Quabbin Harvest Proposal PE-21-09

Proposal Update, May 2024:

This forestry proposal was originally approved through the public process in 2020. The project was 'paused' along with most other state lands forestry projects as part of the EEA Forests as Climate Solutions Initiative. Following the close of the work of the Climate Forestry Committee, DWSP determined the activities in this proposal align with EEA climate considerations developed from the recommendations in the CFC report. The proposal language and mapping below are preserved unchanged from that presented to the public in 2020 in ArcGIS Online Story Map format.

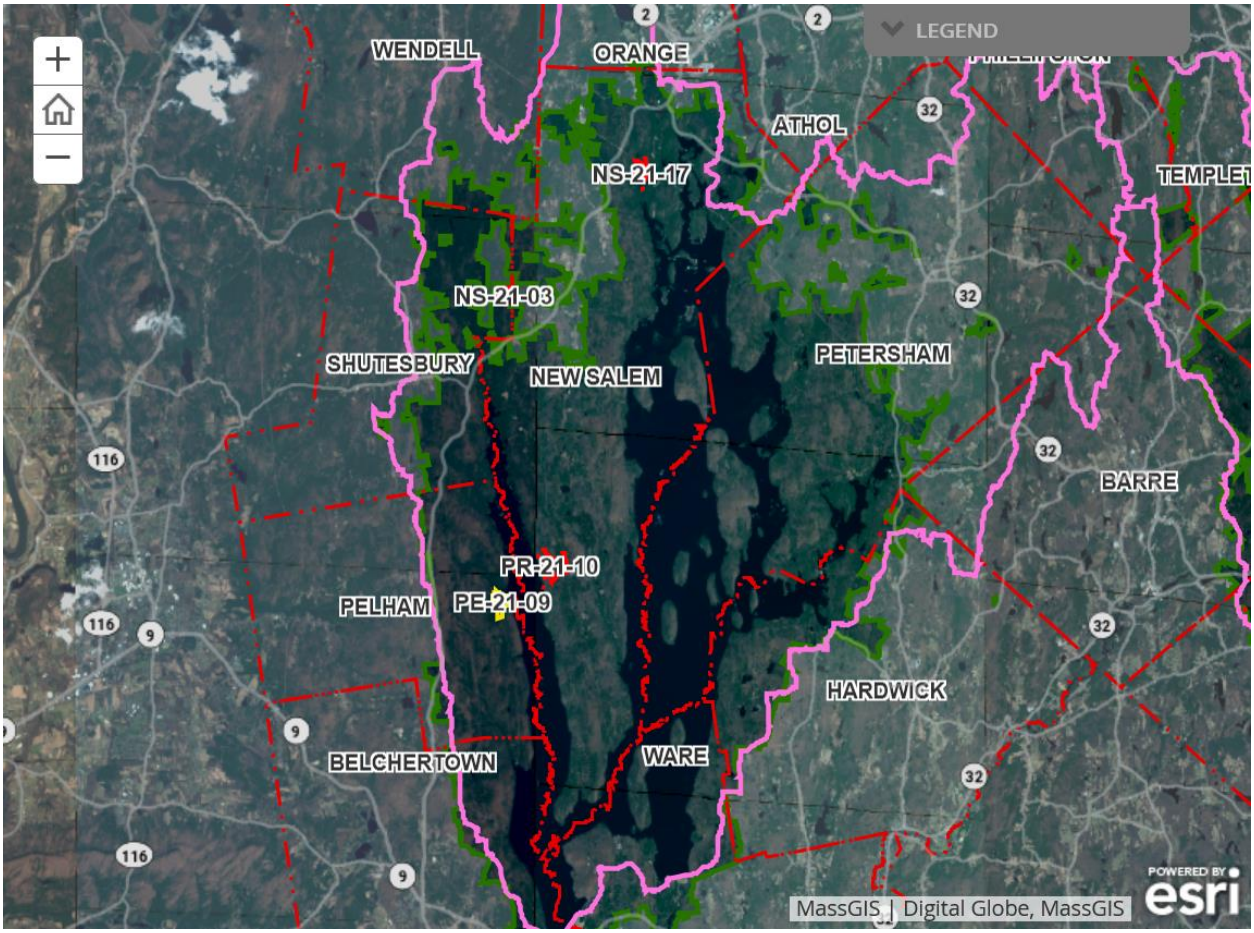
Proposal Goals

This proposal seeks to achieve overall watershed goals of increasing age and species diversity by harvesting areas with low species diversity, poorly formed or unhealthy stems. The harvest will target release of existing regeneration, and provide opportunities for new regeneration to establish.

Proposal Location

The lot is bounded by Pelham Hollow Road and steep slopes to the North, Governor's Woods Road to the West, an intermittent stream to the south, and the reservoir shoreline to the east.

Total Acres: 67



General Description

	Overstory Type(s)	Acres
Dominant	White pine/hardwood	54
Secondary	White pine	10
Other	Hemlock	2

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

Secondary	Mountain laurel prevalent

Description of forest composition/condition:

The majority of the proposed area is in white pine/hardwood white pine/oak cover. Median stocking throughout is 110 ft² / acre with a median diameter class of 16 ". Eastern white pine and northern red oak are the dominant overstory species. The white pine on site ranges from pole sized to > 30 " in diameter with a mean diameter of 25 ", the red oak shows two size classes centered around 13 " and 20 " diameter. Pole sized red maple, mostly poorly formed is the next largest constituent followed by small sawlog sized hemlock. Larger hemlock in the proposed area has been hard hit by hemlock wooly adelgid (HWA; Adelges tsugae) creating small gaps which have initiated mostly white pine regeneration 5-15 years old, with some black birch and red maple mixed in. The 11 acres in white pine cover is a true white pine stand with little species diversity, a closed canopy and only very small gaps (up to 0.1 acres) available for regenerating white pine seedlings unlikely to persist. Basal area in the pine stand is 110-130 ft² / acre and is primarily in >20" diameter size class. The hemlock stand in the southeastern section of the proposal still contains pole sized to small saw log healthy hemlock, with red maple, paper birch, and red oak the primary hardwood species. Hemlock regeneration has been heavily browsed and it was rare to find a hemlock between 2 and 20 ft tall.

