Quabbin Harvest Proposal PR-19-21

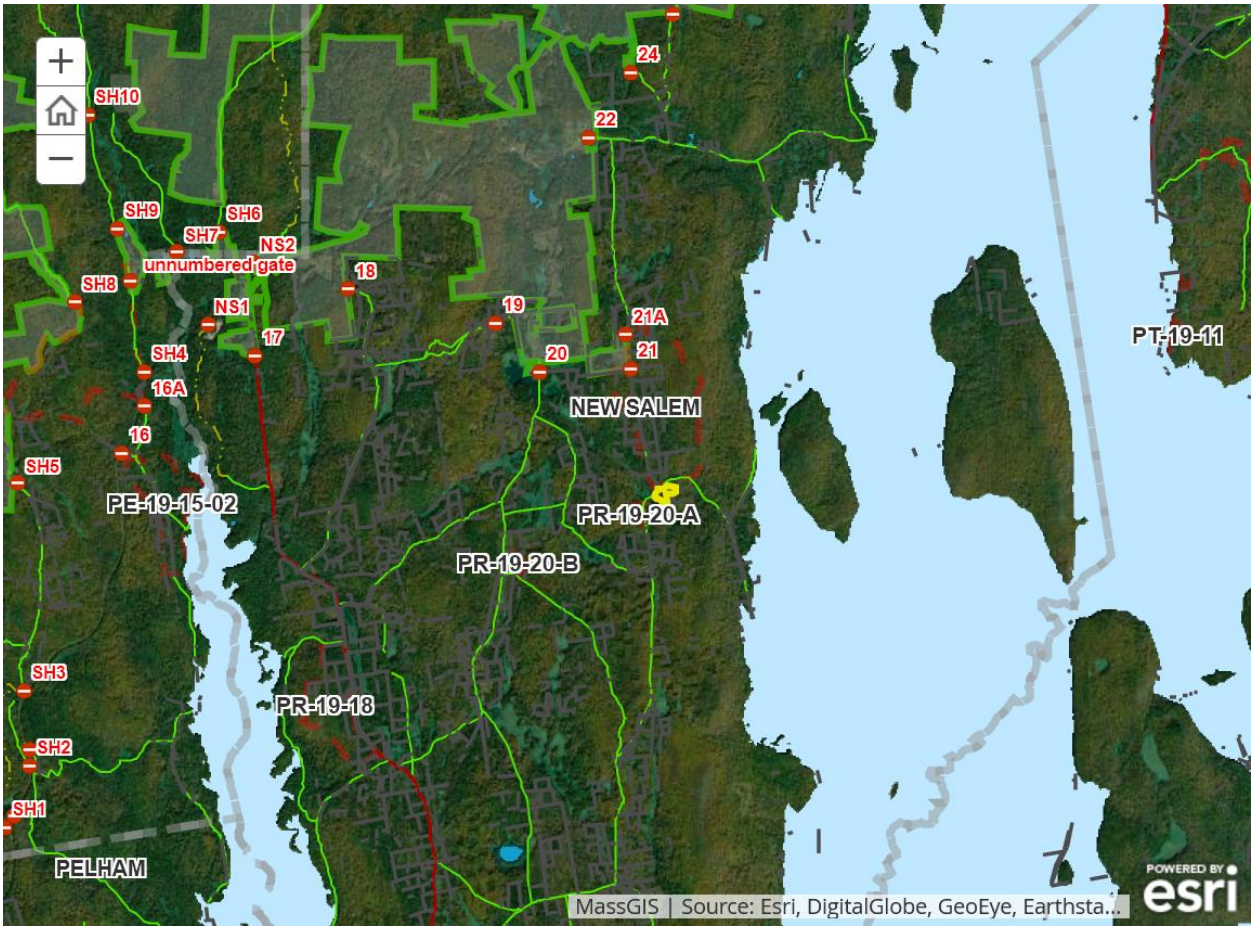
Proposal Goals

The purpose of this proposed project is to increase native forest diversity and resilience. The area is a red pine plantation. The preceding decade has been witness to substantial red pine mortality from both insect and disease infestation on the Quabbin watershed. Removing the surviving trees will stem mortality and hasten development of a native suite of forest regeneration.

Proposal Location

The proposal area is located on the Vaughn Rd (gate 21) at intersection 21-1.

Total Acres: 4



General Description

	Overstory Type(s)	Acres
Dominant	Red pine	3
Secondary	White pine	1

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

Description of forest composition/condition:

