Wachusett Harvest Proposal WA-21-272

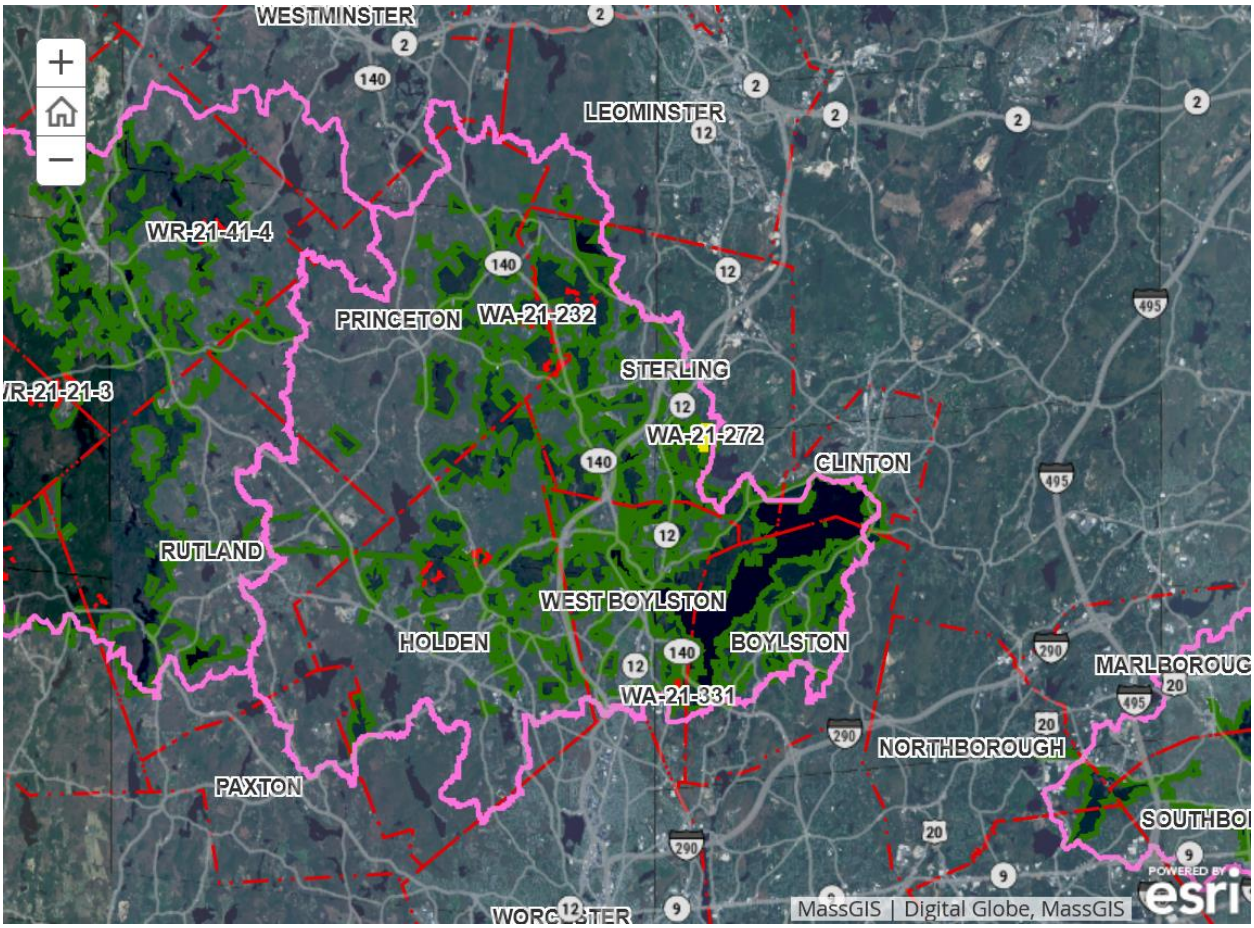
Proposal Goals

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. In this case, there is good advance regeneration distributed throughout this primarily oak forest. Special attention will be paid to promoting chestnut oak, a relatively uncommon species in the Wachusett forest.

Proposal Location

This proposal is located on the northern side of Newell Hill Road in Sterling. The west side of this area is bound by an intermittent stream that, followed to the north, becomes a valley with a series of small wetlands and vernal pools. The north side is bound by stone wall; the east side is bounded partially by stone wall and partially by an intermittent stream and the south side is bound by property boundary line and road frontage.

Total Acres: 41



General Description

	Overstory Type(s)	Acres
Dominant	Oak, mixed - dry site	13
Secondary	Northern red oak	10
Other	White pine/oak	7