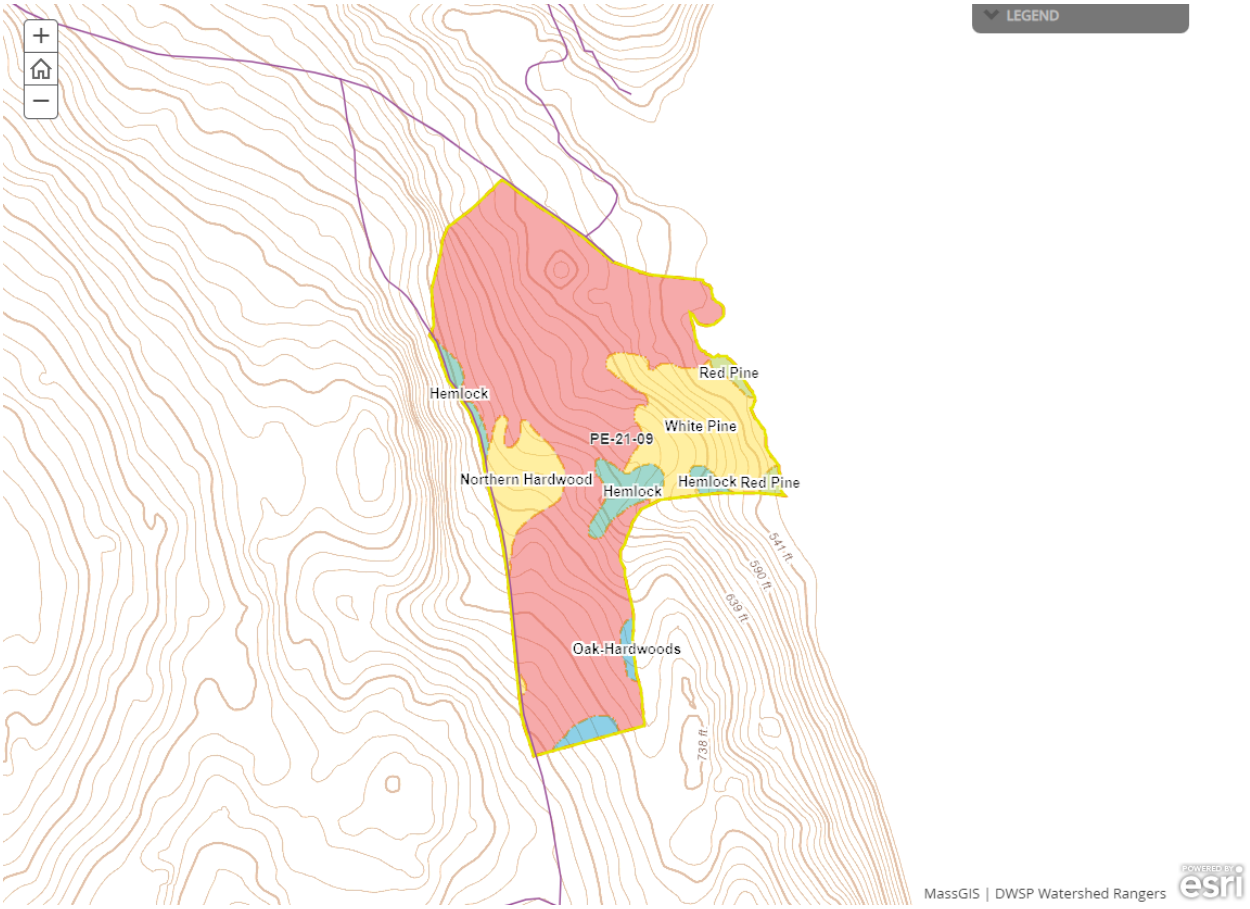
There are small pockets of red pine near the shoreline only a few acres in size. The red pine is in drastic decline and given its poor condition, proximity to the reservoir shoreline and its distance from areas regularly accessed by the public it will most likely be left to collapse in place.

At the time of the establishment of the Quabbin Reservation real estate sheets show that the top of the slope on the western to southwestern portions of the lot were in sproutland, and the northern slopes near the road intersection and the pine stand were previously in woodland.

The proposed area contains two previous harvests, 0131 completed in 1976 and 0609 completed in 1993. Lot 0131 was a 19 acre thinning of the pine and hemlock located north and south of the perennial stream. Lot 0609 overlaps with the southern edge of the proposal creating small (< 0.25 acre) openings and initiating some now sapling sized white pine and black birch regeneration.

Assessment of Terrestrial Invasive Species:

Invasive species were not observed during a prism cruise of the proposed area. There are known patches of Berberis thunbergii north of the proposal on the gate 11 road, but outside of the area to be treated.