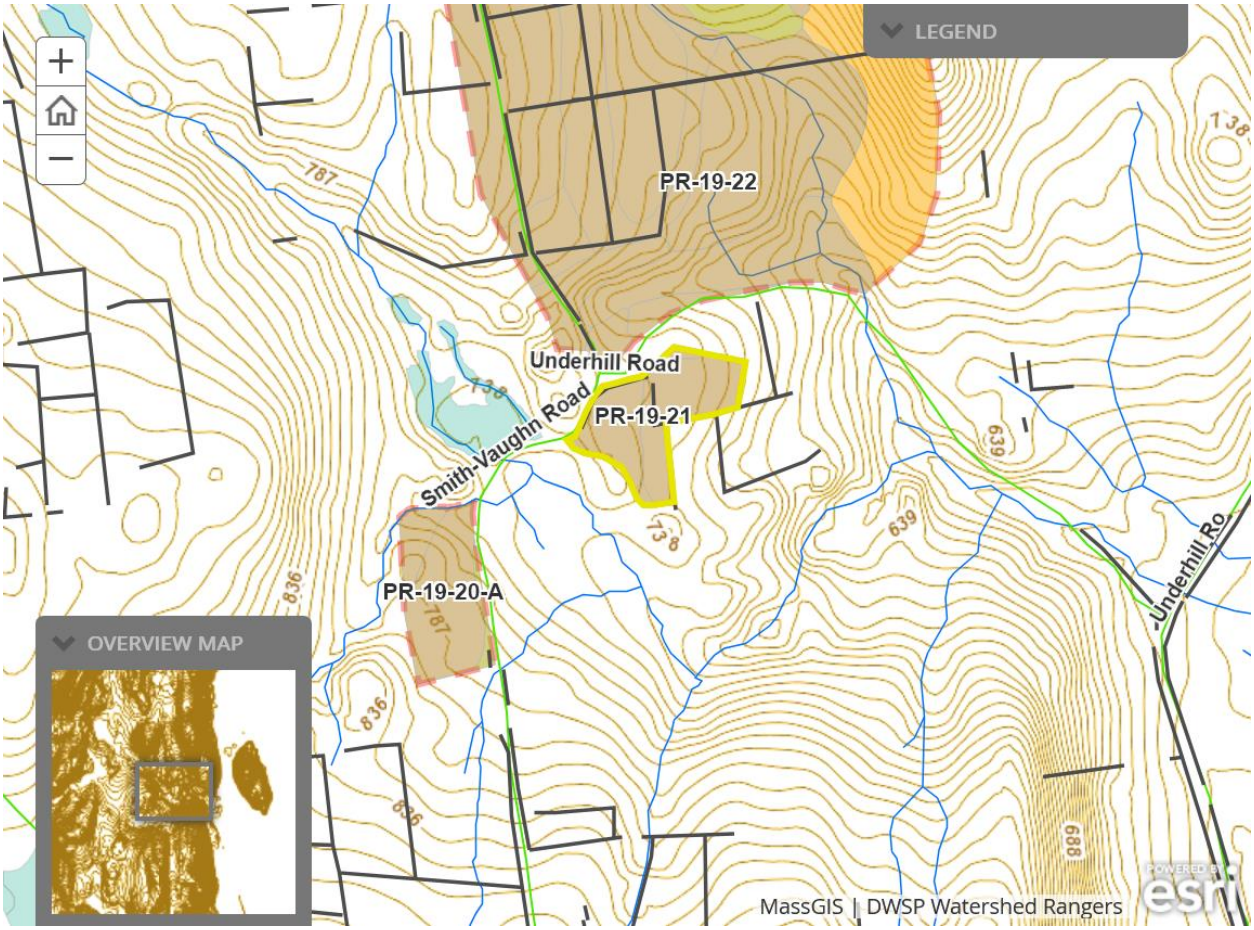
Prior to state ownership, the site was likely used as crop land (arable) and/or improved pasture being part of the Thomas S. Mann Jr. farmstead at time of taking. Believing that forest cover is the best filter and conservator of water, early watershed managers were quick to reforest these open areas with a monoculture of mainly Red Pine, White Pine, Norway Spruce or a combination. Most of these watershed plantations were seeded in the late 1930s through the early 1940s (CCC era).

Majority of forest cover is sawtimber size red pine (plantation) with fairly good quality white pine sawtimber interspersed. The plantation has little to no mortality from red pine scale; but sign of infestation is not far away. A regeneration layer of mainly sapling/pole black birch developed after a 1986 thinning.

Soils

Drainage Class	%
Excessively Drained	0
Well Drained Thin	75
Well Drained Thick	0
Moderately Well Drained	25
Poorly to Very Poorly Drained	0

Canton fine sandy loam: Upland rocky well drained soil derived from gneiss and schist loam over a rock till
Montauk Fine Sandy Loam: Stony, well drained soil derived from gneiss.

