Wachusett Harvest Proposal WA-20-240

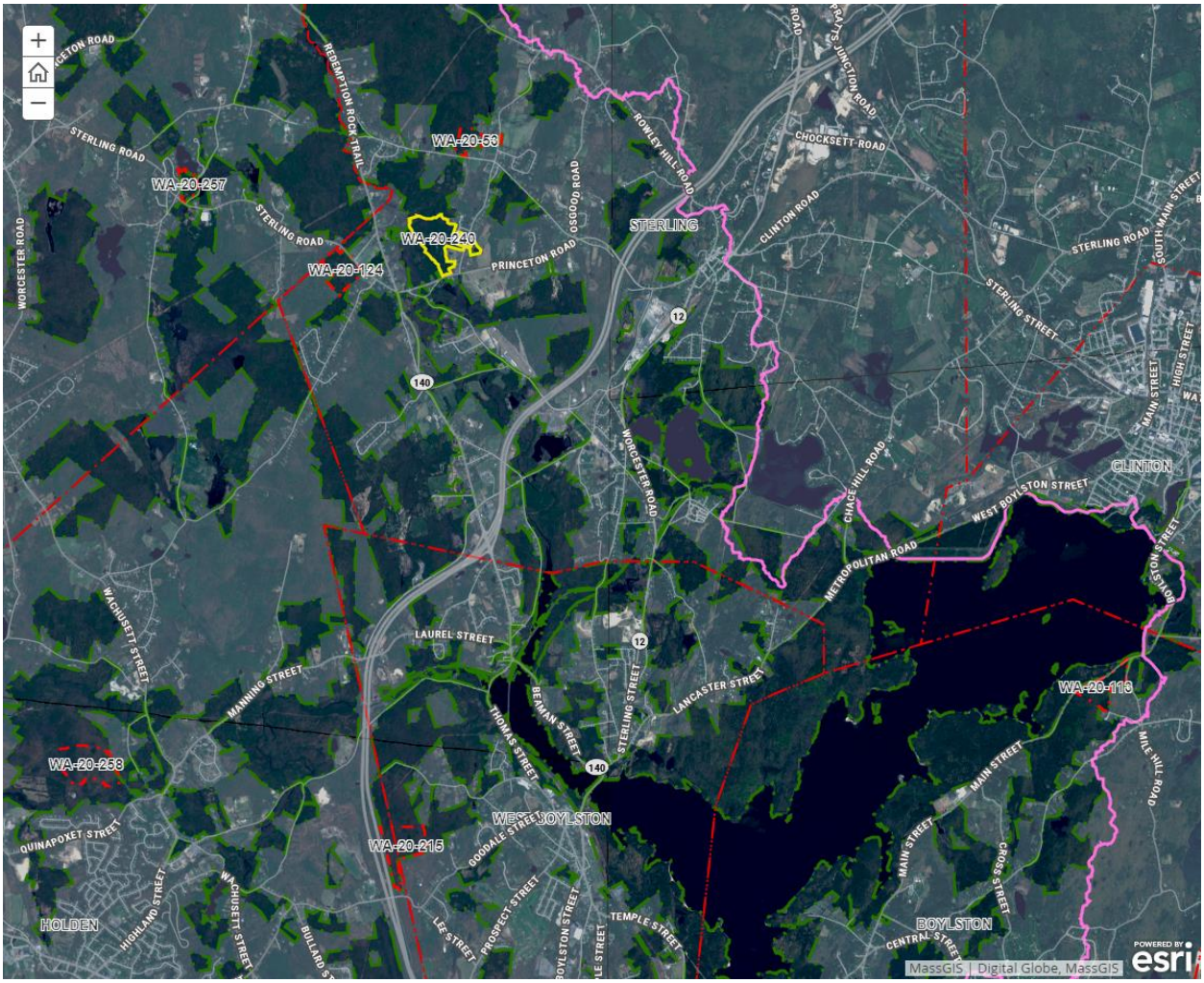
Proposal Goals

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 west side is bound by Wilder Brook, the north side is bound by internal cart paths and an arbitrary line through the wetland, the east side is bound by private property boundary some of which is stone wall, the south side is bound by an unnamed intermittent stream. While this Working Unit includes land south of this intermittent stream, no work will occur in this area. Also, no work will occur in the piece of this Working Unit on the east side of Wilder Road.

Total Acres: 64



General Description

	Overstory Type(s)	Acres
Dominant	White pine/oak	27
Secondary	White pine	14
Other	White pine/hardwood	10

