Quabbin Harvest Proposal PR-19-20B

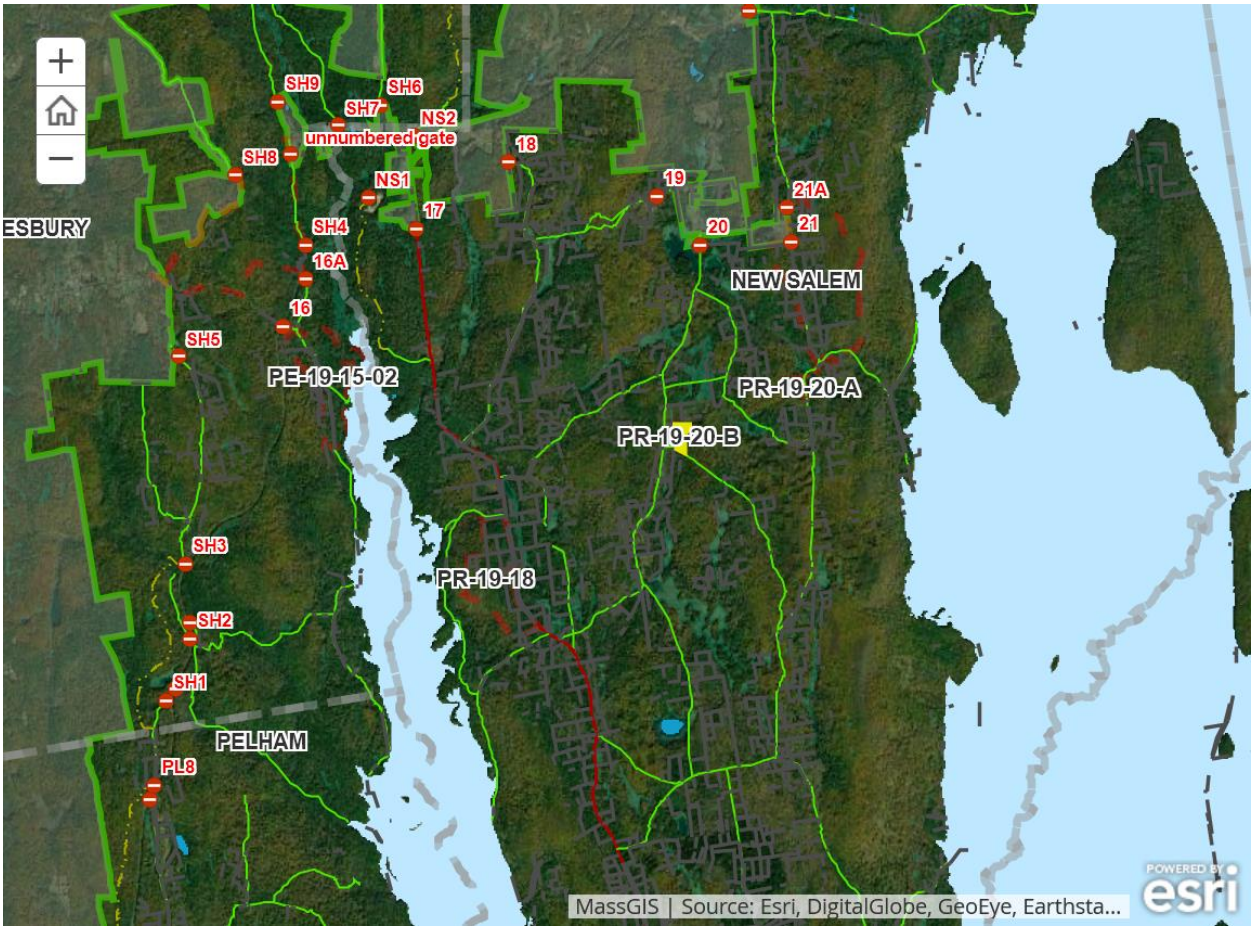
Proposal Goals

The purpose of this proposed project is to increase native forest diversity and resilience. The area is a red pine plantation. The preceding decade was 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 east side of North Prescott Rd. (gate 20) by intersection 20-4.

Total Acres: 4



General Description

	Overstory Type(s)	Acres
Dominant	Red pine	3
Secondary	Oak/hardwood	1

	Understory Type(s)
Dominant	Tree seedlings/saplings dominate the site
Secondary	Dry site - blueberry/huckleberry

Description of forest composition/condition:

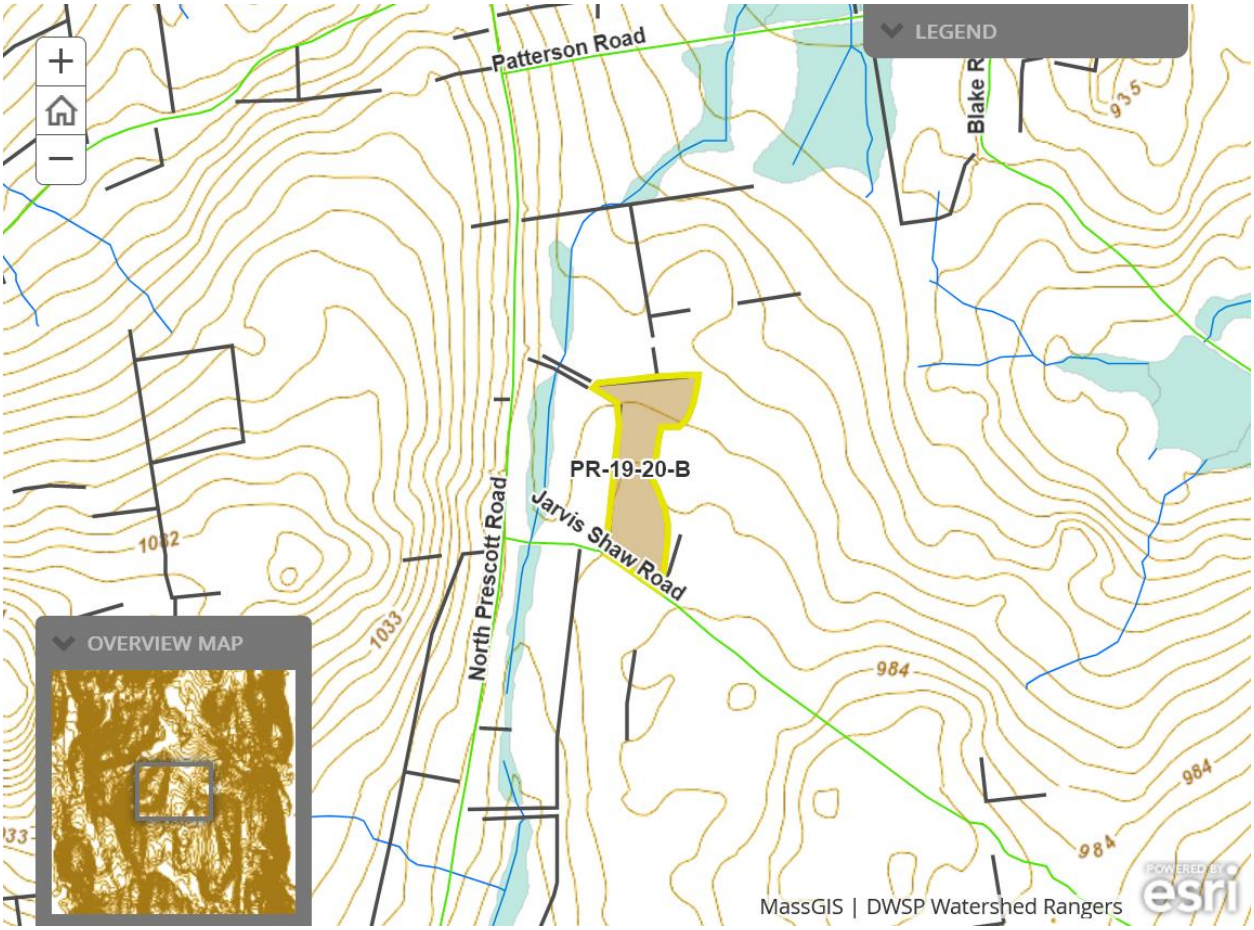
Prior to state ownership, the site was likely used as improved pasture being part of the Walter & Jerusha Waugh farmstead at time of taking. Believing that forest cover is the best filter and conservator of water, early watershed managers were quick to reforest these open areas with a monoculture of 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) that easterly transitions into pole and sawtimber size mixed oak/mixed hardwood. The plantation has about 5-10% mortality (not bad considering the red pine scale infestation dating back to the mid 2000s in the greater Quabbin area). A regeneration layer of sapling/pole black birch, white pine and oak has developed following a prep harvest completed in 2001.

Soils

Drainage Class	%
Excessively Drained	0
Well Drained Thin	0
Well Drained Thick	0
Moderately Well Drained	100
Poorly to Very Poorly Drained	0

Montauk Fine Sandy Loam: A well drained gneiss derived friable loamy till over a firm sandy lodgement till.