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

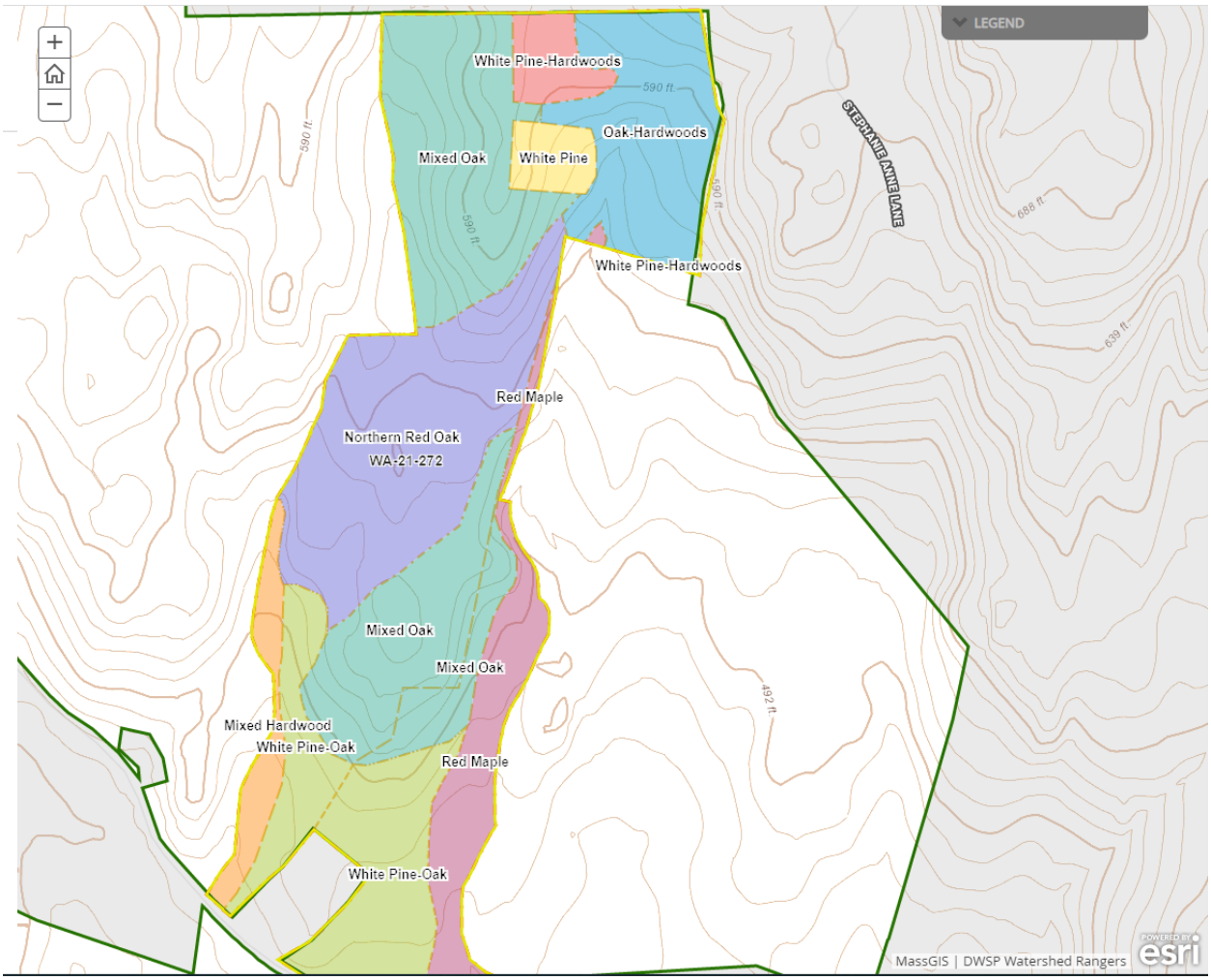
Secondary	Mesic site - witch hazel, highbush blueberry

Description of forest composition/condition:

This property was purchased by the MDC in 1996. While many of the oaks in sthe southern end of the area are multi-stemmed, suggesting past logging, these trees are about 85 years old. Otherwise, there's no evidence of past harvest activities. This lot is characterized by ledgey ground 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's a good component of hickory. In the northern end at higher elevation there's a good component of chestnut oak. There's also hemlock and yellow birch near the intermittent streams on either side of this area. There are some blackgum 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's 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's 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 euonymous, honeysuckle, bittersweet, multiflora rose and buckthorn. The age structure of this working unit is as follows; 0%, 0-20 years old; 0%, 21-40 years; 20% 41-60 years; 0%, 61-80 years; 22%, 81-100 years and 58%, >100 years old.

Assessment of Terrestrial Invasive Species:

Outside of the 8 acre walled-off section in the far northeast corner, sampling did not find any invasives present.