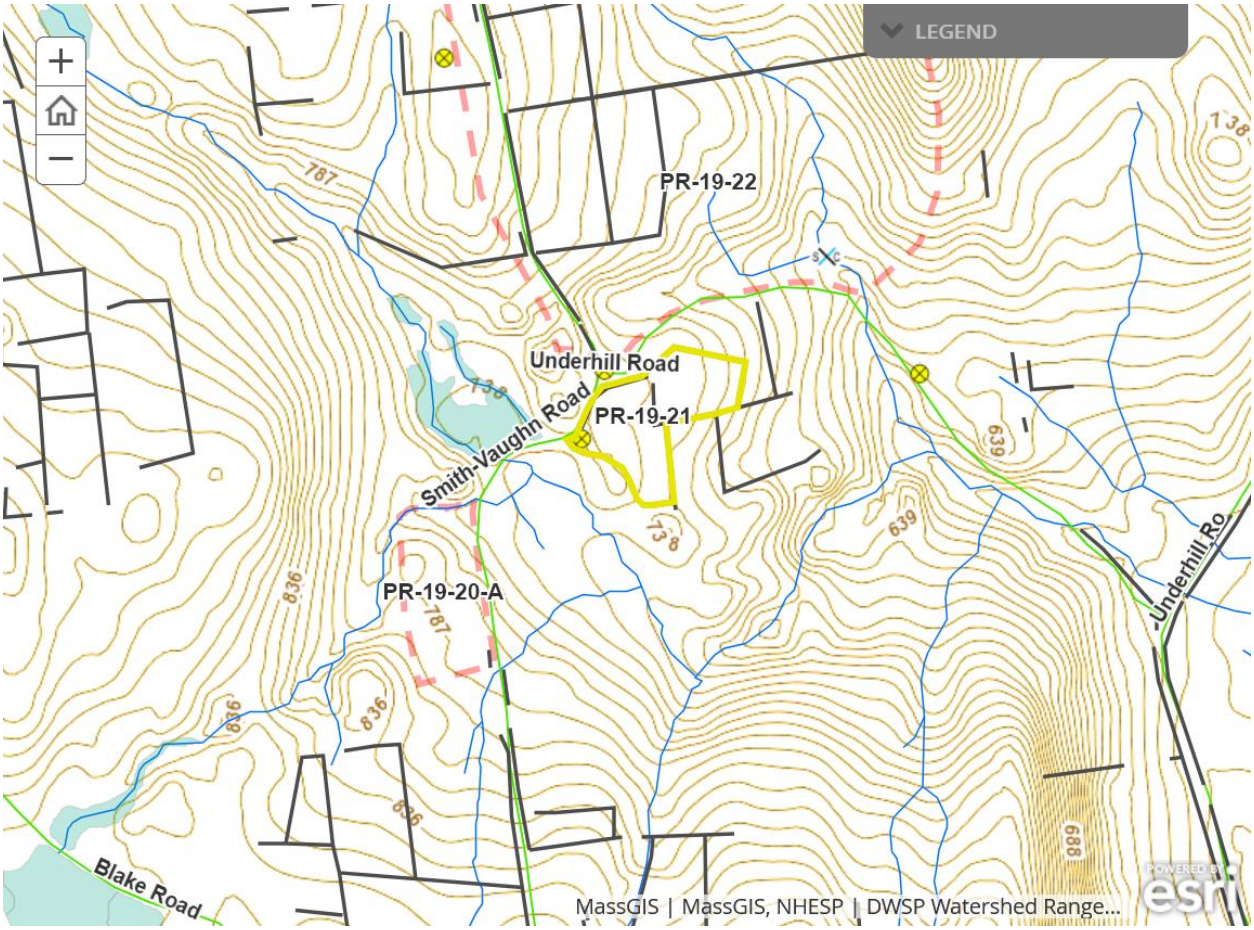


Wetlands

- Wetlands present? - **No**
- Streams present? - **Yes**
- Vernal pools present? - **None known**
- 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**

Further comments on wetlands:

The west boundary of the proposal area is about 100 ft. from the west branch of Underhill Brook. A slight filter strip overlap is possible along the area's west boundary.



Silviculture

Acres in Intermediate cuts: **0**

Acres in prep/establishment cuts: 0

Acres in Regeneration cuts: **4**

Average regen opening size: **4**

Maximum regen opening size: **4**

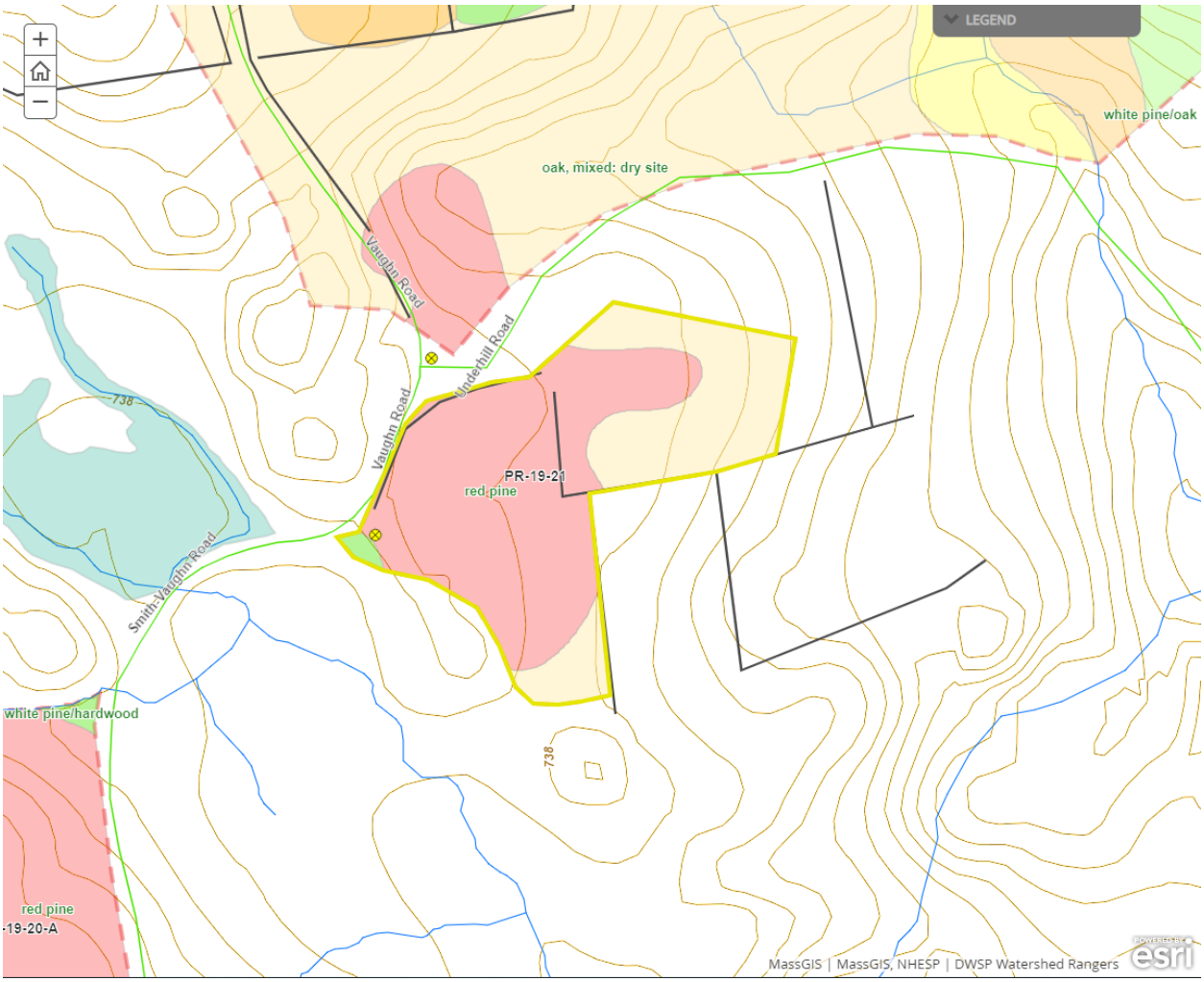
Description of advance regeneration in proposal area:

Mostly black birch that has been stagnating since crown closure likely 20 years ago.

General comments on silviculture proposed:

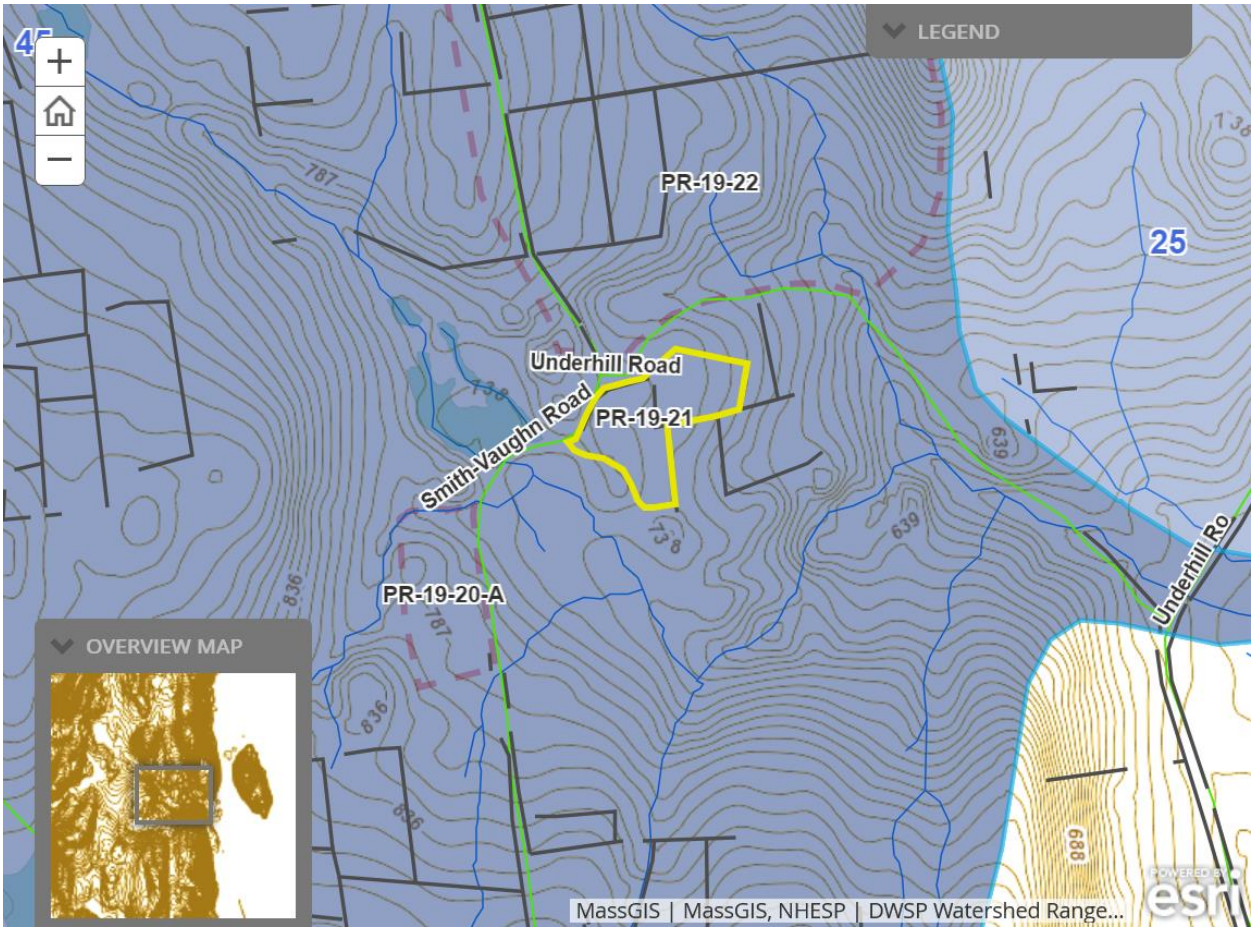
Removing red pine, the primary host of the Red Pine scale is the main silvicultural objective. The insect, originally found in Connecticut in the 1940s, has steadily moved northward and infested many red pine plantations throughout Massachusetts and southern New Hampshire. The microscopic beast completes two breeding cycles annually of both flight and flightless offspring. During their life cycle they burrow under the tree's scaly bark to insert their stylus and feed upon nutrients flowing through the cambium. A sure sign of infestation is gradual browning of needles from a healthy green to a rust brown. Mature red pine plantations can succumb to intense infestation in as little as two to three years.