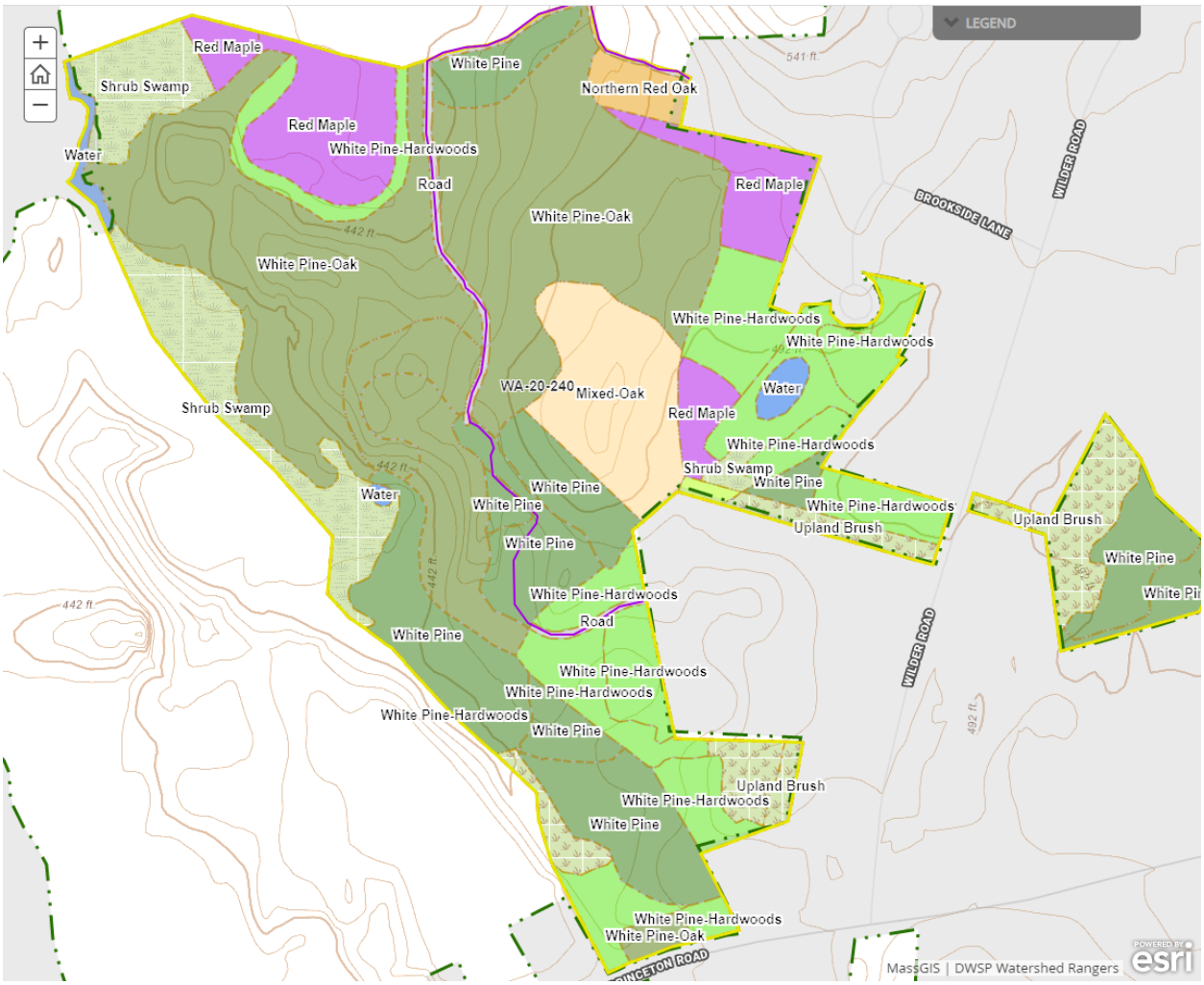
	Understory Type(s)
Dominant	Tree seedlings/saplings dominate site
Secondary	Mesic site - witch hazel, highbush blueberry

Description of forest composition/condition:

The primary species in the forest overstory in this area is white pine along with red oak, red maple and black birch. There is also black oak, white oak, black cherry, elm, white ash and hemlock. Much of the hemlock is found in the kettles in the peninsula of upland in the west side of the area and while it's probably not free of hemlock woolly adelgid, it appears pretty healthy at this point in time. The understory is comprised of excellent numbers and diversity of seedlings and saplings along with witch-hazel, lowbush blueberry, maple-leaved viburnum and shadbush. There is highbush blueberry and winterberry in the damper pockets in the topography. No forest management or other cutting has occurred in these stands that originated in 1920 and 1938 following abandonment of these pastures. Where a gravel removal operation took place in the south end of the area, there are now white pine dominated stands that date from the 1960s through the early 1990s.
The age structure of Working Unit 240 is as follows: 8%, 0-20 years old; 22%, 21-40 years; 11%, 41-60 years, 33%, 61-80 years, 26%, 81-100 years 0%, >100 years old.

Assessment of Terrestrial Invasive Species:

Sampling found terrestrial invasive species present in 13 of 105 plots. 9 of these plots are in the south end in the old gravel pit area, particularly associated with wetter soils near the stream. One of these plots had nearly 100% invasive cover made up of honeysuckle, multiflora rose, knotweed and bittersweet. The other 4 plots are in the east side of the area associated with a long, narrow, unmapped wetland. There is a small amount of buckthorn in these plots.