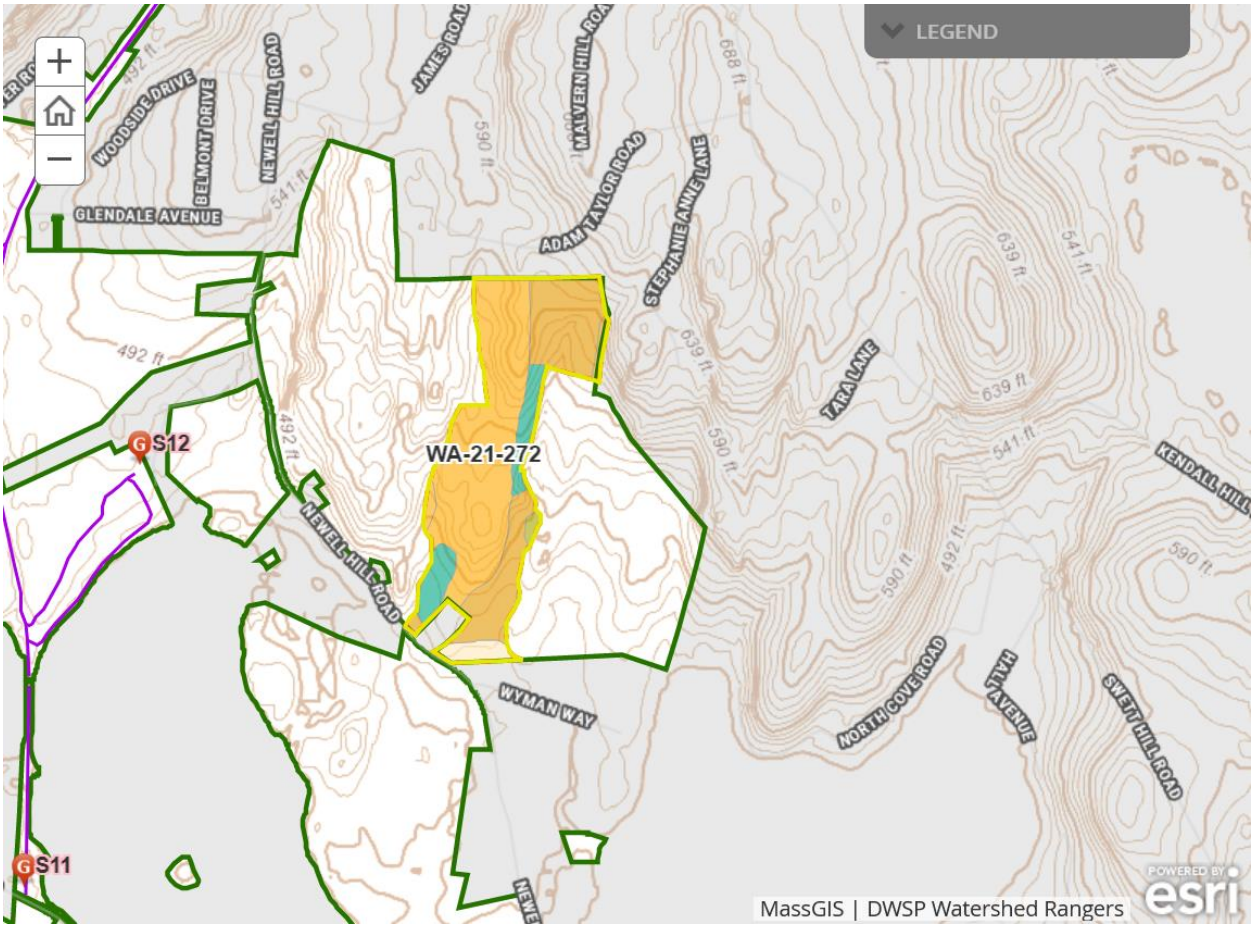


Soils

Drainage Class	%
Excessively Drained	3
Well Drained Thin	53
Well Drained Thick	32
Moderately Well Drained	1

Poorly to Very Poorly Drained	11

The well drained, thin soil is the typical soil of these ledgey sites…the Chatfield-Hollis-Rock outcrop complex. The well drained soil is the Paxton fine sandy loam. This is the soil in the 8 acre section and at the lower slopes in the southeast part of the area. The Ridgebury fine sandy loam in the lowest elevation in the southwest corner near the stream is a poorly drained soil.

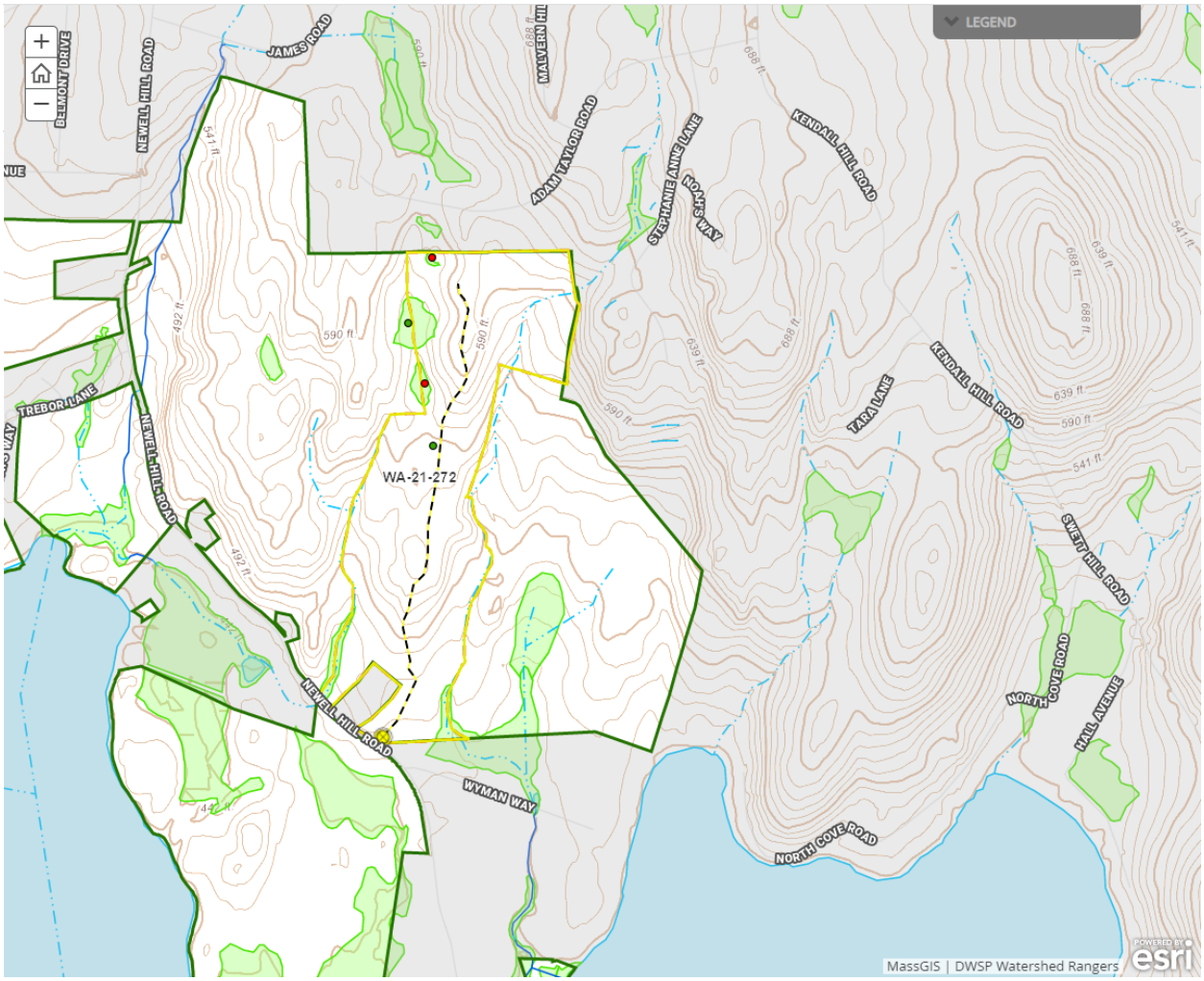


Wetlands

- 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** **(Riparian Zone Mgt)**
- Is logging in wetlands planned? - **No**

There are two verified Vernal Pools (VP190 and VP191) in this lot. Both pools were visited and verified on 4/1/20.