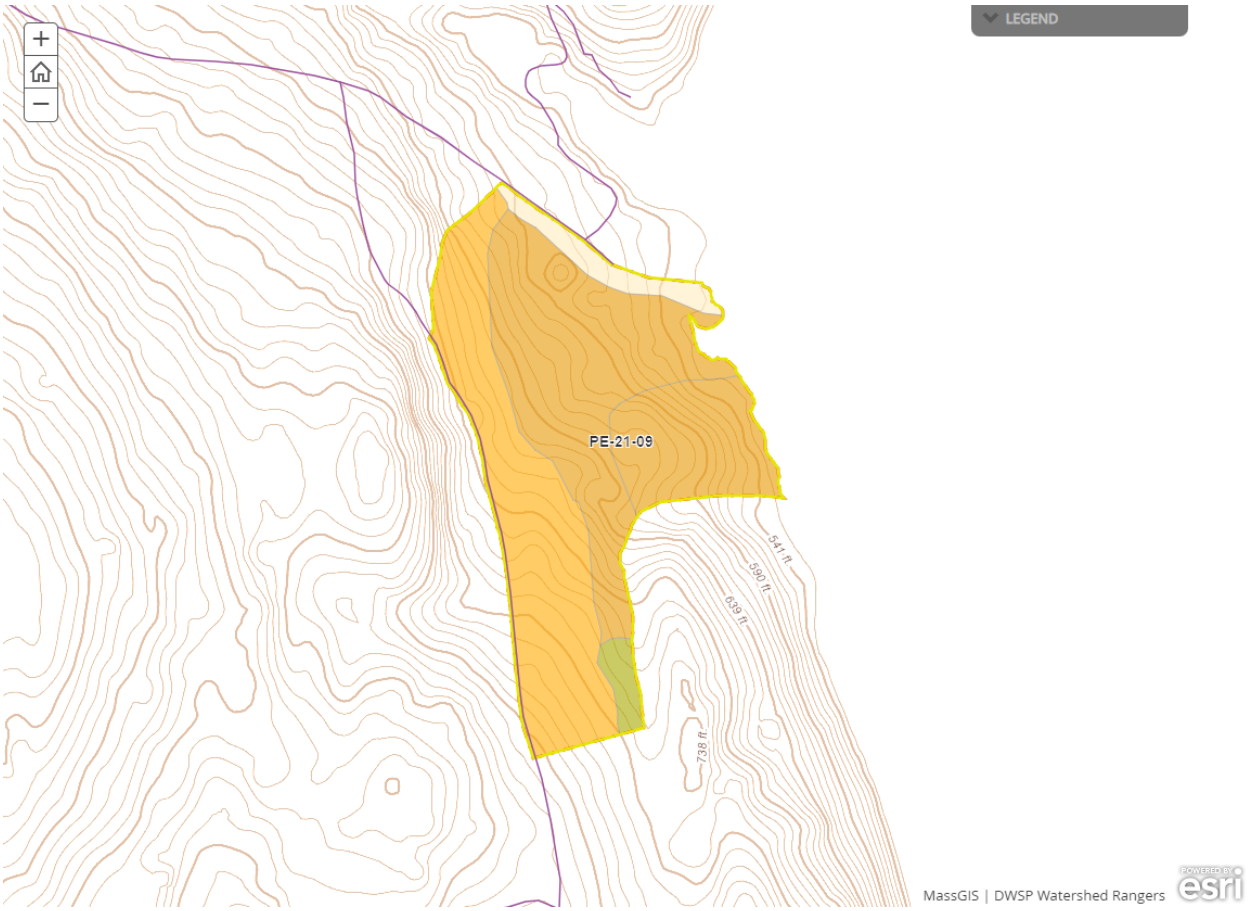


Soils

Drainage Class	%
Excessively Drained	5
Well Drained Thin	37
Well Drained Thick	55
Moderately Well Drained	3

Poorly to Very Poorly Drained	0

Canton fine sandy loam comprises half of the lot, Charlton-Hollis-Rock outcrop complex another third, with Hinckley loamy sand and Scituate fine sandy loam as minor components. Landings will be located on Charlton-Hollis-Rock outcrop well drained soils.

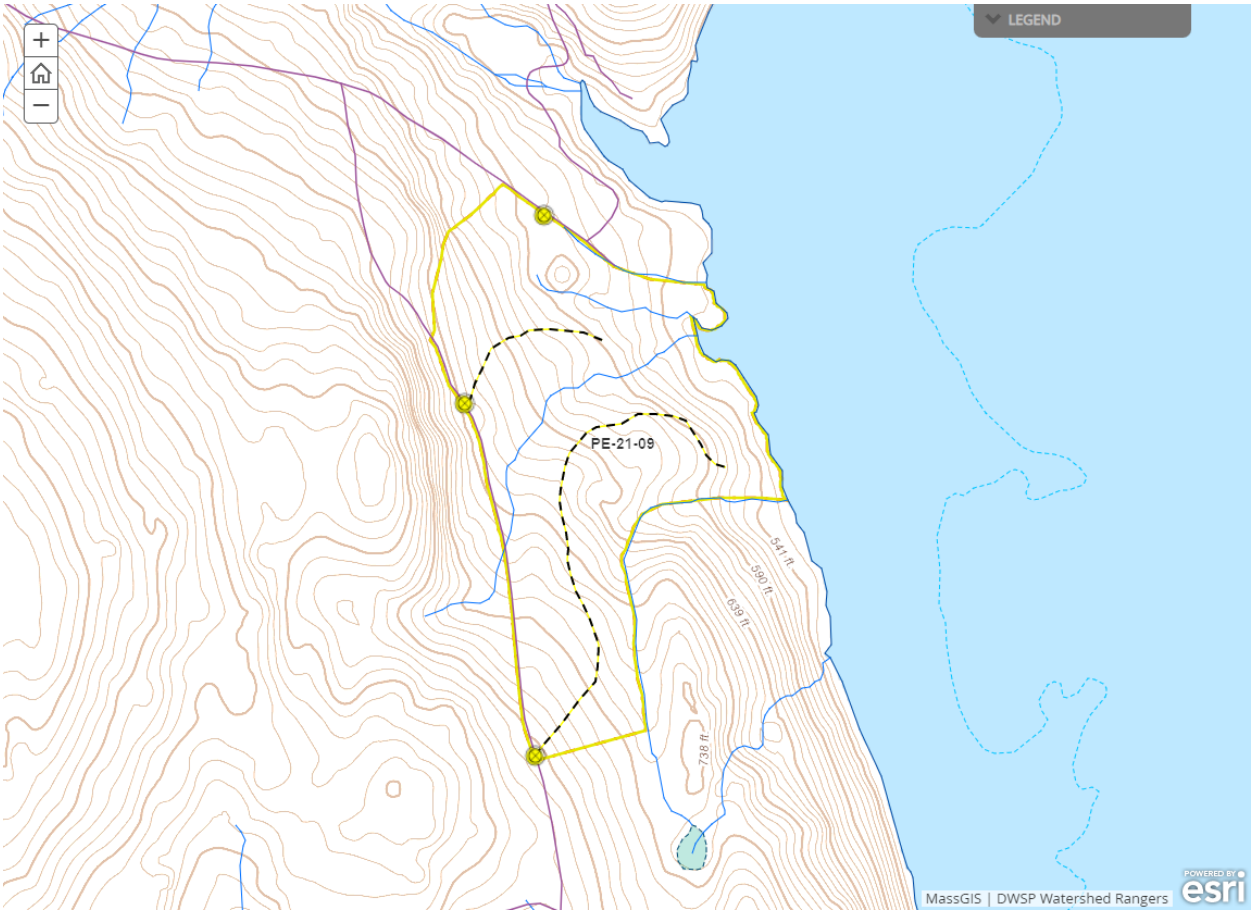


Wetlands

- 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** **(Riparian Zone Mgt)**

- Is logging in wetlands planned? - **No**

Landings and skid roads have been planned so as to avoid the need for stream crossings.