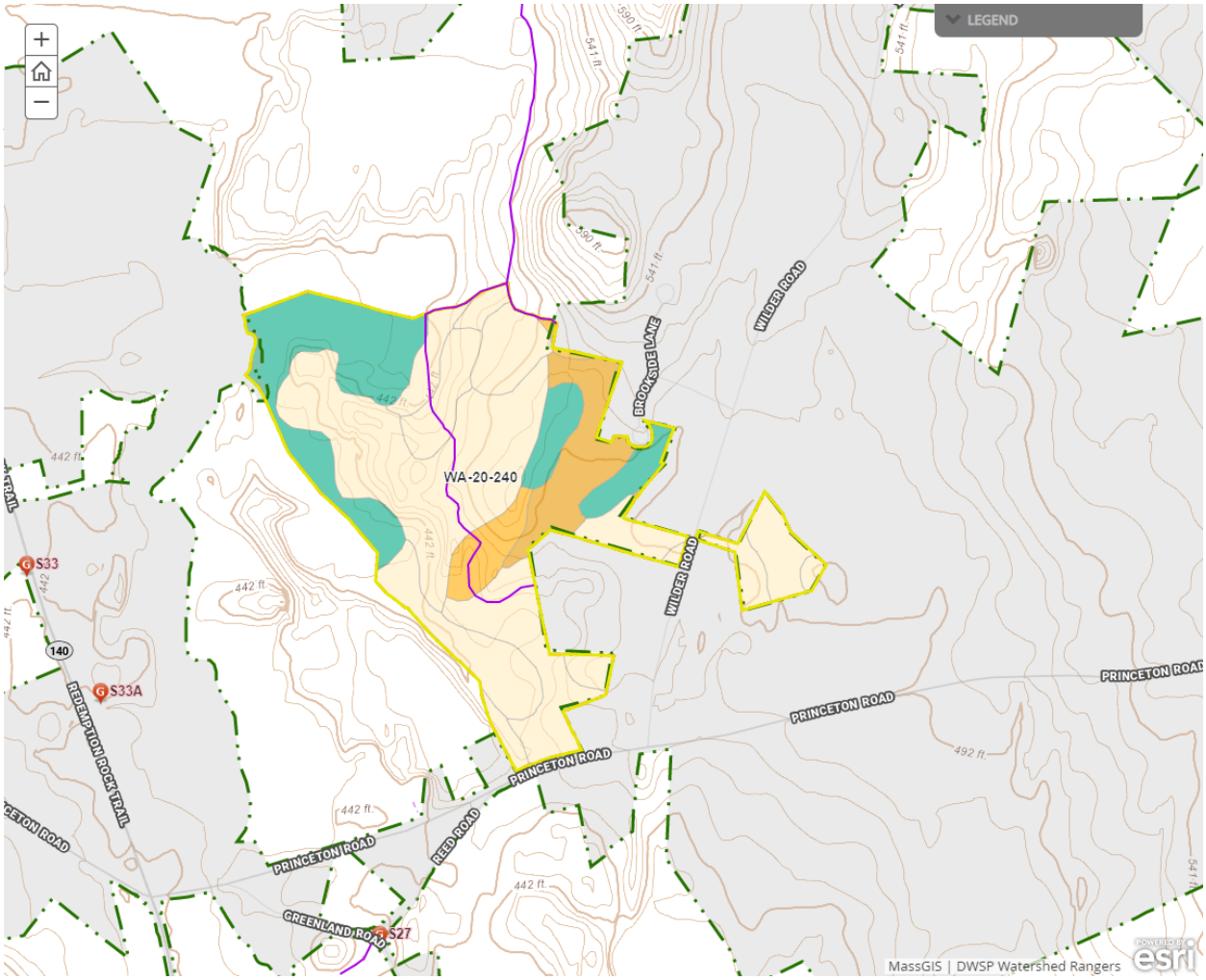


Soils

Drainage Class	%
Excessively Drained	76
Well Drained Thin	5
Well Drained Thick	10

Moderately Well Drained	0
Poorly to Very Poorly Drained	9

The excessively drained soil is primarily the Hinckley loamy sand. The well-drained thick soil is the Paxton fine sandy loam till.



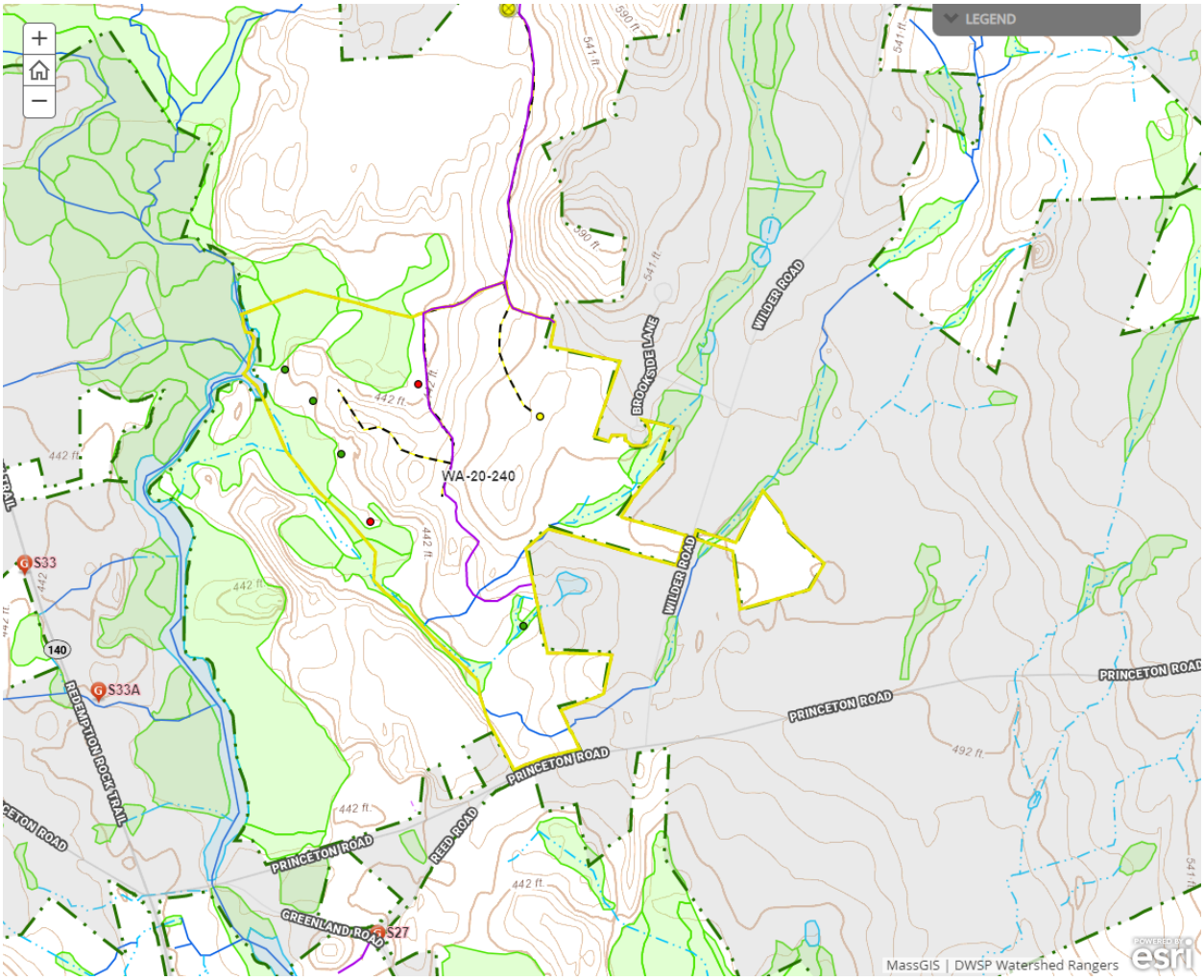
Wetlands

- Wetlands present? - **Yes**
- Streams present? - **Yes**
- Vernal pools present? - **Yes**

- Seeps present? - **None known**
- Are stream crossings required? - **No**
- Are wetland crossings required? - **No**
- Is logging in filter strips planned? - **Yes**
- Is logging in wetlands planned? - **No**

There is a long and narrow unmapped wetland in the east side of this area, behind the houses on Brookside Lane.
Verified vernal pool #334 is located in the far western edge of this area near the Wilder Brook wetland, but due to beaver activity in the Wilder Brook wetland is not currently functioning as a vernal pool.