Wetlands and drainage channels form the east and west boundaries of this lot, and no crossings will be required.



Silviculture

Acres in Intermediate cuts: **13**

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

Acres in Regeneration cuts: **13**

Average regen opening size: **1**

Maximum regen opening size: **2**

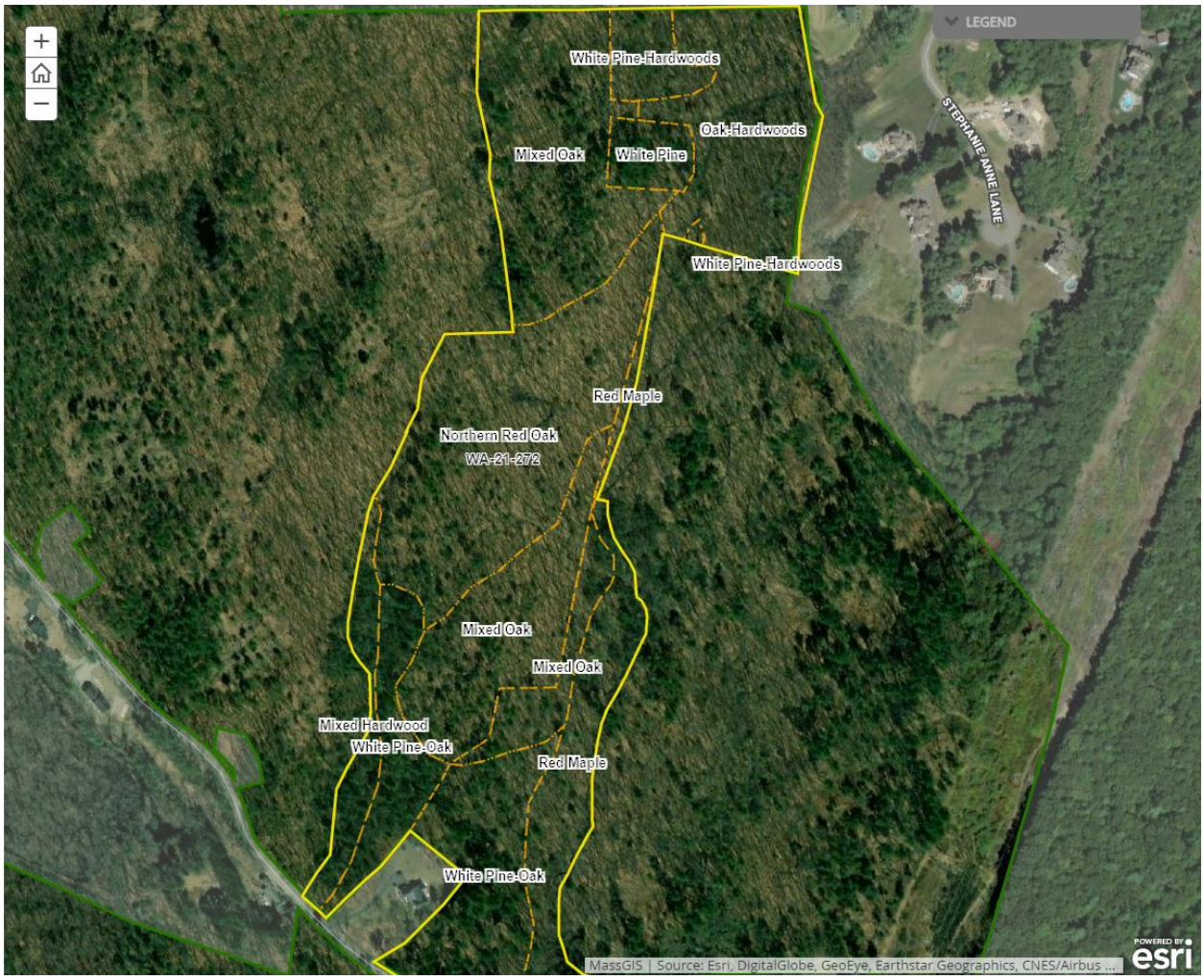
Description of advance regeneration in proposal area:

Sampling found good advance regeneration on 32% of the plots with marginal regeneration on 32% of the plots as well. There was interferring levels of witchhazel on 8% of the plots. The regeneration is comprised of white oak, black birch, red oak, white pine, chestnut oak, red maple, hickory, hemlock and yellow birch. Oak was present in 38% of the plots. The good advance regeneration is well distributed throughout this area.

General comments on silviculture proposed:

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.

Following this harvest, the age structure of this working unit is projected to be; 33%, 0-20 years old; 0%, 21-40 years; 20%, 41-60 years; 0%, 61-80 years; 11%, 81-100 years and 69%, >100 years old.