The opening will be amid the red pine all of which will be harvested then range radially removing poor quality timber. The approach will create a feathered or thinned edge to the opening. As necessary, an appropriate width filter strip would be established along the west branch of Underhill Brook for maintenance of a shaded condition. Within the opening a residual basal area of no less than 5 sqr. ft. per acre will mostly be composed of well formed white pine, as well as live and dead snags. Day lighting the area should hopefully foster a diversity of native natural 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
45	1119	32.5	248	4



Harvesting Limitations

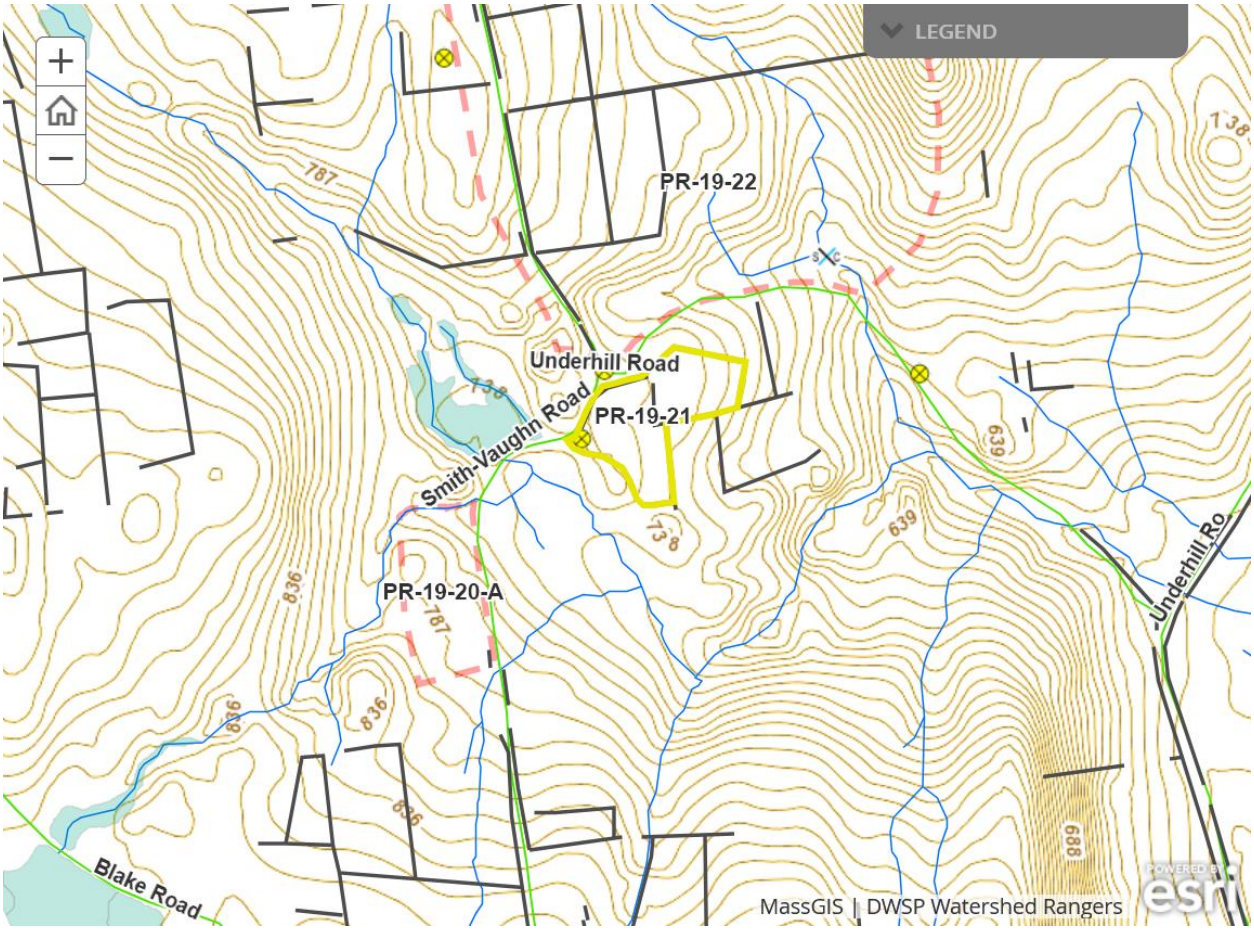
Forwarder required: **Yes**

Feller/processor required: **Yes**

Steep slopes present: **No**

Comments on harvesting limitations:

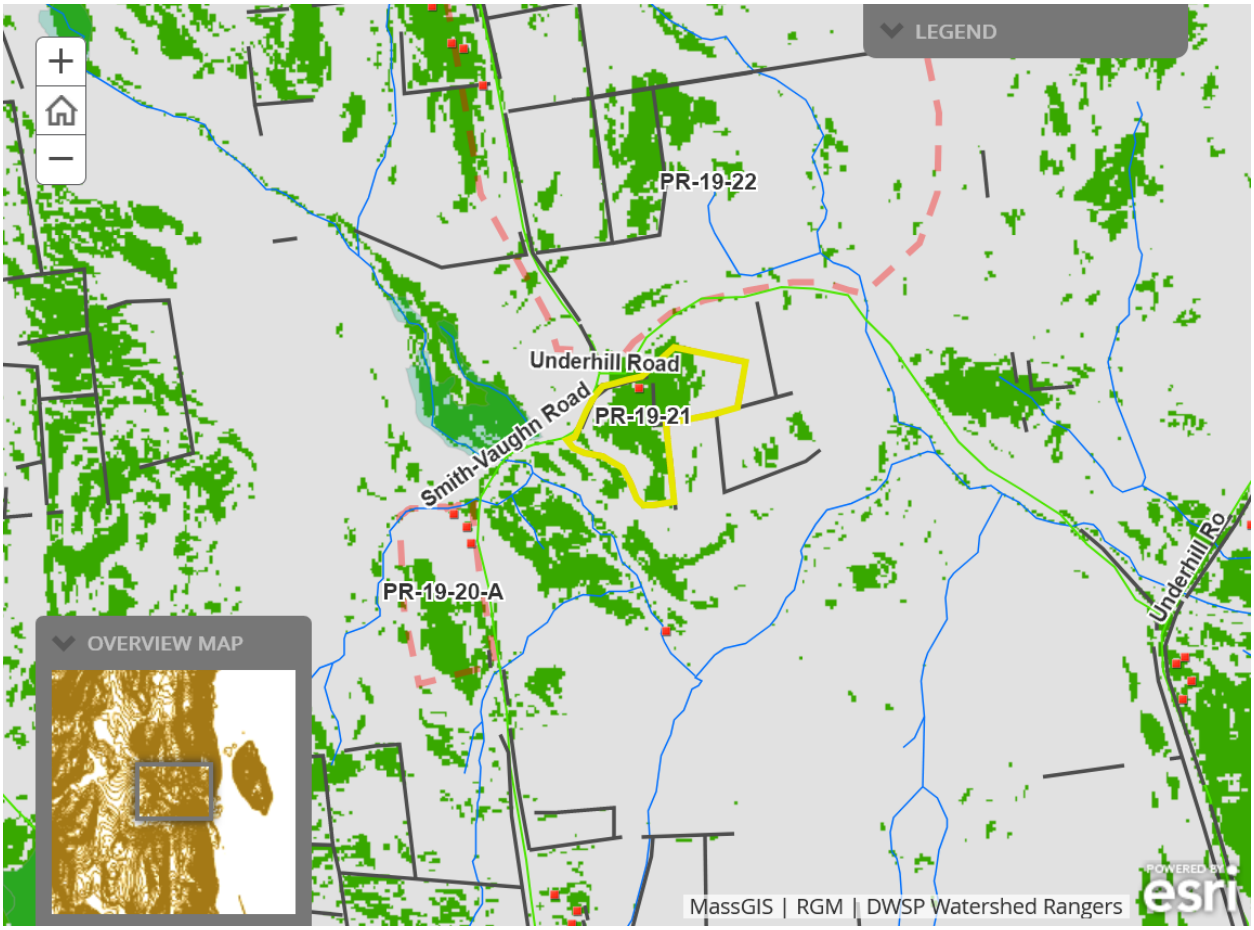
The Cut to Length logging system is ideal for red pine; the main forest product that would come from the area.



Cultural Resources

Comments on Cultural Resources:

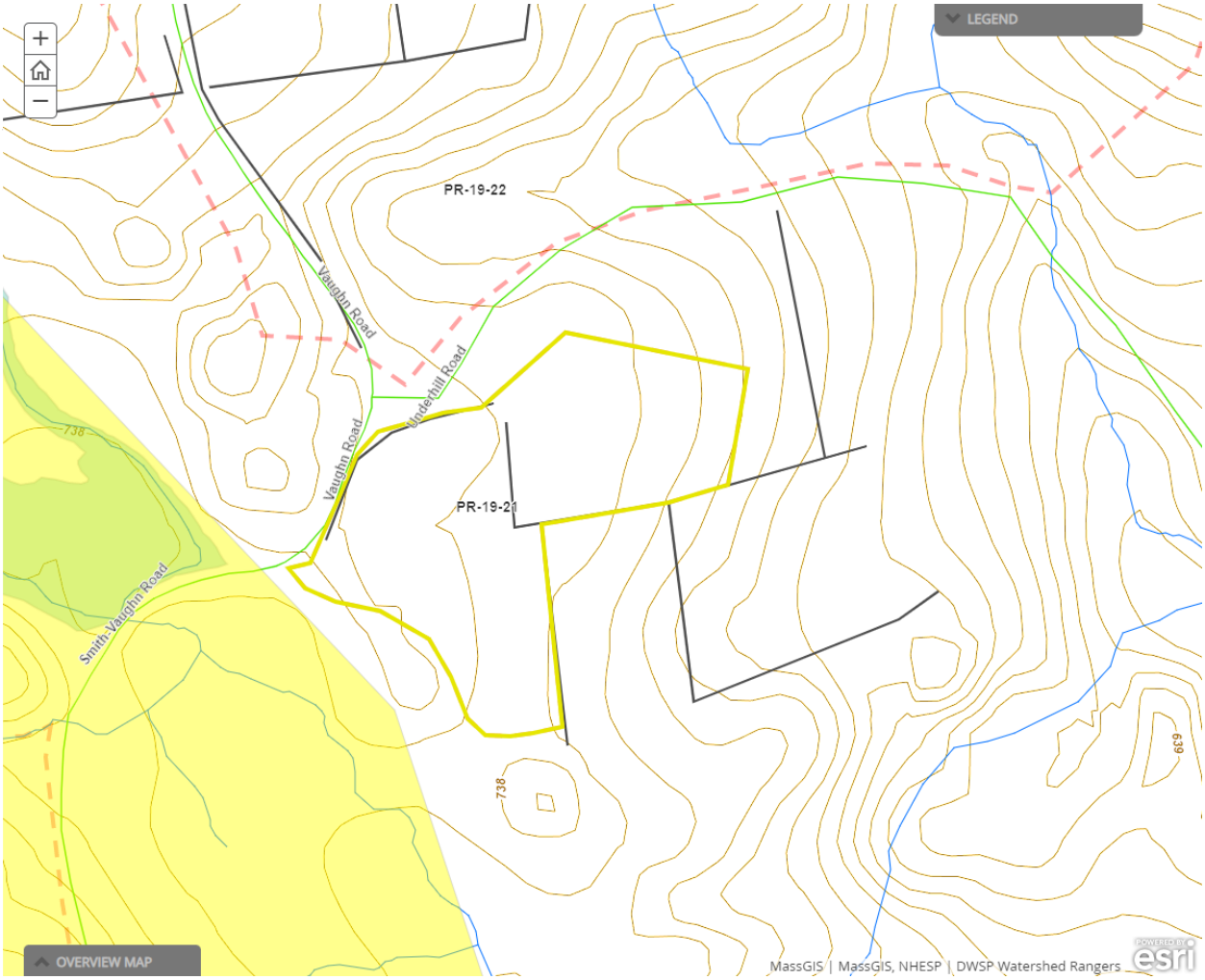
Existing barways in stone walls will be used where feasible and harvest layout will protect walls as much as possible. Wells and foundations will be flagged and avoided. If applicable DWSP will follow any additional recommendations from DCR's Archeologist regarding protection of sensitive sites.



Wildlife Resources & Rare and Endangered Species

Comments on Rare Species/Habitats:

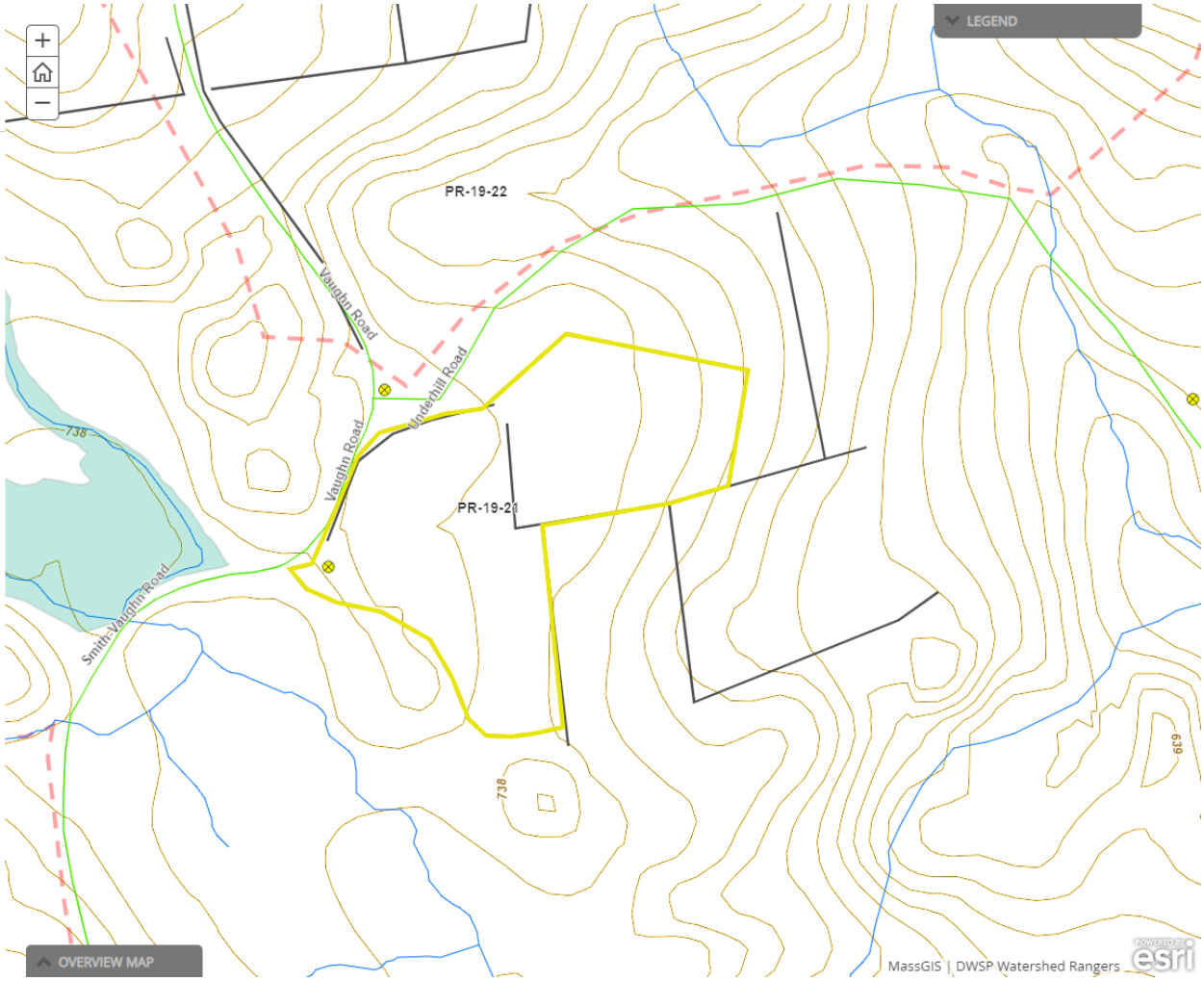
Cavity trees and potential/existing nest trees will be retained if possible. There are not any NHESP state-listed sensitive species or habitats within the lot proposal area. If any new information regarding sensitive species or habitats in the area is found DWSP will coordinate with NHESP and follow recommendations to protect these species during the proposed harvest.