Three other potential vernal pools to the north of Pool #334 on this kettlehole-pocked peninsula of upland were checked and although were holding water are not functioning as vernal pools. A new vernal pool was verified just to the west of the long and narrow unmapped wetland, and another needs to be rechecked in subsequent years to verify. (Updated vernal pool mapping is pending; only older pool locations are currently shown.)



Silviculture

Acres in Intermediate cuts: **25**

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

Acres in Regeneration cuts: **21**

Average regen opening size: **1**

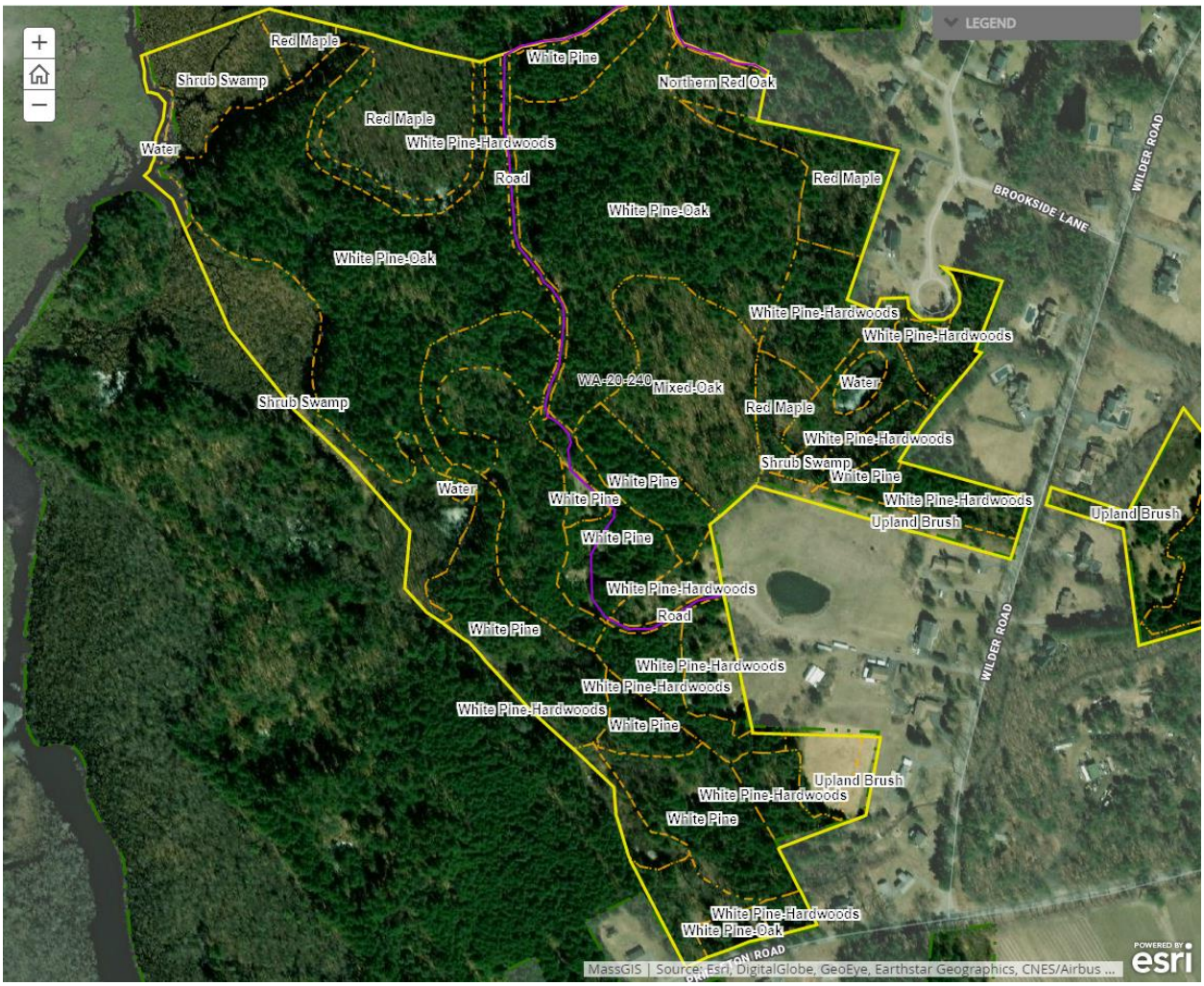
Maximum regen opening size: **2**

Description of advance regeneration in proposal area:

Sampling found adequate tree regeneration present in 45% of the plots taken. Oak was present in 74% of the plots. This regeneration is diverse and comprised primarily of white pine, red oak, black birch and red maple along with white oak, black oak, hemlock, black cherry, hickory, elm and white ash.