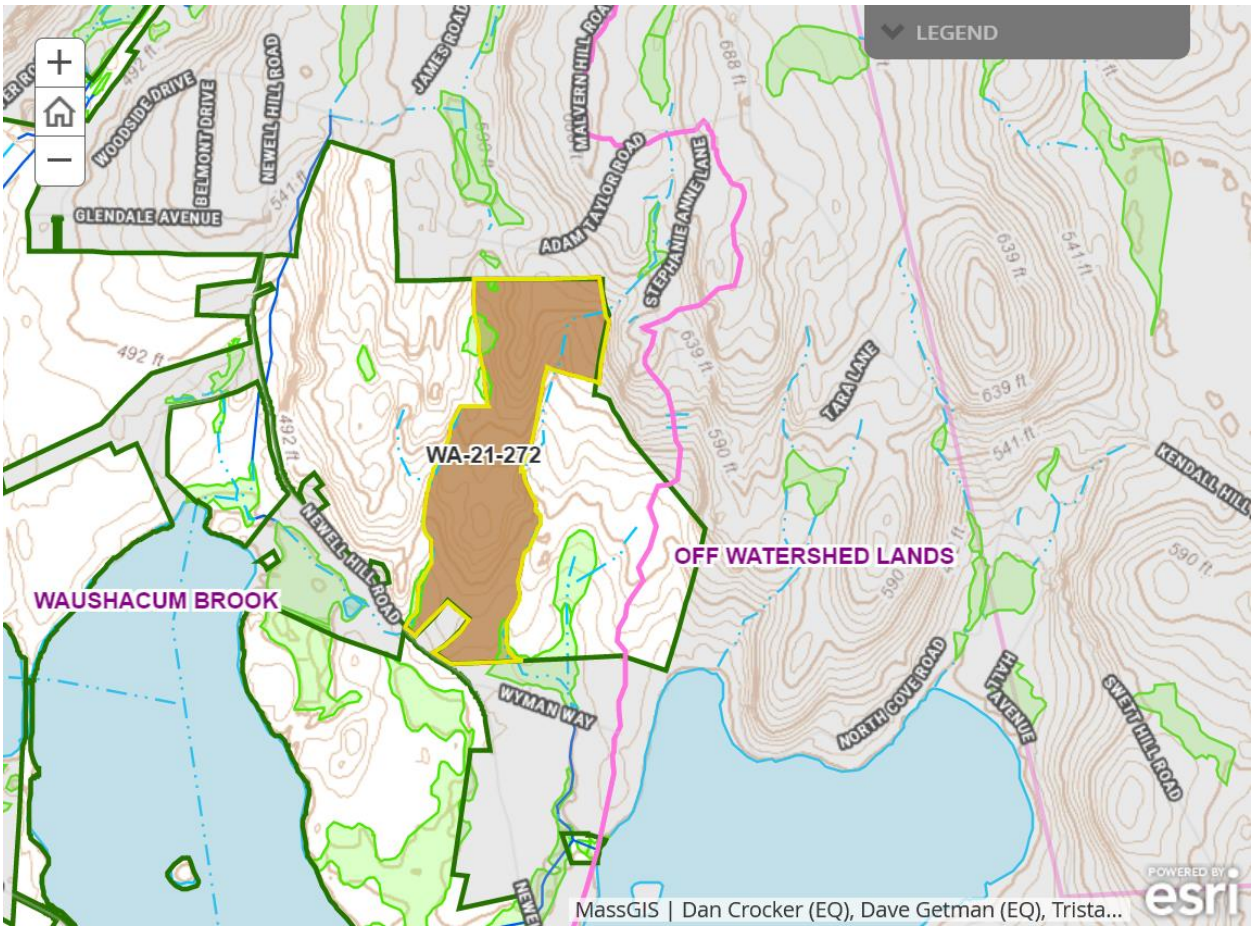


Subwatershed Analysis

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
16 (Washacum Brook)	1006	11	240	41

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

Harvesting Limitat



Harvesting Limitations

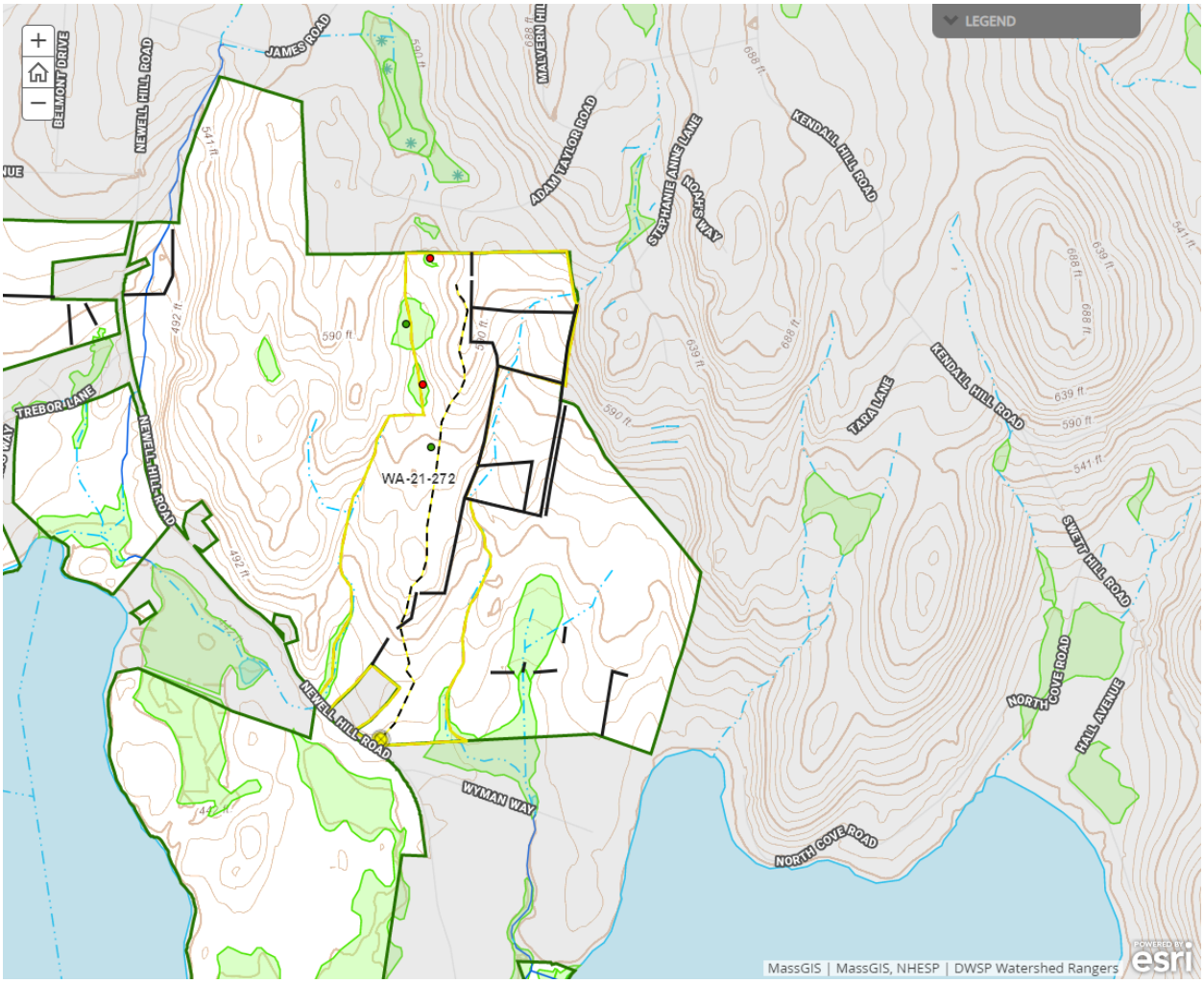
Forwarder required: **Yes**

Feller/processor required: **Yes**

Steep slopes present: **No**

Comments on harvesting limitations:

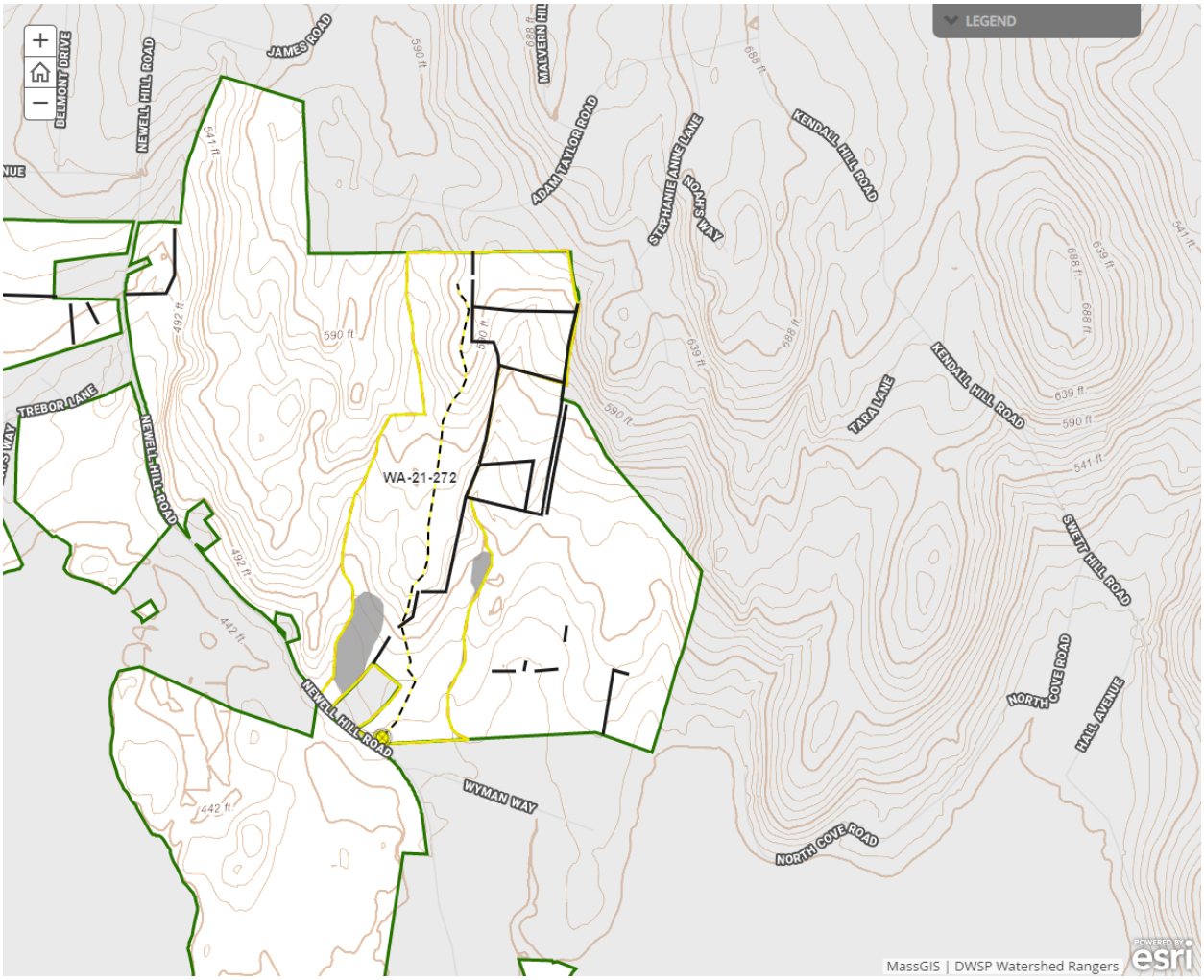
With advance regeneration present and a desire to protect as much of it as possible during the harvest, a cut-to-length harvesting system will be employed.



Cultural Resources

Comments on Cultural Resources:

Although perhaps not culturally or archaeologically significant, there's 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 agricultural activities on the property to the north. Stone walls are prevalent.