Environmental Quality Engineering

Comments on EQ Issues:

No perennial stream crossings.



Forest Access Engineering

Gravel needed: No

Landing work needed: No

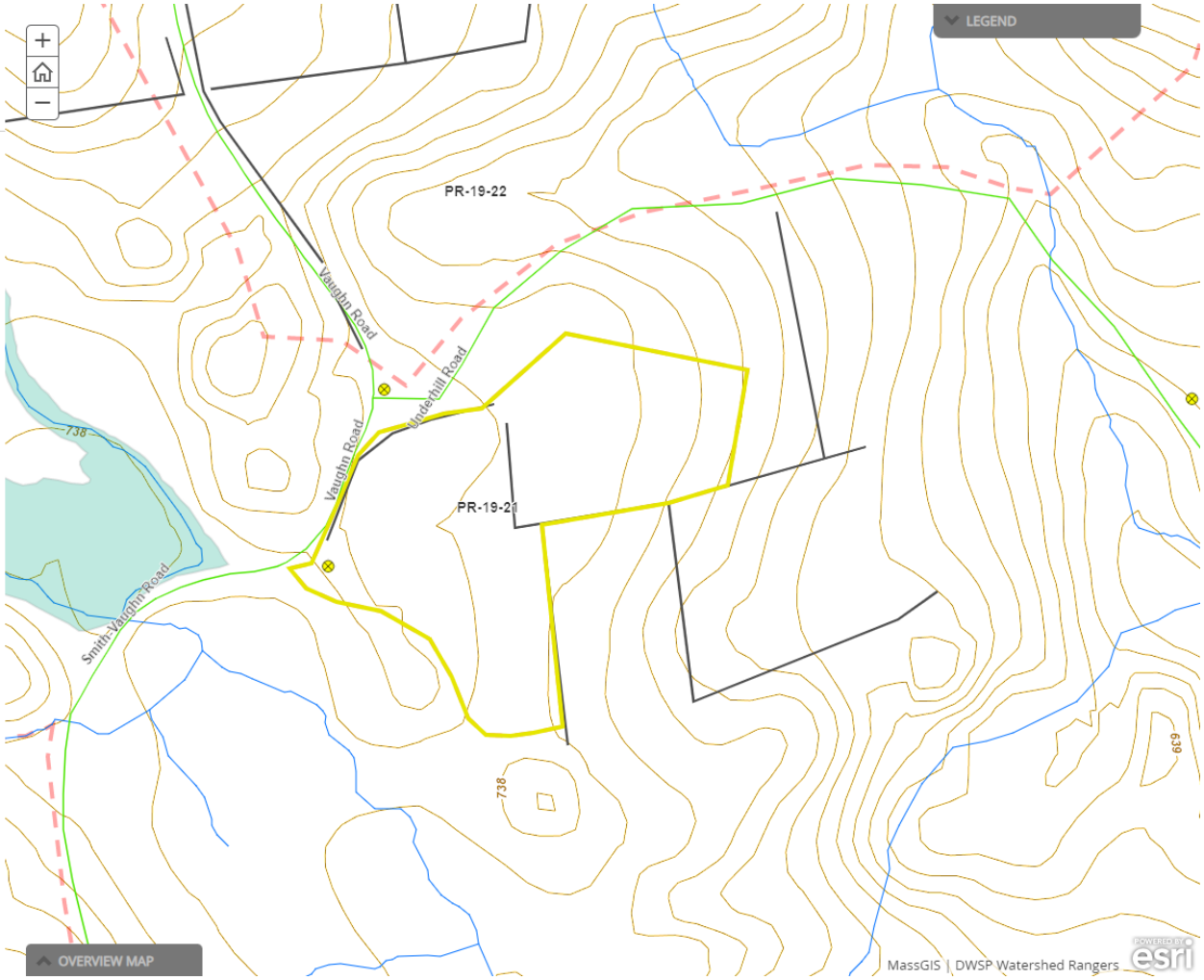
Culverts needed: No

Work needed on permanent bridges: No

Beaver issue: No

Further comment on access needs:

None.


LEGEND
PR-19-22
PR-19-21
Vaughn Road
Vaughn Road
Underhill Road
Smith-Vaughn Road
738
738
639
OVERVIEW MAP
MassGIS | DWSP Watershed Rangers
esri

DWSP FY 2019 Quabbin and Ware River Forestry Proposals – Master Legend for story maps