Silviculture

Acres in Intermediate cuts: **20**

Acres in prep/establishment cuts: **11**

Acres in Regeneration cuts: **19**

Average regen opening size: **1**

Maximum regen opening size: **2**

Description of advance regeneration in proposal area:

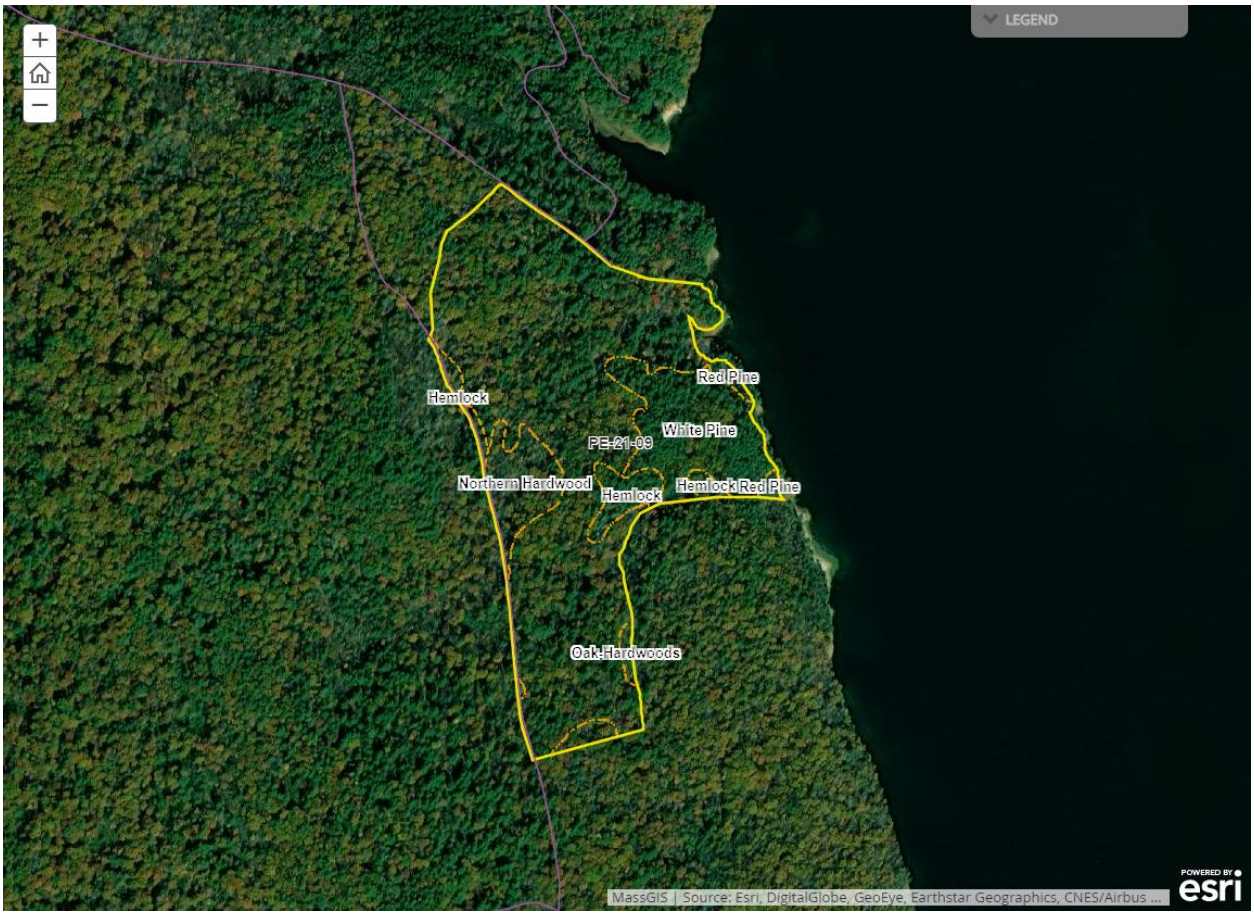
White Pine seedlings and saplings are present throughout the proposed area with stagnant/dying tall sapling white pine. Browse is extensive, nearly every plot visited had heavy browse impact: 'bonzai' hemlock, browsed striped maple, there were even signs that the black birch saplings are being browsed. Moose scat was a frequent presence.

General comments on silviculture proposed:

The majority of the proposed area with be treated with regeneration opening with green tree retention 5-15 ft^2/acre. Openings will be placed to release existing regeneration or target areas of particularly poorly formed overstory. In areas with interfering mountain laurel, release of existing regeneration will be prioritised and the mountain laurel avoided. If adequate regeneration is not in proximty the mountain laurel will be contained within an opening with low basal area retention and mechanical treatment of the mountain laurel will be required to attempt to provide the light conditions for fast growing shade intolerant to moderately tolerant regeneration to grow up before the mountain laurel recovers. Edge and interior retention trees will favor well formed, vigorous overstory individuals, and under-represeented species.