General comments on silviculture proposed:

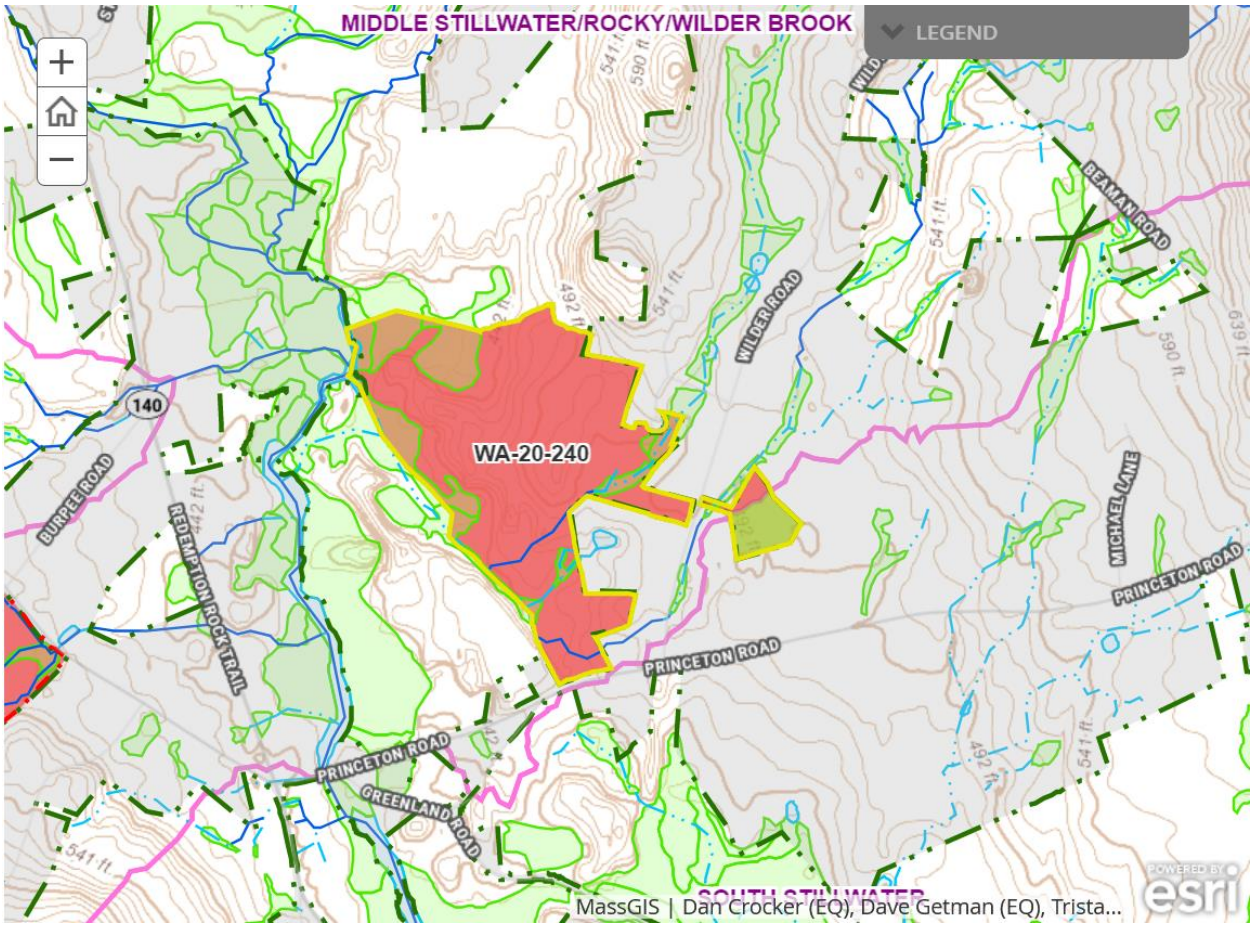
With good numbers and diversity of young trees present throughout this area, openings in the older forest overstory will be made on up to 21.3 acres thereby achieving the goal of creating a new age class on 1/3rd of this area. This will be accomplished by the removal of the overstory in patches that average about 1 acre with a maximum size of about 2 acres. These will be well distributed throughout the proposed area taking advantage of where the advance regeneration is best. Following this cut, this area will have an approximate age structure as follows: 41%, 0-20 years old; 22%, 21-40 years; 11%, 41-60 years; 0%, 61-80 years; 15%, 81-100 years; 11%, >100 years old.
Some partial cutting may occur between the openings on up to 1/3rd of the area focusing on the removal of trees of the poorest quality while maintaining species diversity.