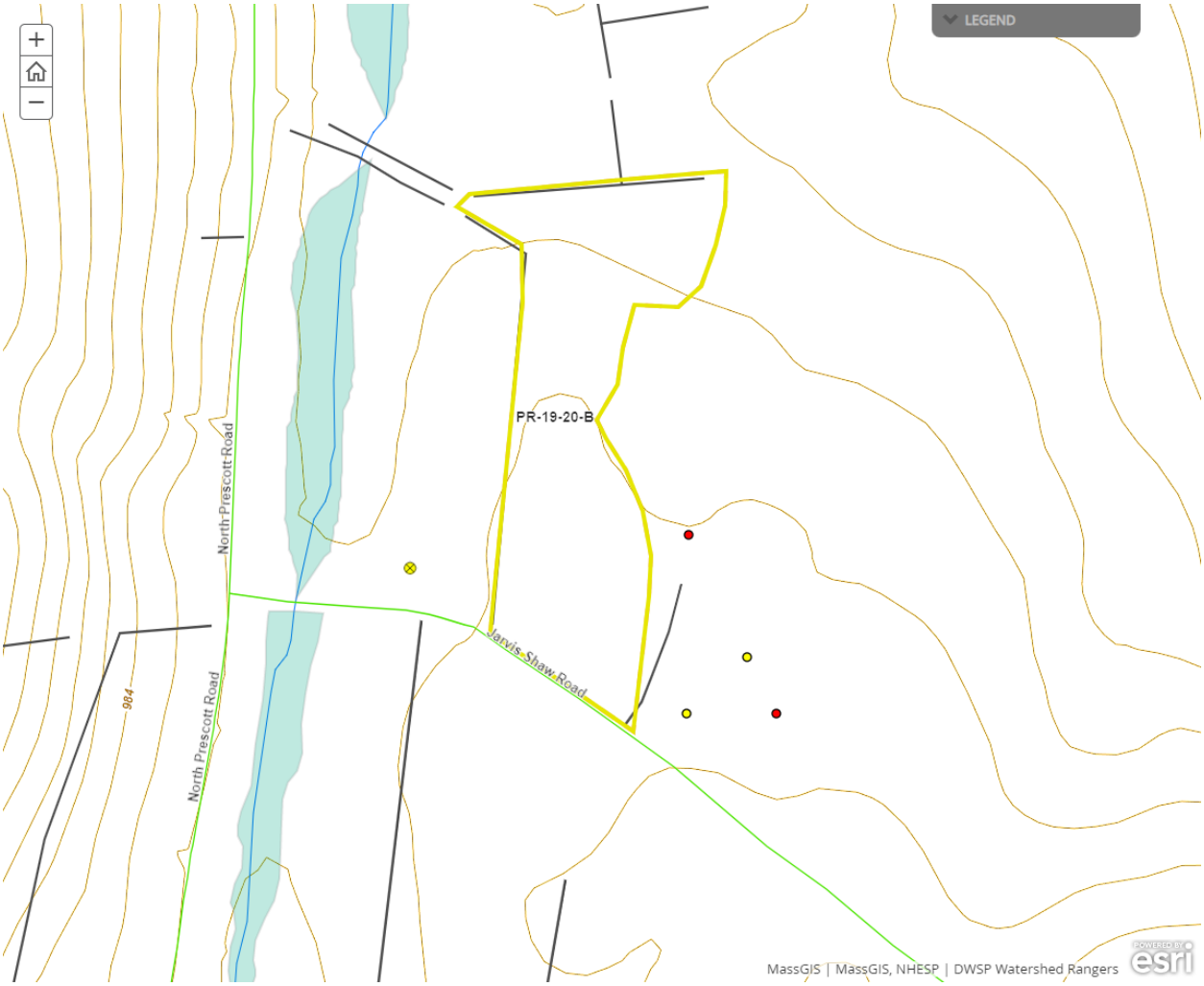
Wetlands

- Wetlands present? - **No**
- 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**

Further comments on wetlands:

The southeast edge of the proposal area is flanked by two vernal pools. These pools were derived from gravel extraction and the residual barrow pit left after excavation. The northern pool is encompassed by a 1 foot high metal shield; the remains of what appears to be a biological study.

All appropriate buffers will be placed around the pools in accordance with DWSP policy and Massachusetts state Forestry Best Practices.



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**

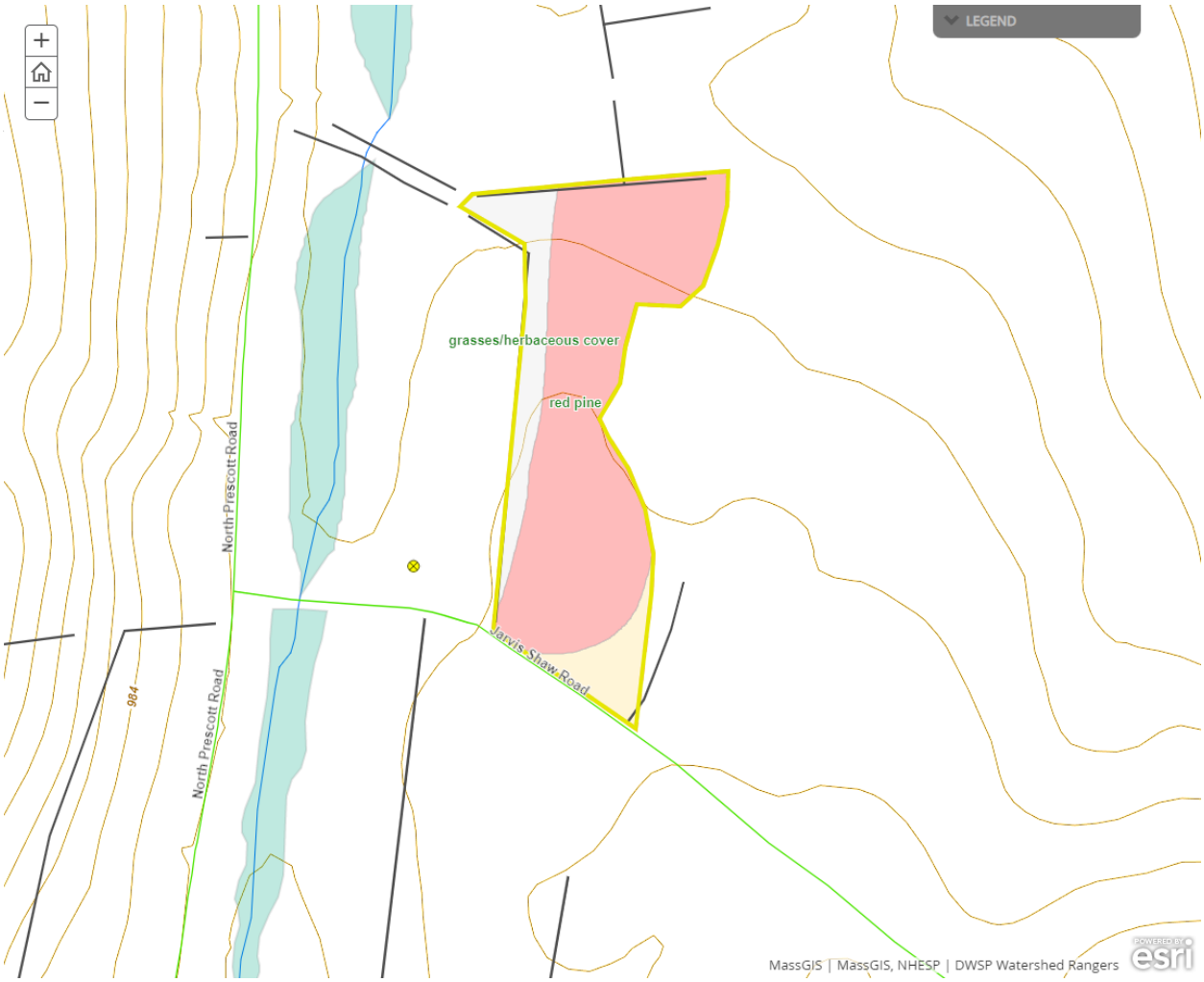
Description of advance regeneration in proposal area:

A diffuse layer of sapling/pole size black birch, white pine and oak (mostly scarlet, white and black) in adequate numbers cover the area. Most of regeneration has gotten above browse height.

General comments on silviculture proposed:

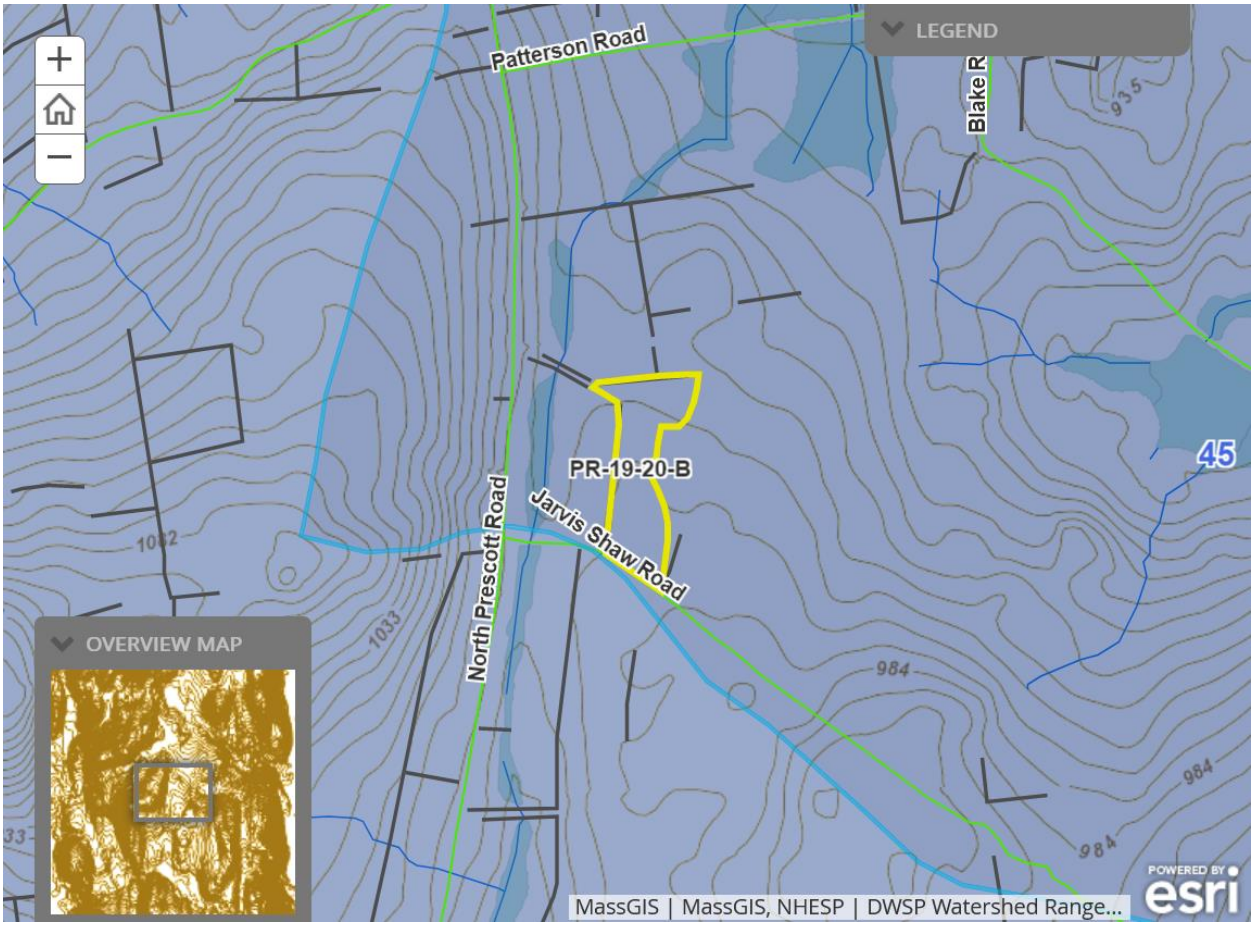
Removing red pine, the primary host of the Red Pine scale is the main silvicultural objective. The insect, originally found in Connecticut in the 1940s, has steadily moved northward and infested many red pine plantations throughout Massachusetts and southern New Hampshire. The microscopic beast completes 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 eastward removing poor quality hardwood. A 100 foot filter strip will be established along the west edge of the vernal pools to maintain 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 hardwood, as well as live and dead snags. Significantly dropping the basal area will fully release the advance regeneration started back in 2001 and foster the continued development of this young forest age class.