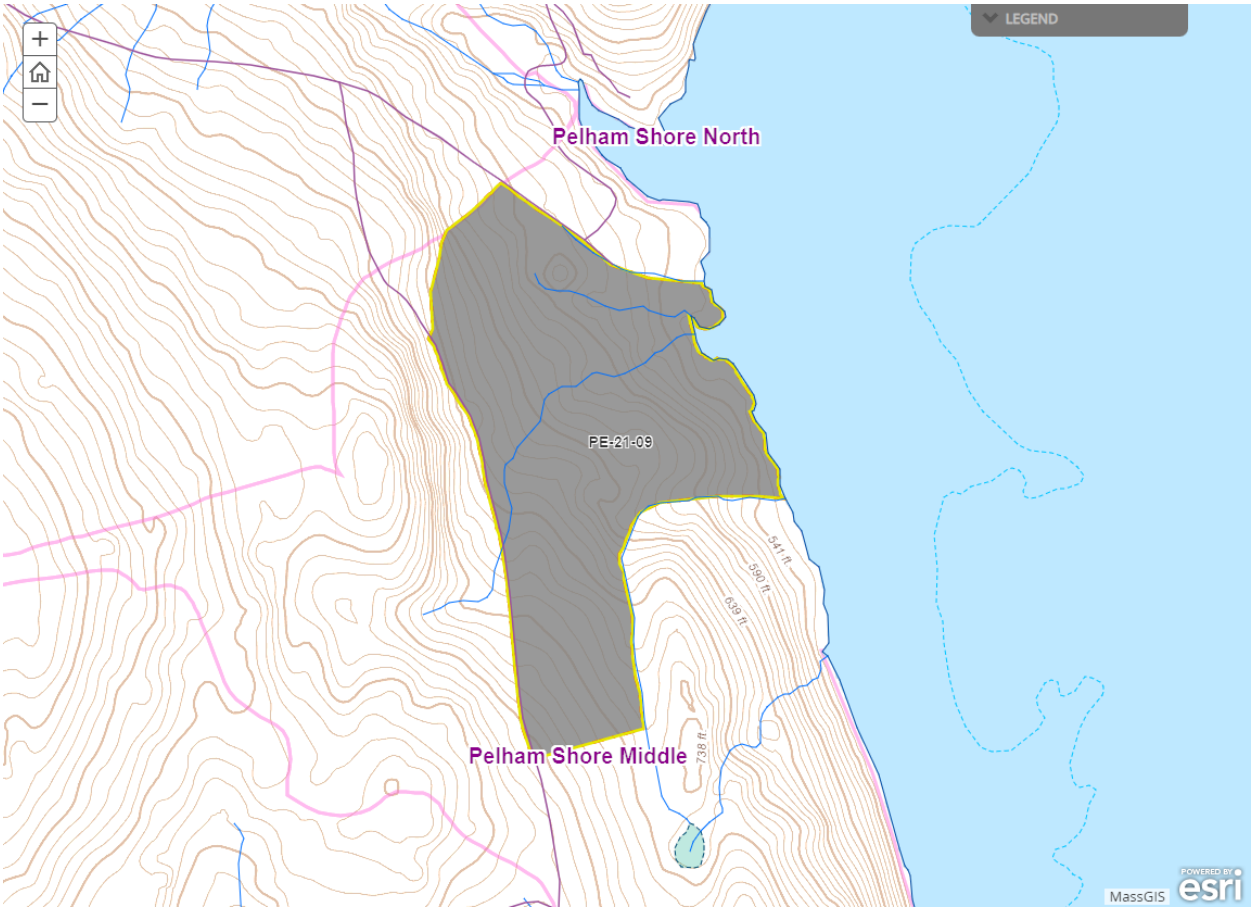
Improvement thinning will be performed in the matrix between regeneration openings targeting poorly formed and damaged individuals. In the white pine stand an extended irregular shelterwood system will be implemented. Basal area will be reduced to 30-40 ft^2/acre and spatially grouped to reduce canopy closure shading over the extended shelterwood phase.

The limited red pine within the proposed area will likely be left unharvested, but if it is determined that the red pine is impeding white pine and hemlock regeneration the stand may be treated with some felling and/or girdling to adequately release the existing 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
18 (Pelham Shore Middle)	322	0	81	73



