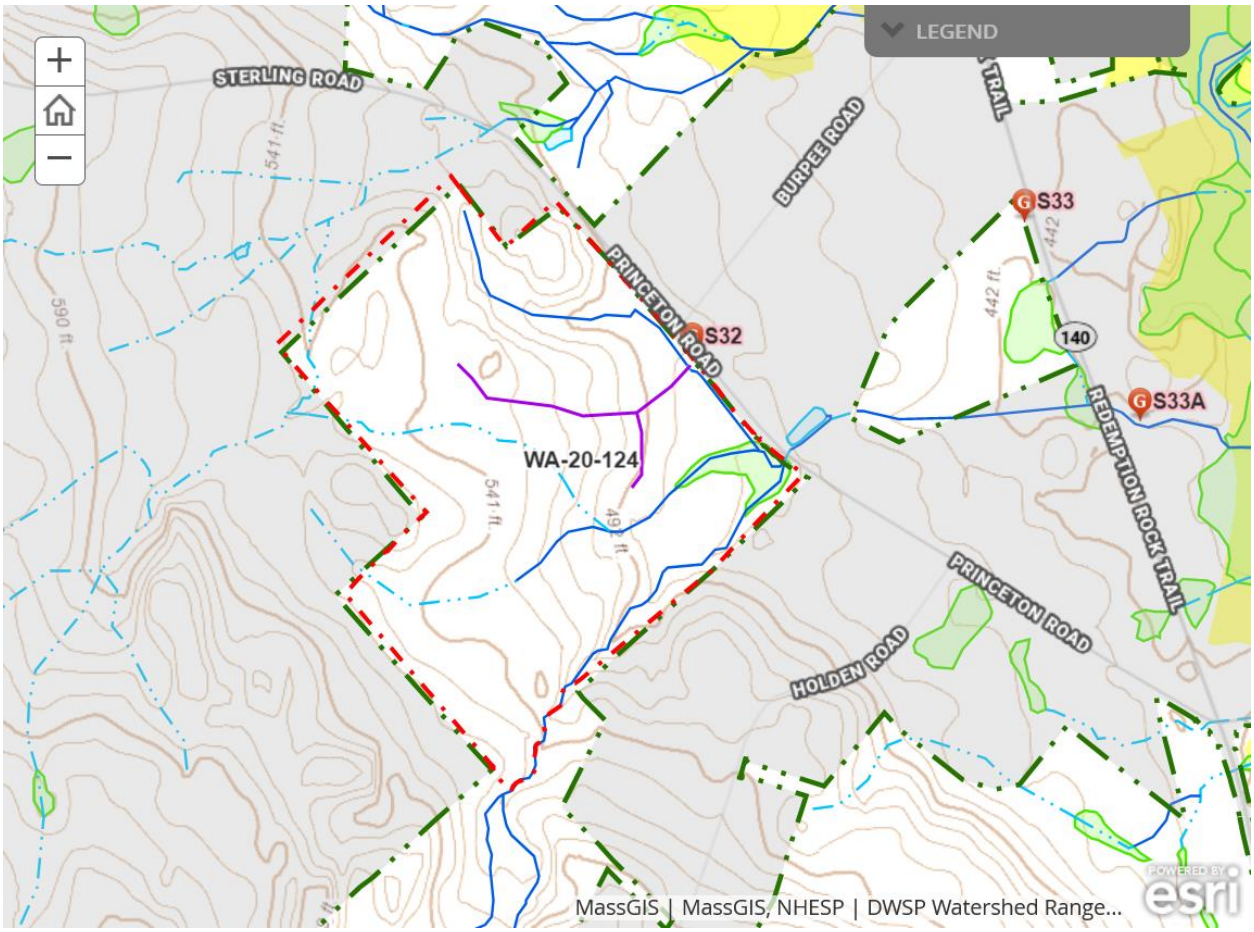
Wildlife Resources & Rare and Endangered Species

General Wildlife Comments:

All DWSP Best Management Practices for wildlife management such as the protection and enhancement of wildlife habitat features will be an integral part of the silviculture and job layout. Diverse hard and soft mast species will be retained and the healthiest trees will be released to improve seed production, which will promote tree seedlings and food for wildlife. Large snags, den trees, logs and nest trees will be retained whenever possible as valuable habitat. Stick nests were observed and so they will be protected. Where they occur; streams, wetlands, seeps and vernal pools will be protected for water quality and wildlife habitat.