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	248	3.5



Harvesting Limitations

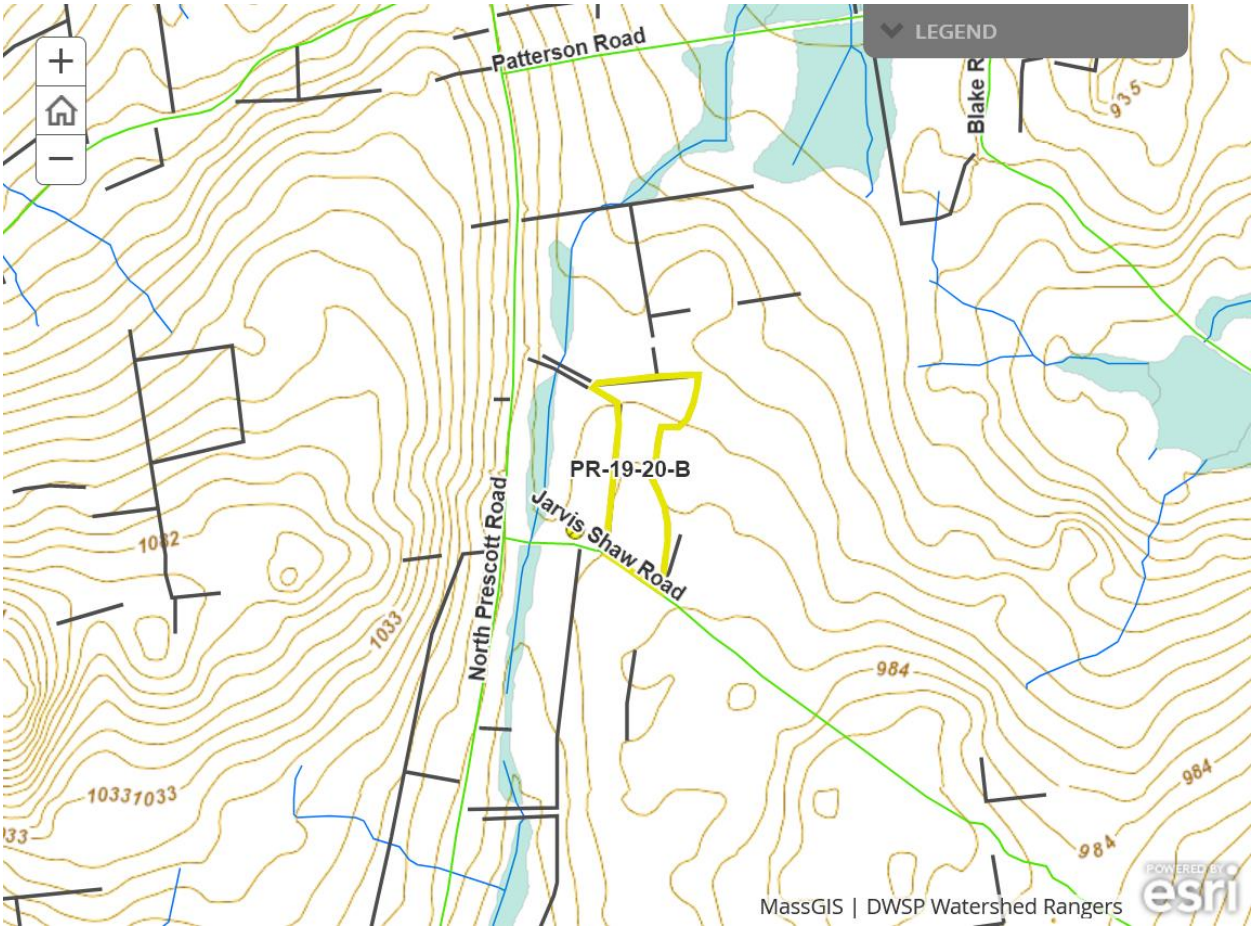
Forwarder required: **Yes**

Feller/processor required: **Yes**

Steep slopes present: **No**

Comments on harvesting limitations:

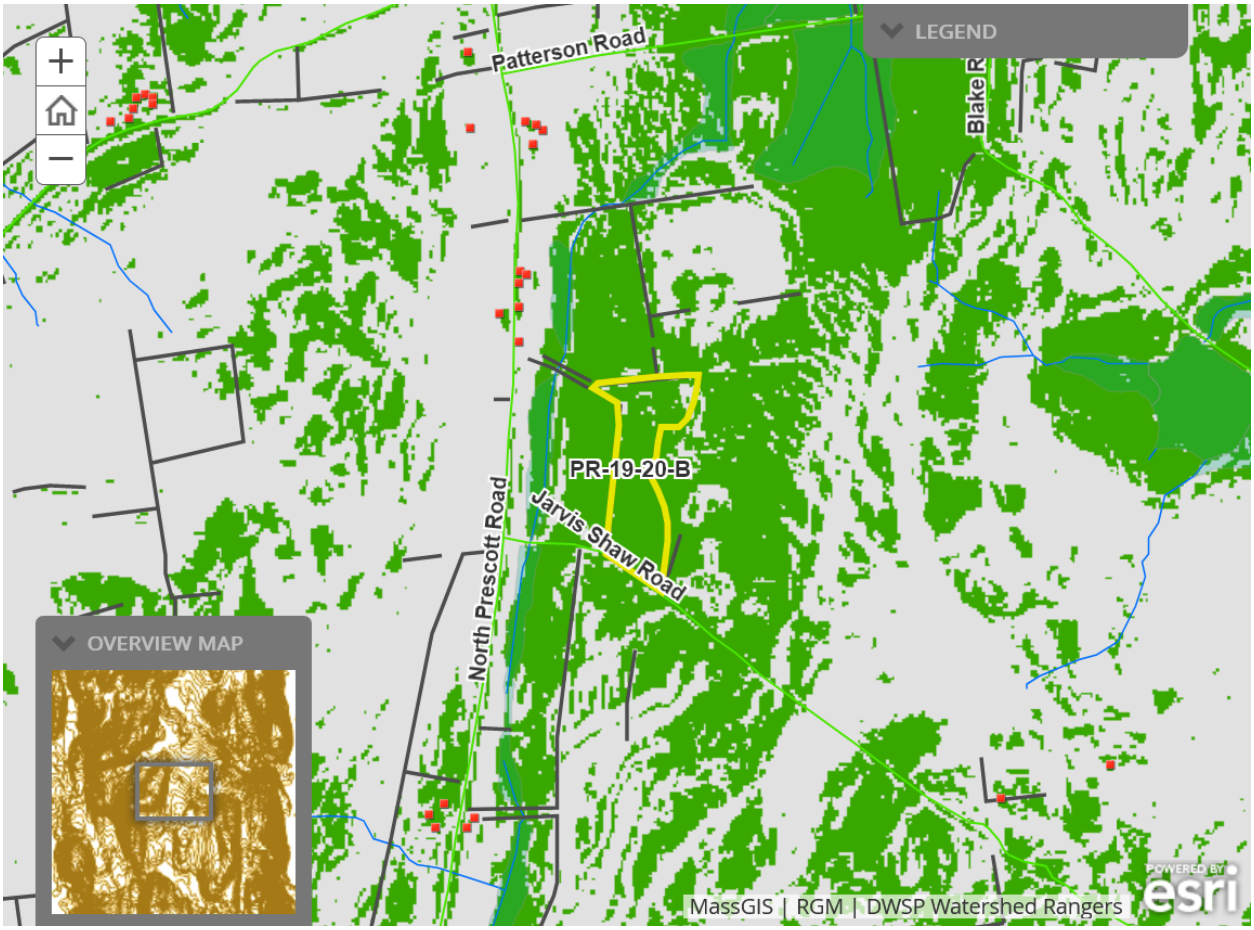
Cut-to-Length harvesting is the ideal system for red pine; the primary forest product of this proposed project.



Cultural Resources

Comments on Cultural Resources:

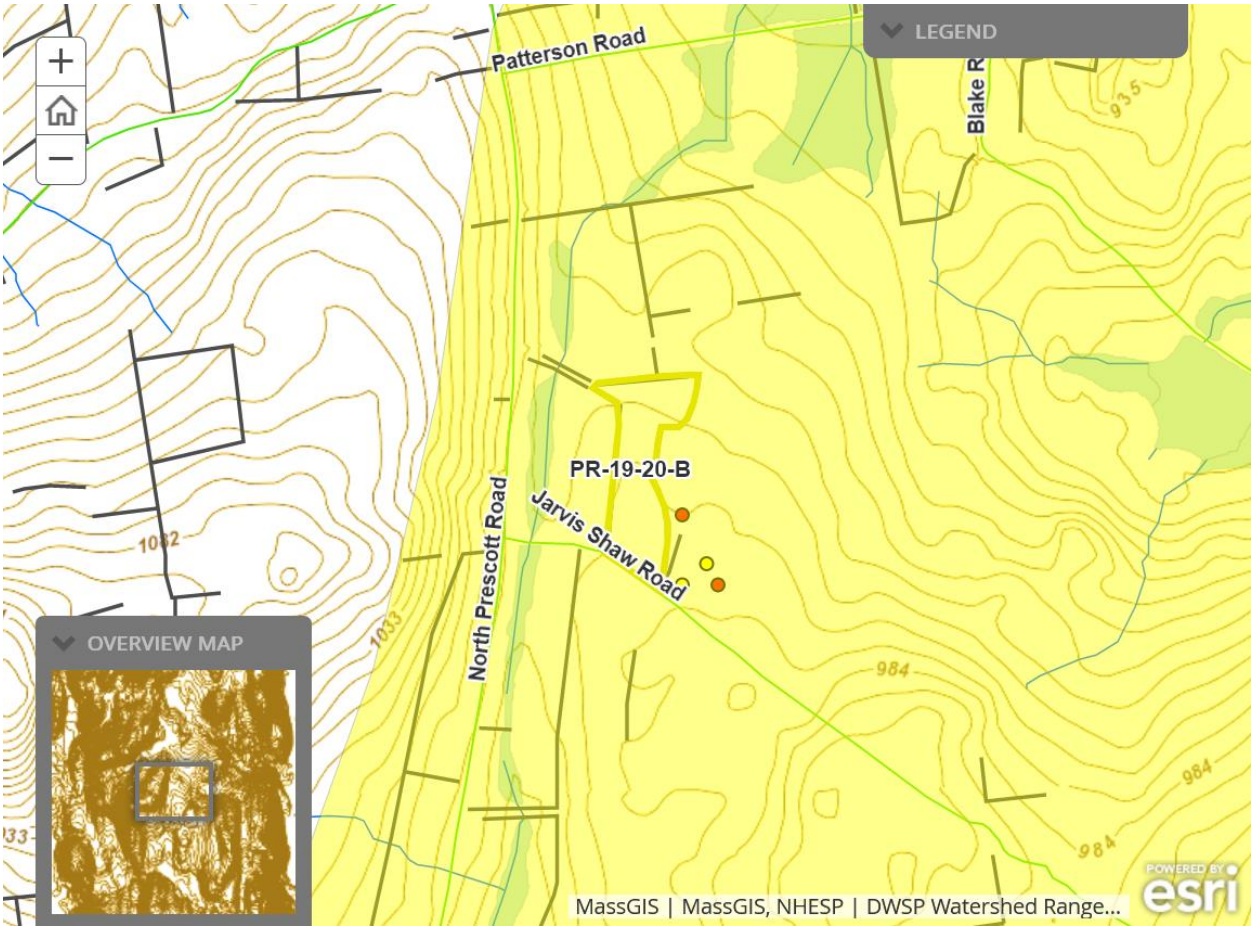
Existing barways will be used where feasible and harvest layout will protect walls as much as possible. If applicable DWSP will follow any additional recommendations from DCR's Archeologist regarding protection of sensitive sites.



Wildlife Resources & Rare and Endangered Species

Comments on Rare Species/Habitats:

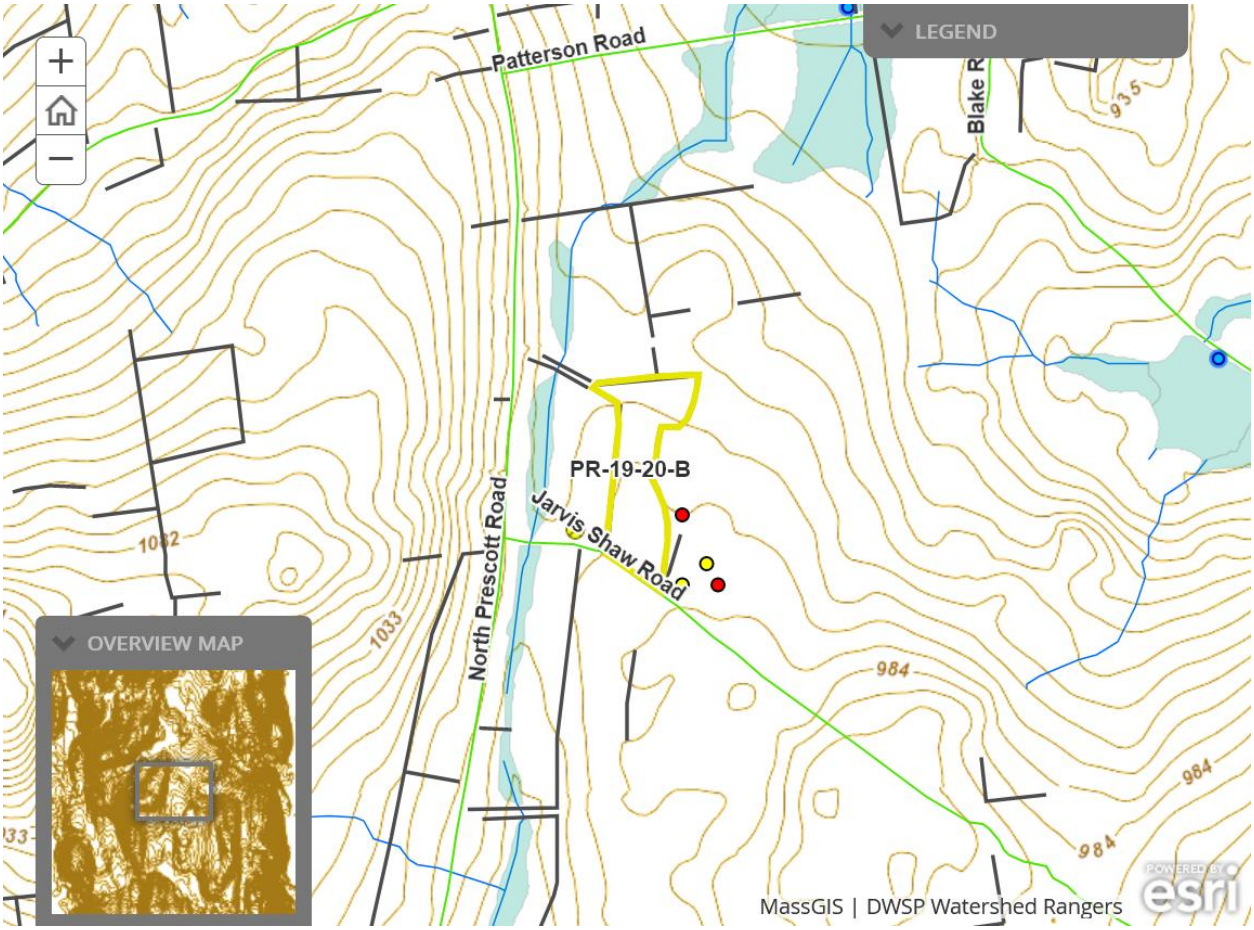
Cavity trees and potential/existing nest trees will be retained if possible. NHESP has determined that certain state-listed sensitive species or habitats may exist within the northern section of the lot proposal area. To protect them from unnecessary disturbance, detailed information regarding affected 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 harvest.