Harvesting Limitations

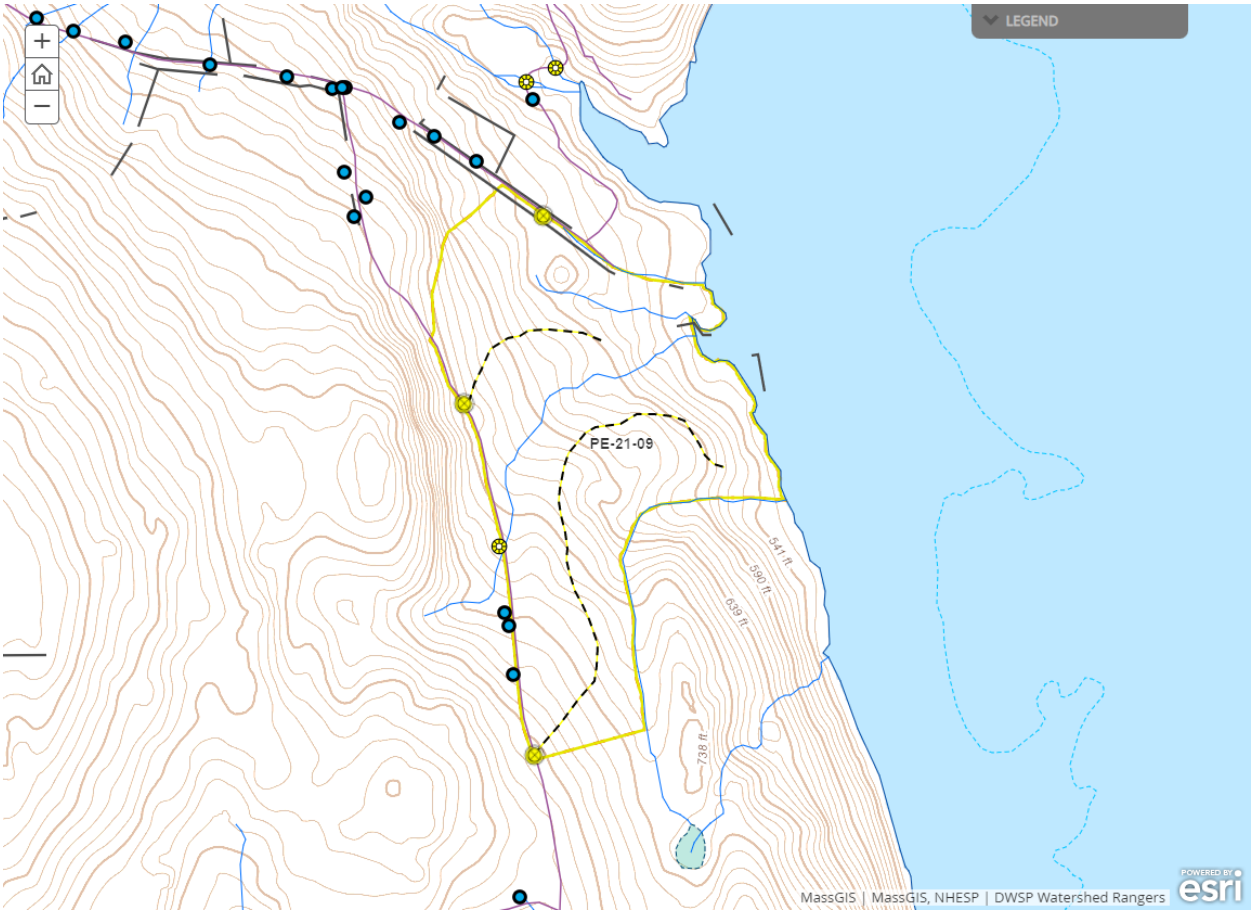
Forwarder required: **No**

Feller/processor required: **No**

Steep slopes present: **No**

Comments on harvesting limitations:

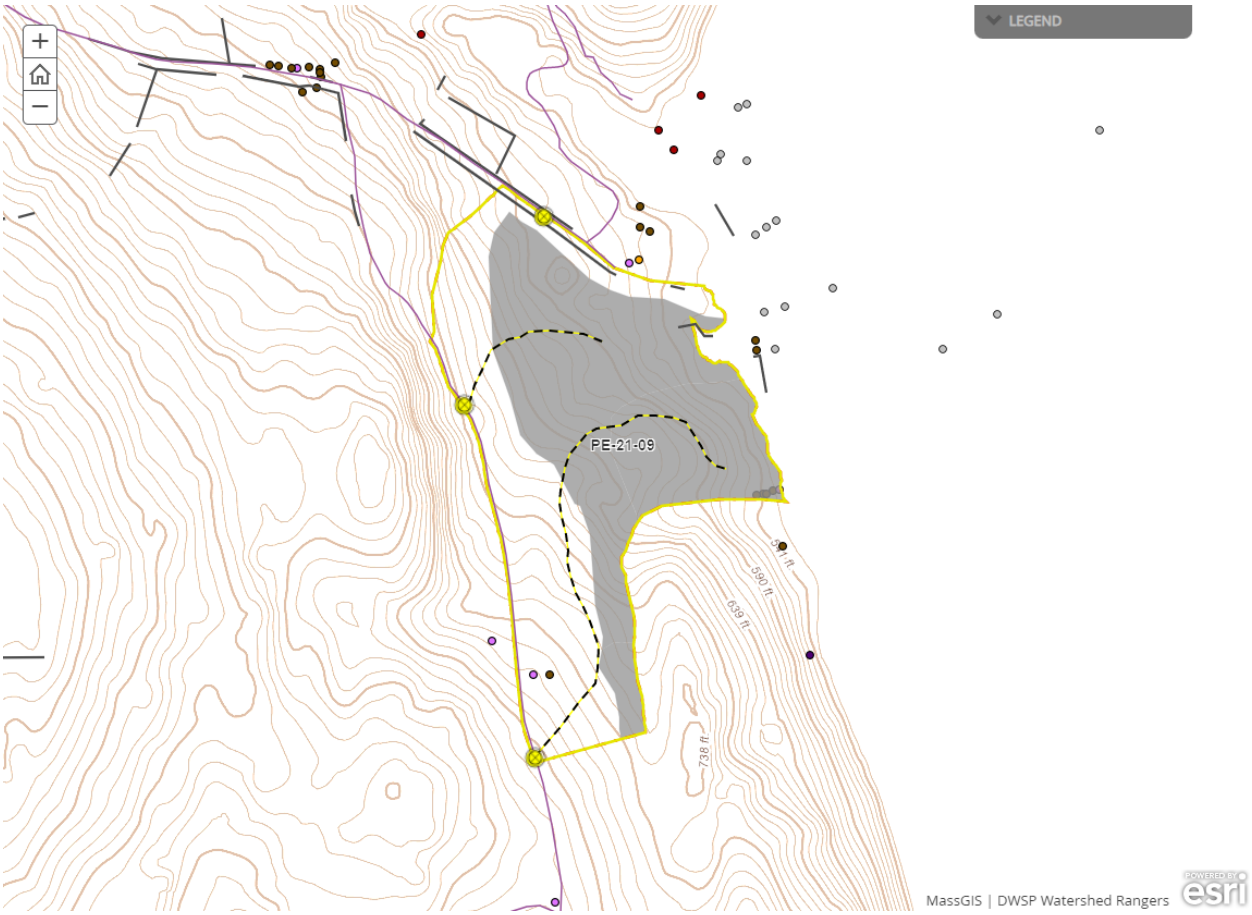
No restrictions are proposed.



Cultural Resources

Comments on Cultural Resources:

This lot contains stone walls as well as the foundations of the house of a Mr. Cutting, and the foundations of the house and barn of a Mr. Frost.