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	64

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



Harvesting Limitations

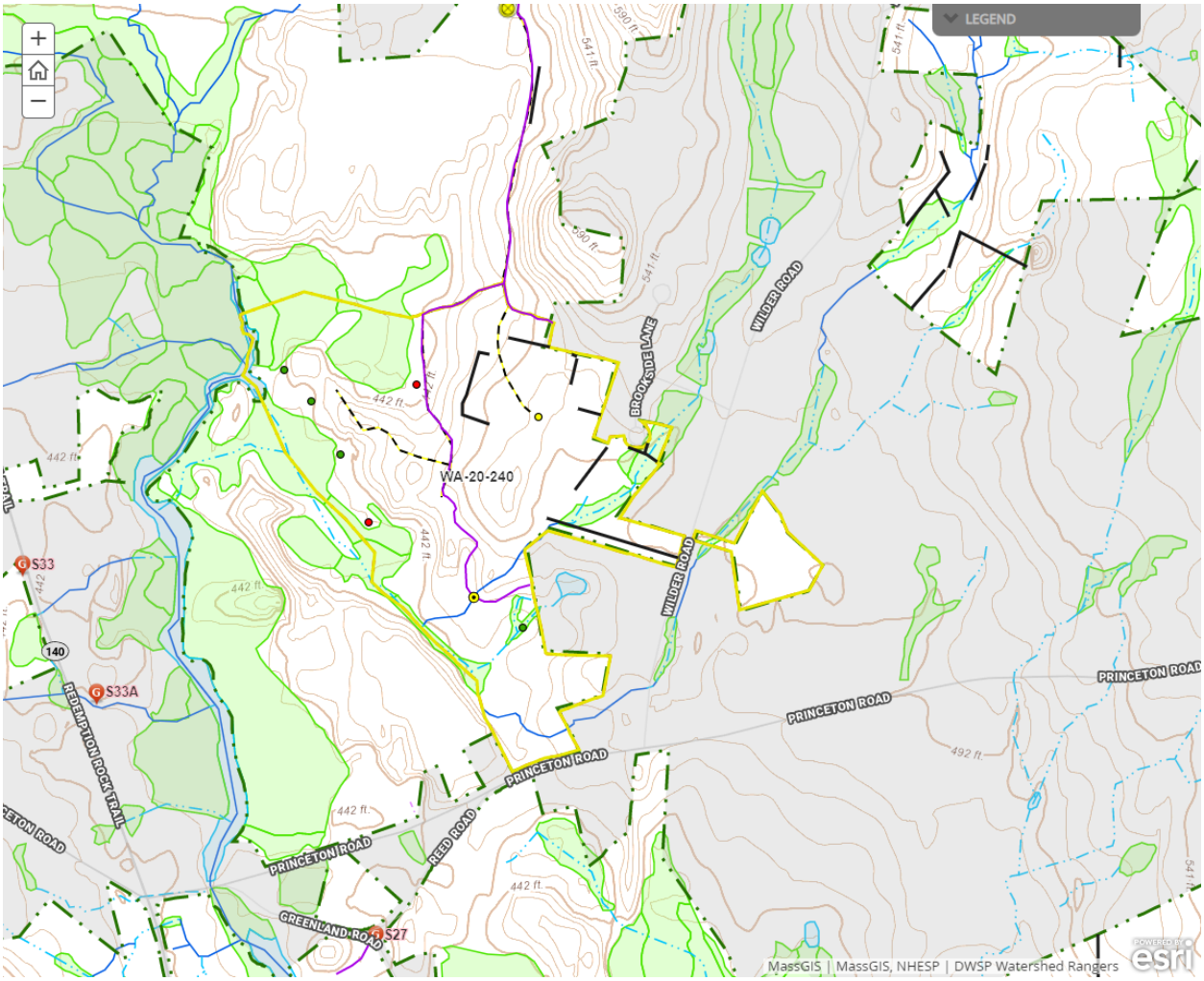
Forwarder required: **Yes**

Feller/processor required: **Yes**

Steep slopes present: **No**

Comments on harvesting limitations:

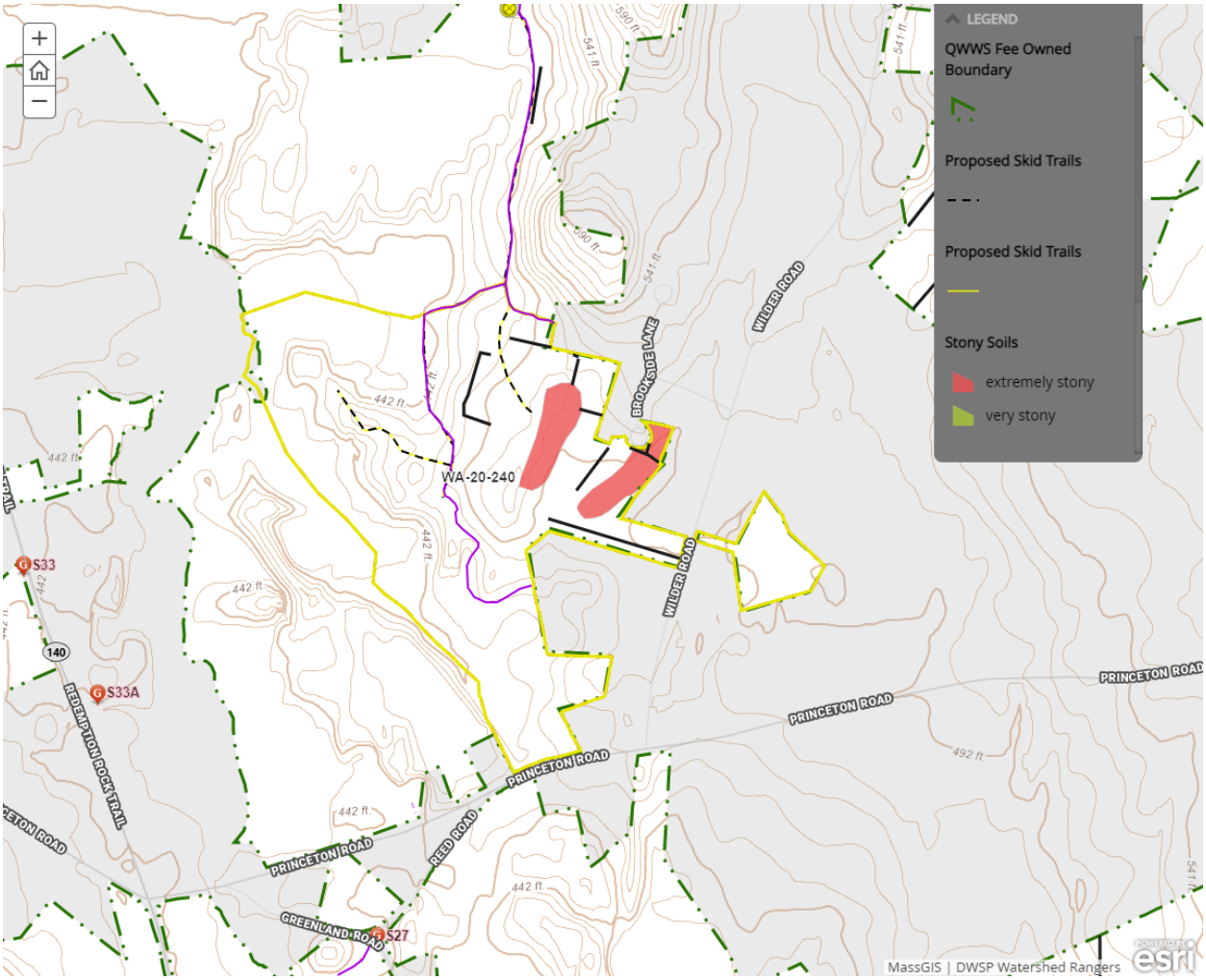
With advance regeneration present and a desire to protect as much of it as possible during the harvest, a cut-to-length harvesting system will be employed.



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. If applicable DWSP will follow any recommendations from DCR's Archaeologist regarding protection of sensitive sites.