Comments on Rare Species/Habitats:

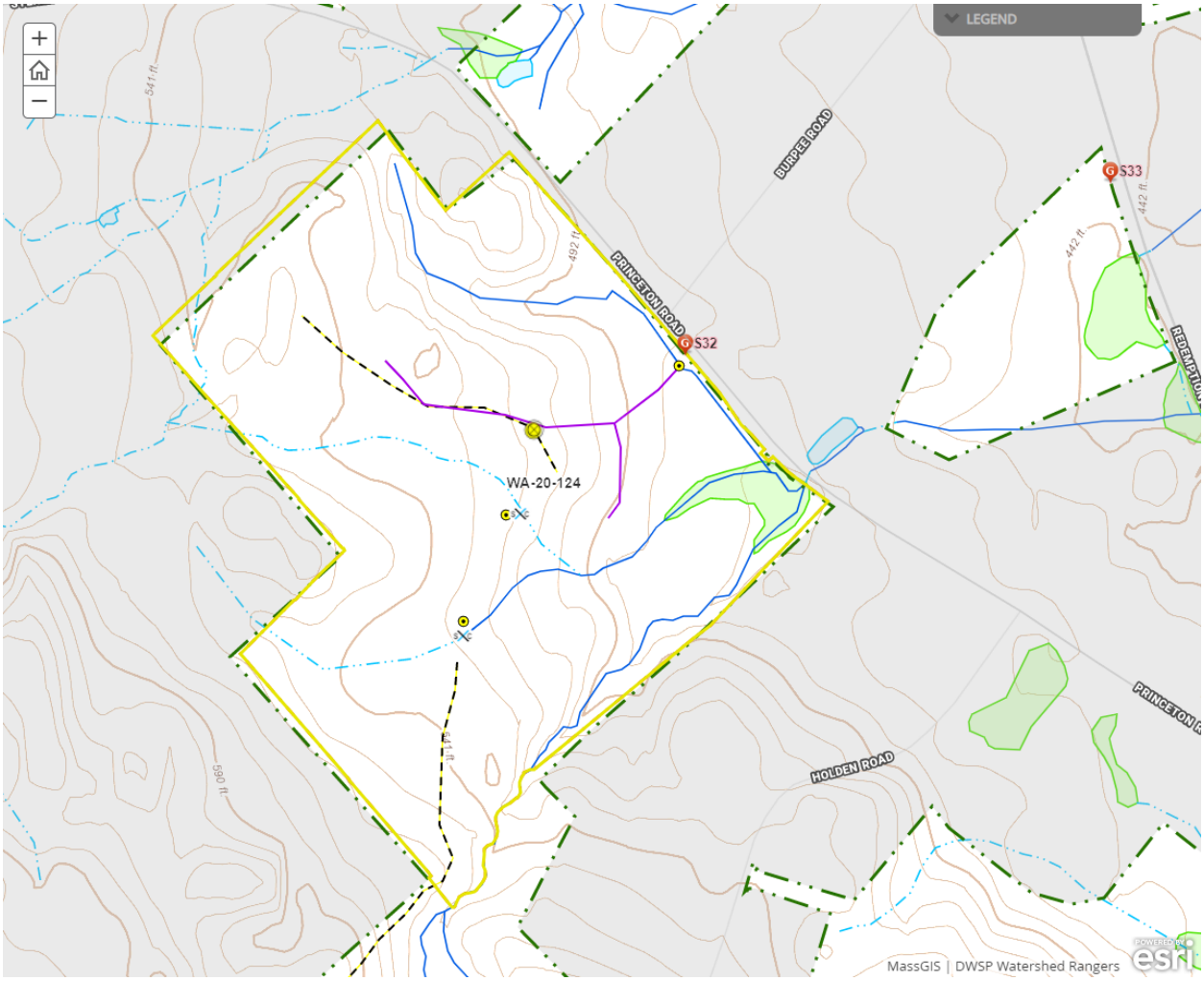
No rare species or habitats known. No vernal pools present.