Environmental Quality Engineering

Comments on EQ Issues:

There is possible monitoring opportunities at culverts under the west branch of Underhill Brook along Smith Vaughn Road.



Forest Access Engineering

Gravel needed: No

Landing work needed: No

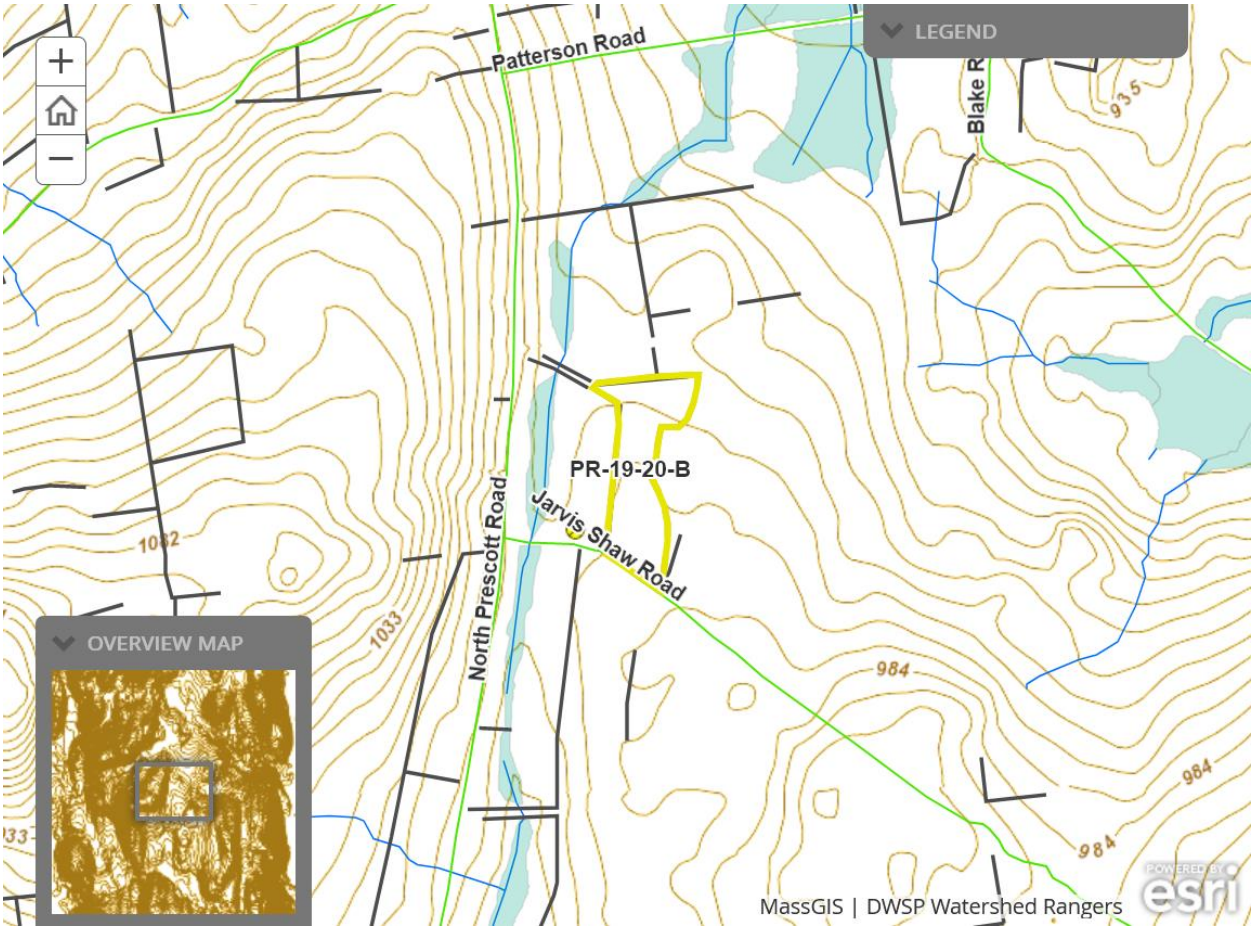
Culverts needed: No

Work needed on permanent bridges: No

Beaver issue: No

Further comment on access needs:

None.


LEGEND
Patterson Road
Blake R
935
PR-19-20-B
Jarvis Shaw Road
North Prescott Road
1032
1033
984
984
984
OVERVIEW MAP
MassGIS | DWSP Watershed Rangers
esri

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