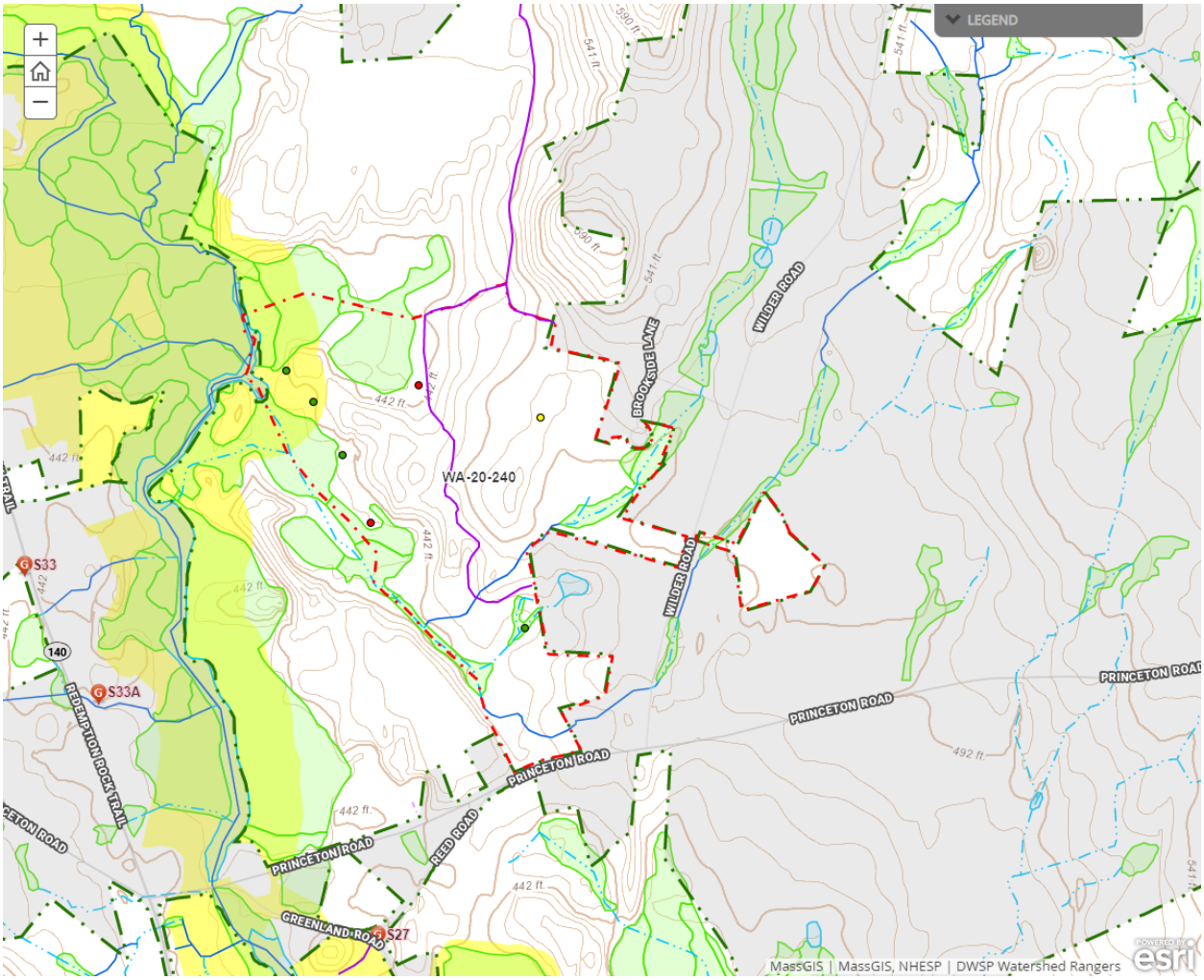
Wildlife Resources & Rare and Endangered Species

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:

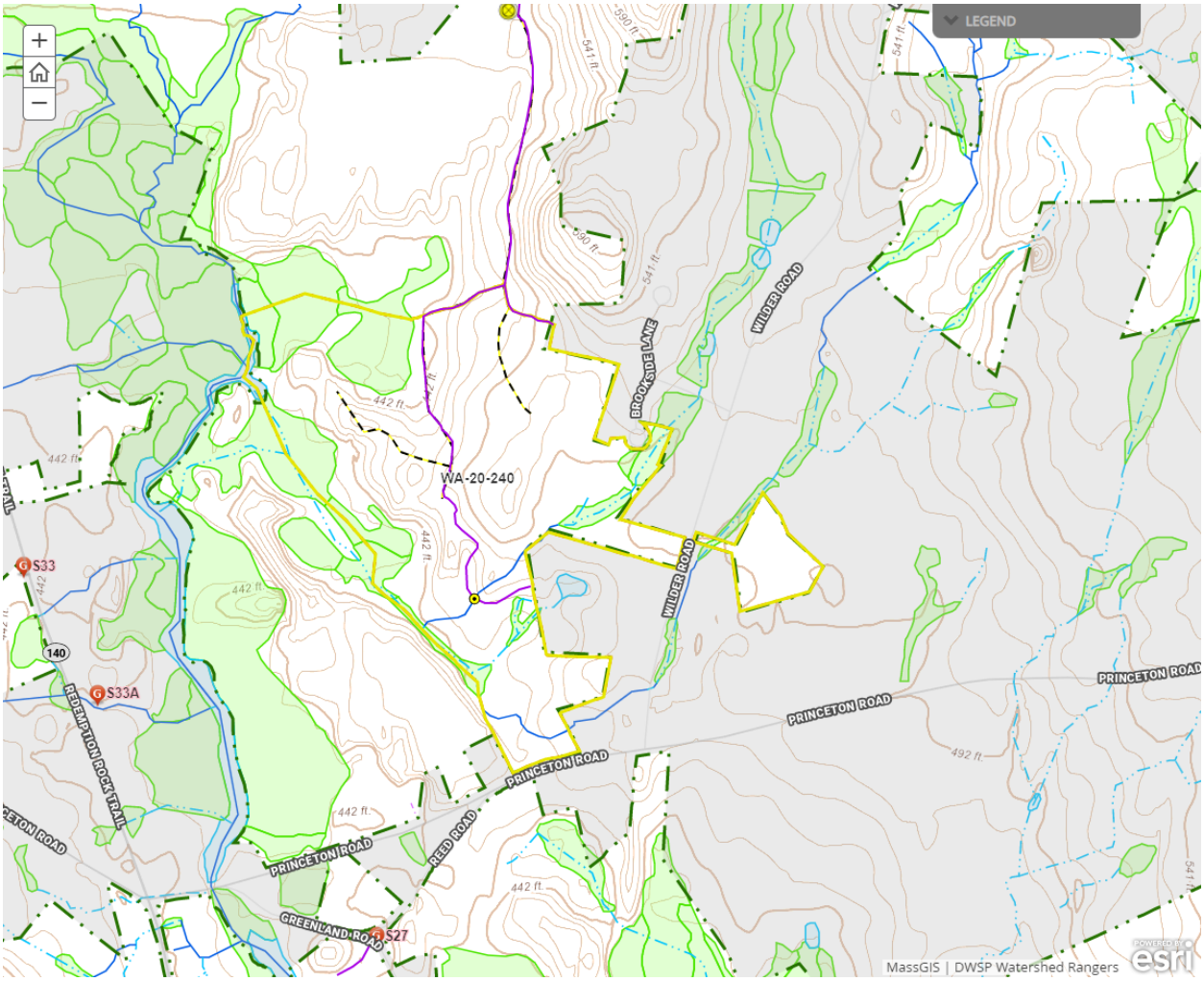
NHESP has determined that certain state-listed species or habitats may exist within a portion of the lot proposal area. To protect them from unnecessary disturbance, detailed information regarding affected species and their locations is not included in this report. DWSP will coordinate with NHESP and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