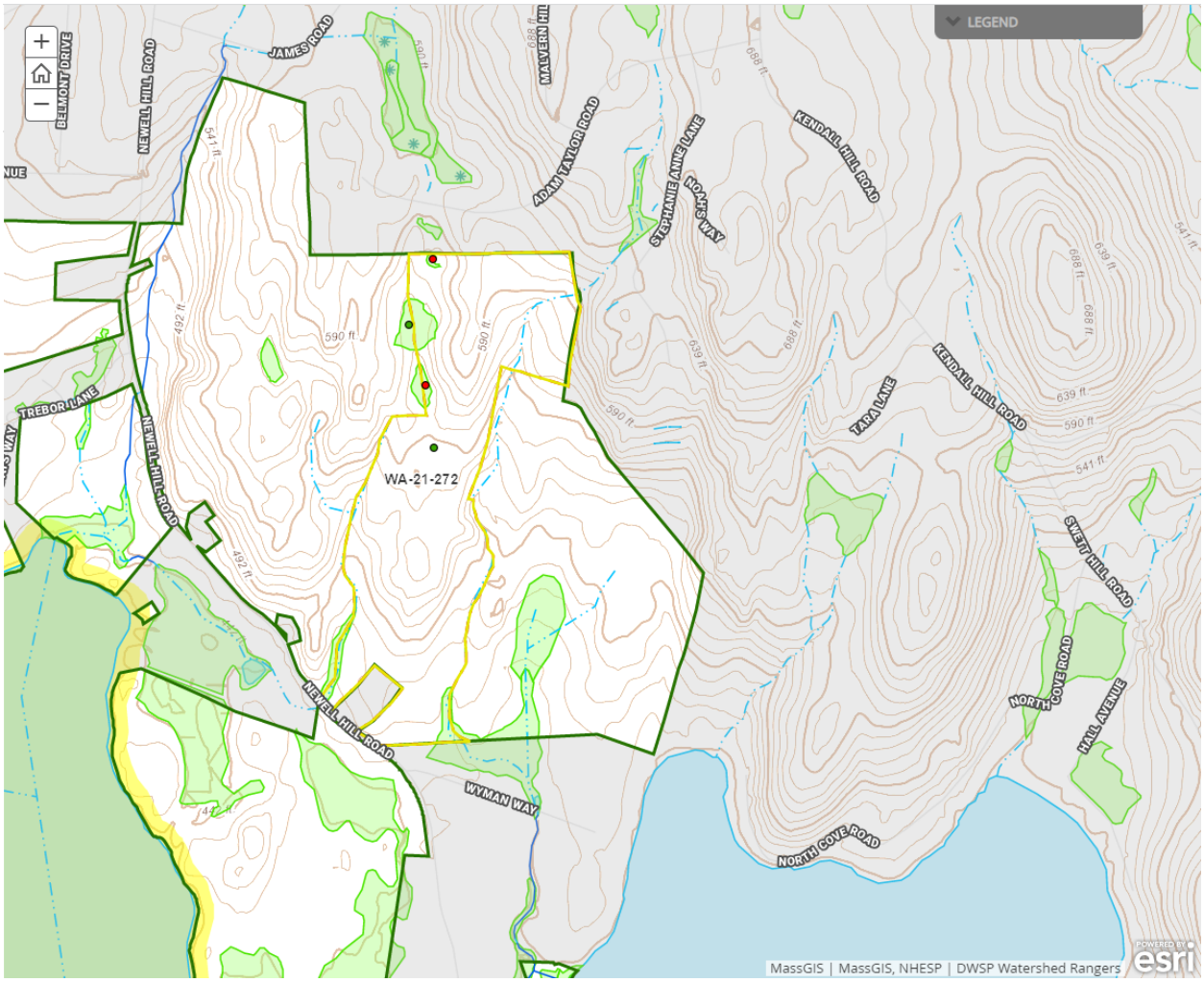
Wildlife Resources & Rare and Endangered Species

General Wildlife Comments:

Two verified vernal pools on this lot, with wood frog and spotted salamander egg masses. Deer browse appeared low on the southern portion of the lot and was moderate on the northern end particularly where invasive plant species dominate. Oak stump sprouts were moderately browsed along trail corridors. Deer may impact some regeneration based on the observations made. A unique large pile of small rocks is present to the southeast of VP191 along a rock outcrop. This area though also containing old trash/junk, may be a good hibernaculum for snakes or other wildlife species.

Comments on Rare Species/Habitats:

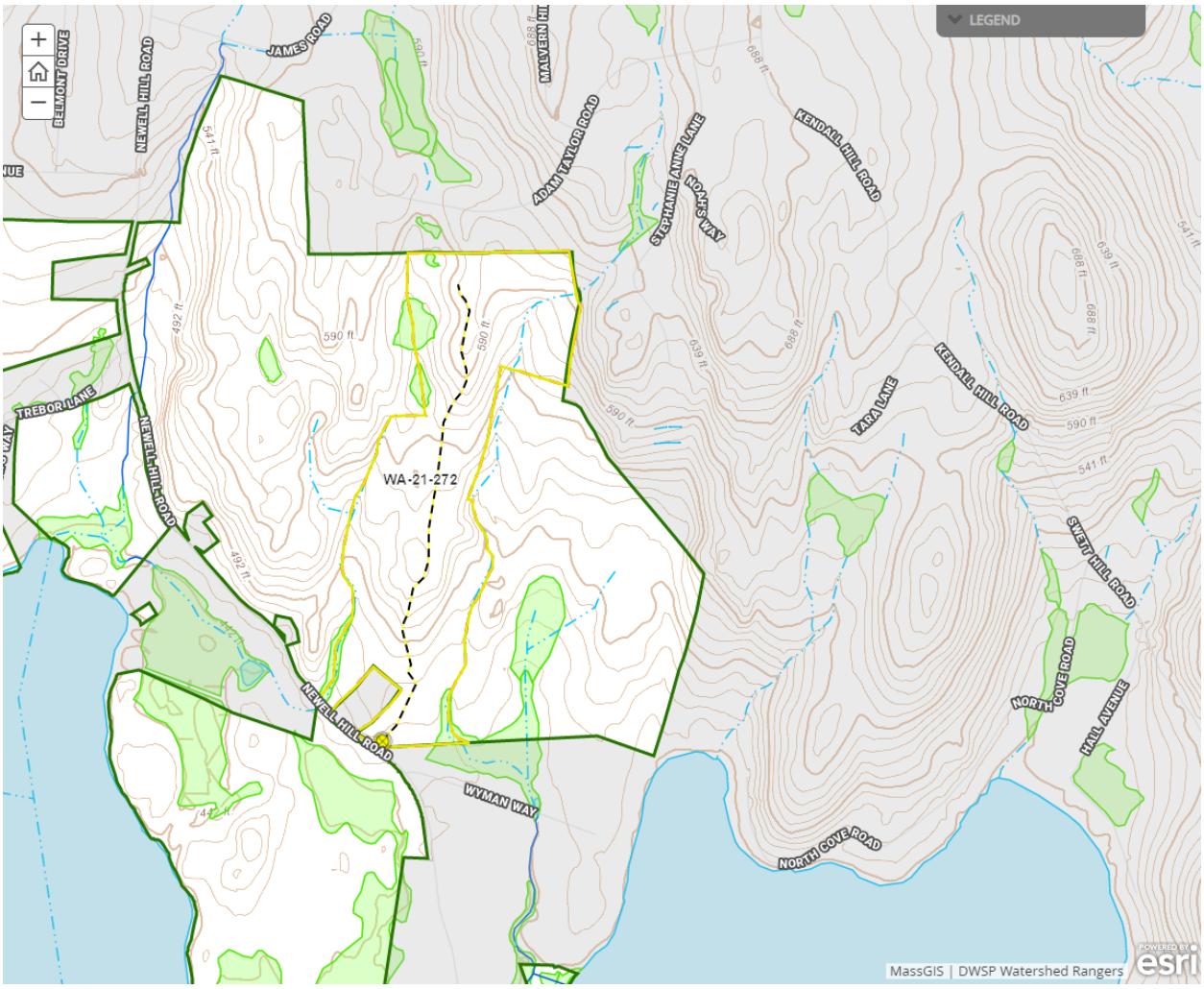
No rare species or habitats present on this proposal area.