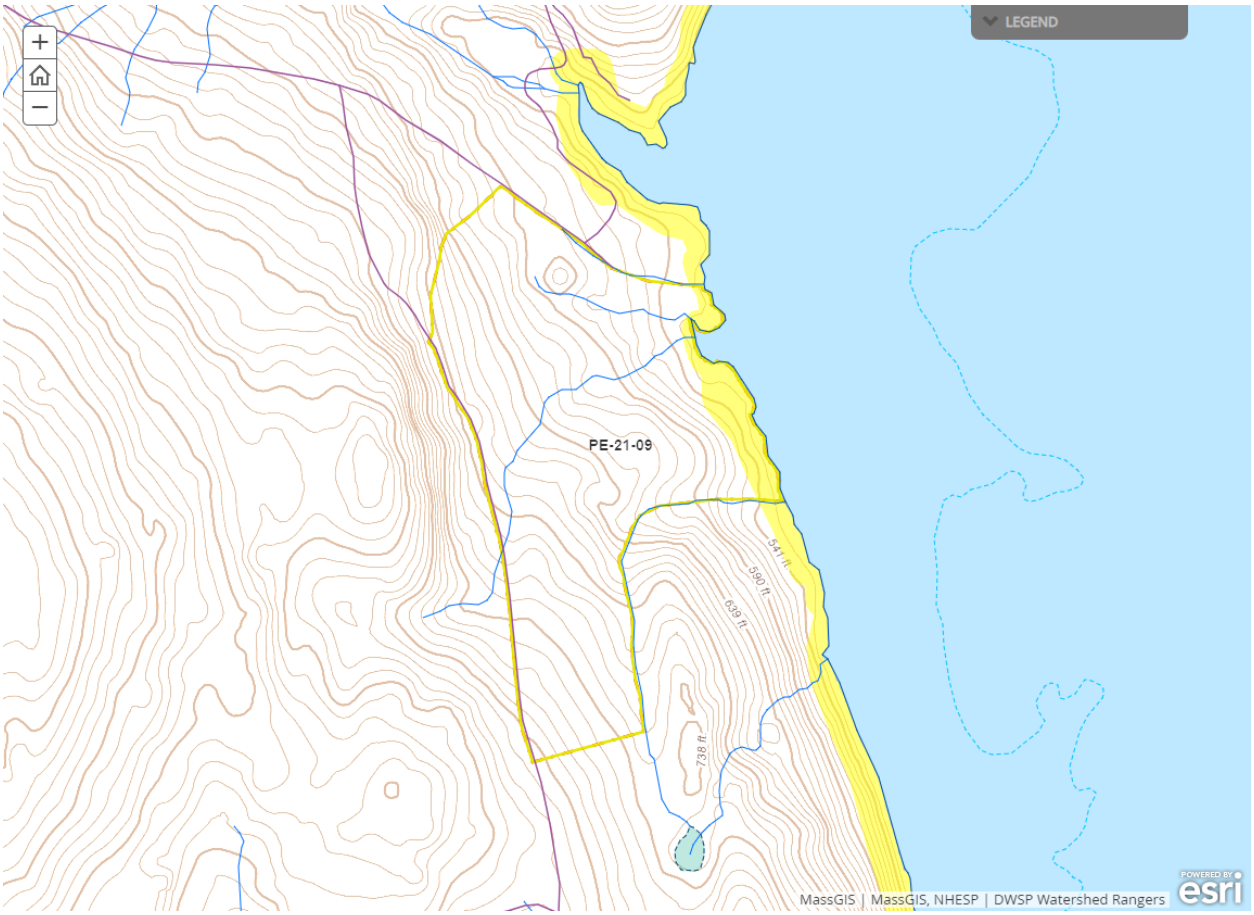
Wildlife Resources & Rare and Endangered Species

General Wildlife Comments:

Moose and deer browse is extensive throughout the proposed area. Hemlock seedlings are browsed to dwarf form and stripe maple stripped of all buds is common throughout. Even black birch seedlings were found with evidence of browsing. Moose scat was a common find.

Comments on Rare Species/Habitats:

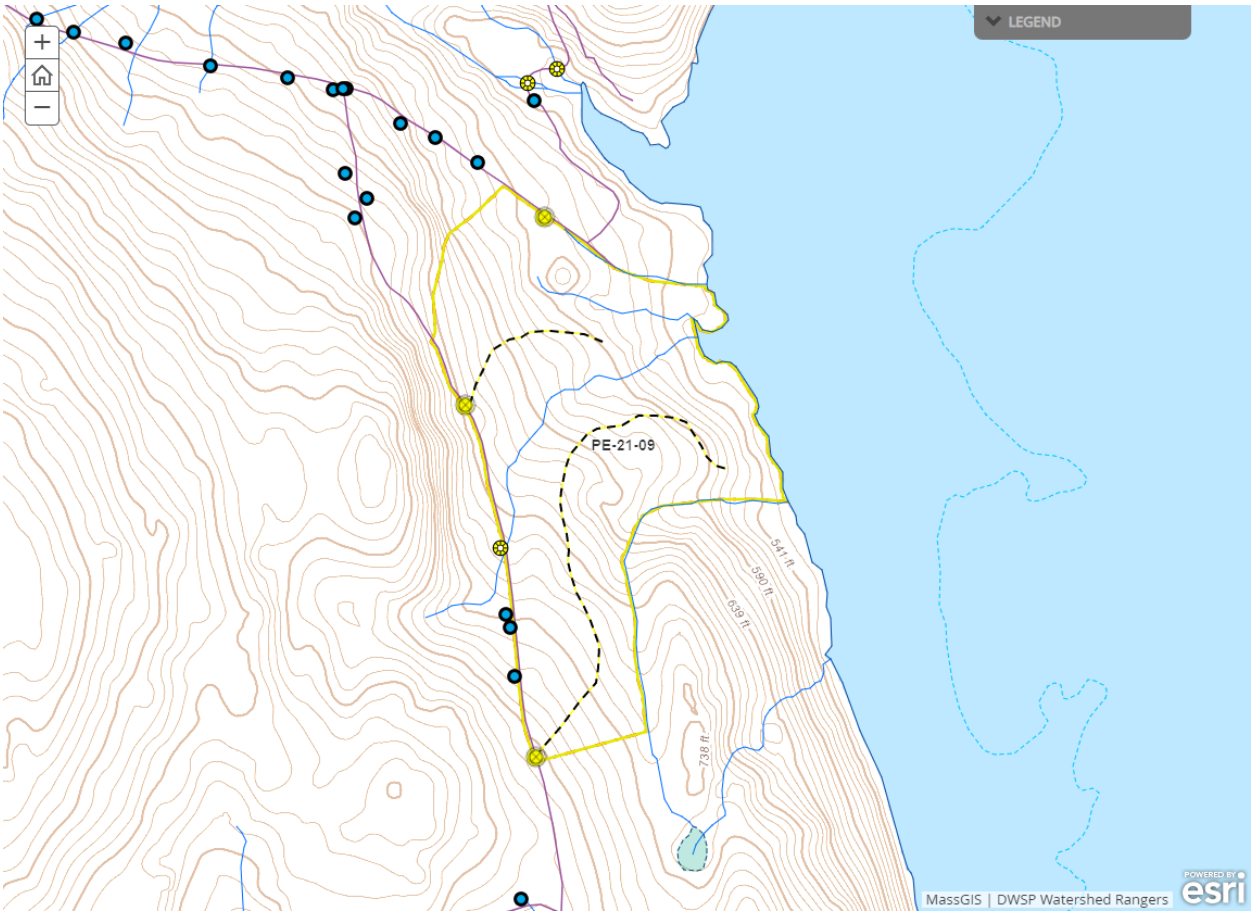
NHESP has determined that certain state-lites sensitive species or habitats may exist within the lot proposal area. To protect them from unnecessary disturbance, detailed information regarding affected species and their locations is not included in this report. DWSP will coordinate with NHESP and follow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