Environmental Quality Engineering

Comments on EQ Issues:

No stream crossings are planned.



Forest Access Engineering

Gravel needed: No

Landing work needed: No

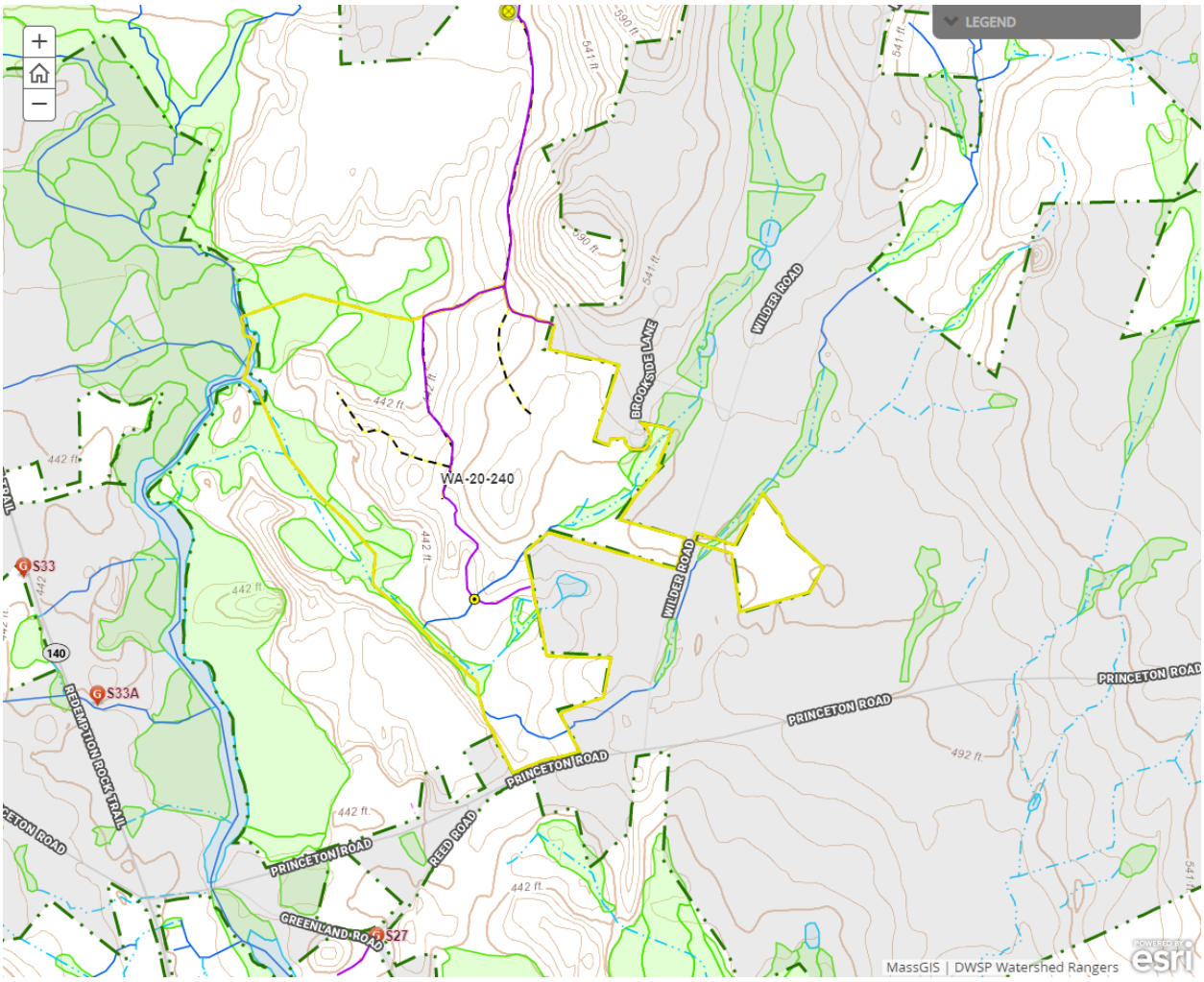
Culverts needed: No

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 2020 Forestry Proposals – Master Legend for story maps