Environmental Quality Engineering

Comments on EQ Issues:

No stream crossings or EQ comments.



Forest Access Engineering

Gravel needed: No

Landing work needed: No

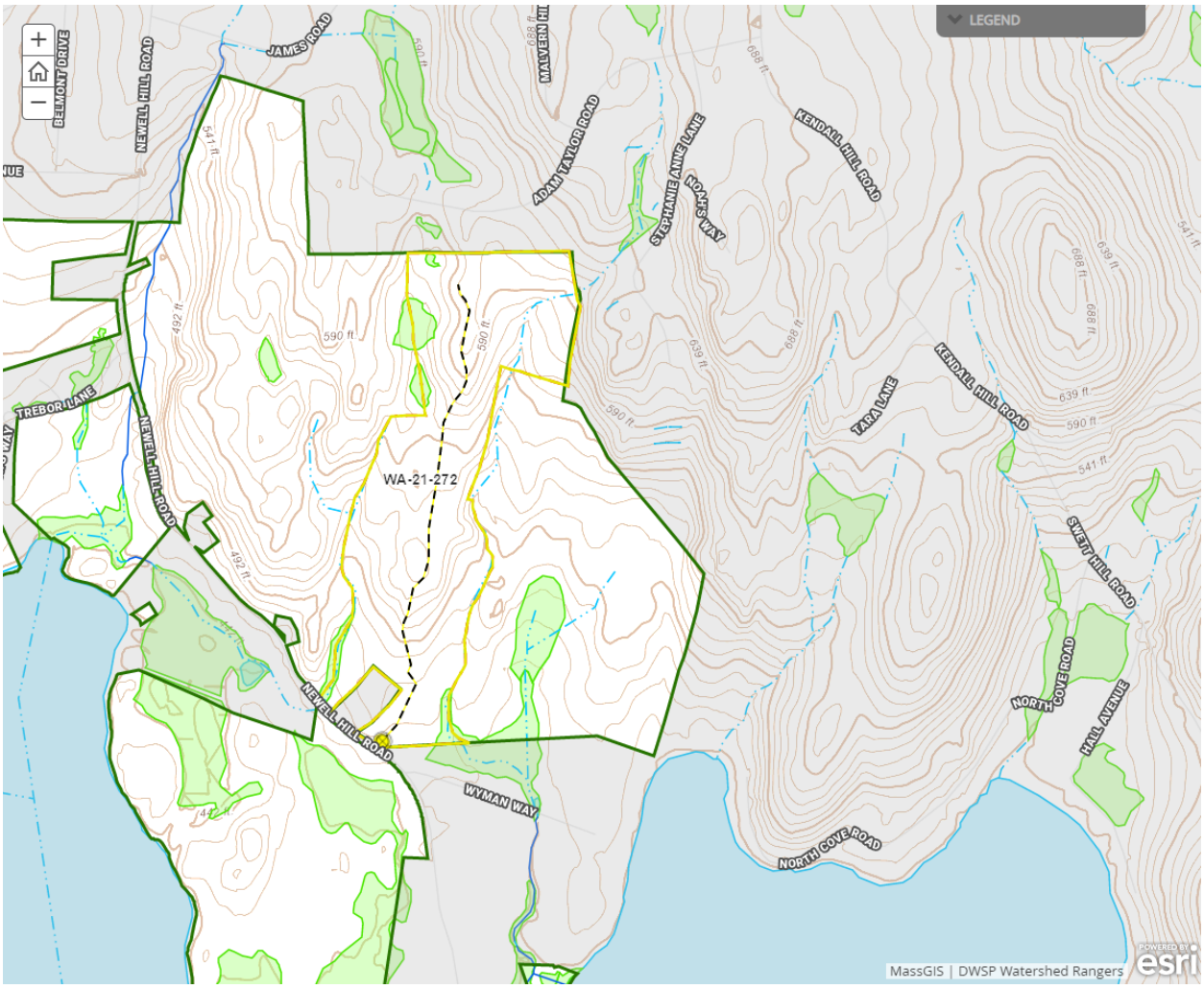
Culverts needed: No

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.


LEGEND
BELMONT DRIVE
NEWELL HILL ROAD
JAMES ROAD
MALVERN HILL
ADAM TAYLOR ROAD
STEPHANIE ANNE LANE
NOAH'S WAY
KENDALL HILL ROAD
TREBOR LANE
WA-21-272
NEWELL HILL ROAD
WYMAN WAY
TARA LANE
KENDALL HILL ROAD
SWEET HILL ROAD
NORTH COVE ROAD
HALL AVENUE
NORTH COVE ROAD
590 ft
541 ft
492 ft
639 ft
688 ft
MassGIS | DWSP Watershed Rangers
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DWSP FY 2021 Forestry Proposals – Master Legend for story maps