Environmental Quality Engineering

Comments on EQ Issues:

The two small intermittent streams will be crossed at the old stone culverts on the cart road. 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

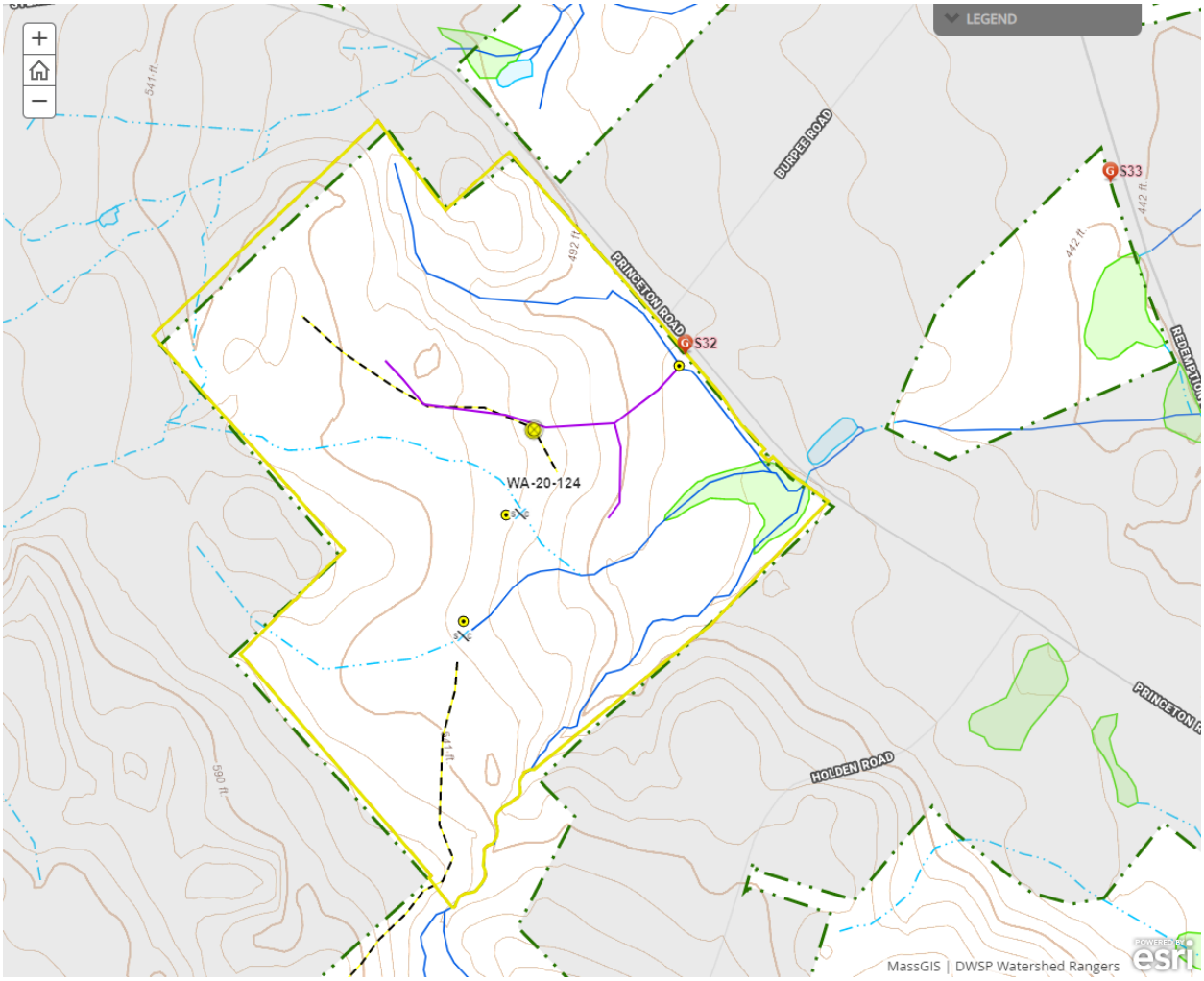
Culverts needed: No

Work needed on permanent bridges: No

Beaver issue: No

Further comment on access needs:

An reassessment of the culvert just inside Gate S32 is needed to see if it's adequate for crossing by log trailers. The last time this area was worked, nothing larger than a tri-axle log truck crossed it.



DWSP FY 2020 Forestry Proposals – Master Legend for story maps