Environmental Quality Engineering

Comments on EQ Issues:

No stream crossings are proposed.



Forest Access Engineering

Gravel needed: Yes

Landing work needed: Yes

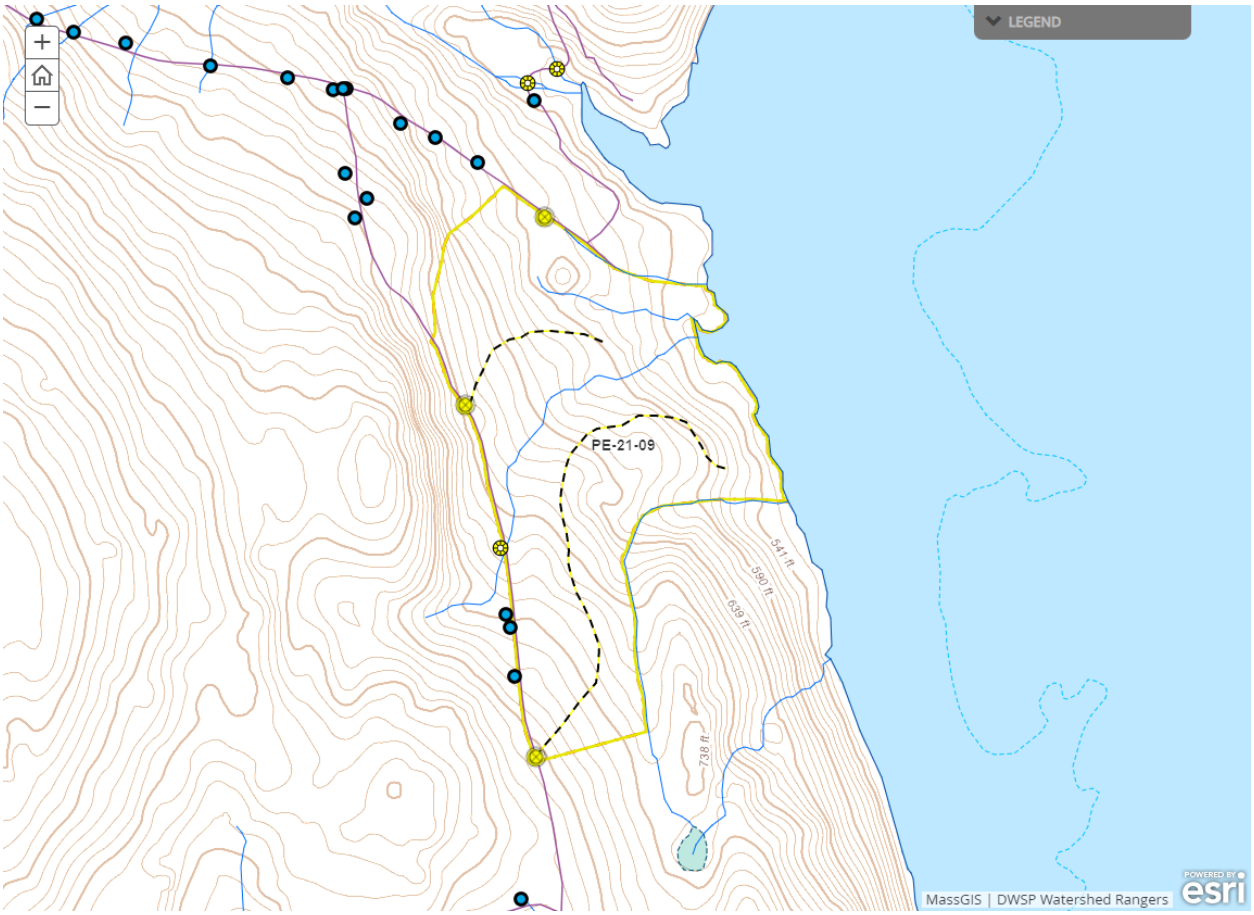
Culverts needed: No

Work needed on permanent bridges: No

Beaver issue: No

Further comment on access needs:

Governor's Woods Rd is washing out in sections and will need repairs to the intersection 10-3A to allow trailers to turn around.


LEGEND
PE-21-09
541 ft
590 ft
639 ft
738 ft
MassGIS | DWSP Watershed Rangers
esri

DWSP FY 2021 Forestry Proposals – Master Legend for story maps