Quabbin Harvest Proposal NS-21-17

Proposal Goals

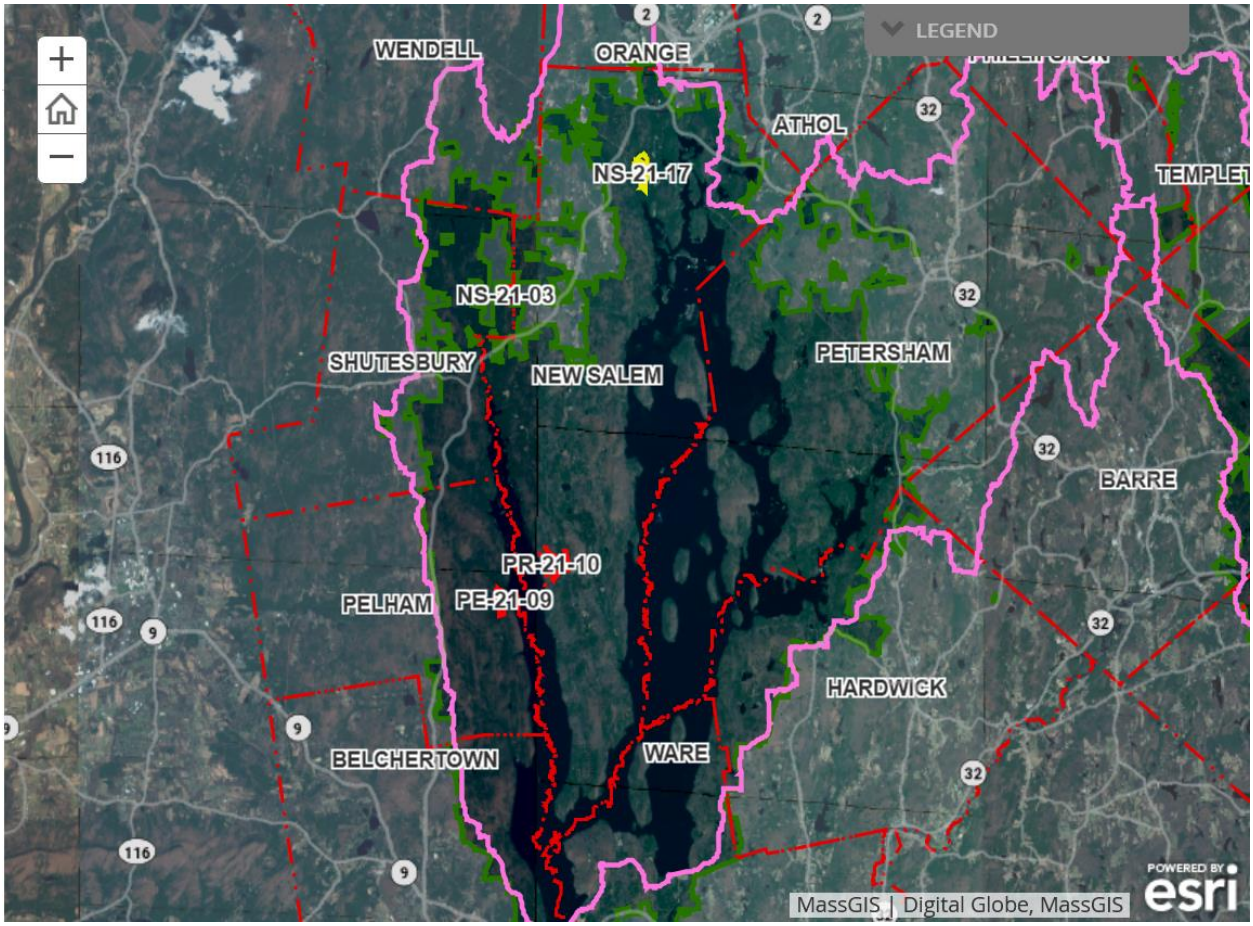
There are multiple goals for this proposal:

- Remove remaining red pine in advance of further mortality from red pine scale;
- Diversify age structure and maintain or increase species diversity by creating canopy openings to develop regeneration
- Conduct mid-rotation improvement thinning in pole pine stand established in earlier harvests

Proposal Location

High tension power line to the north; lower operable limit of a steep slope leading to the power line and Lot 3142 (completed in 2017) to the east; seasonal access road to the south; and a beaver pond, Manning Brook and associated wetlands to the west. A second access road runs through the lot at the north end, and an AT&T right of way crosses the lot about a third of the way south from the northern limits.

Total Acres: 77



General Description

	Overstory Type(s)	Acres
Dominant	White pine-oak/Oak-hardwoods	38
Secondary	White pine	28
Other	White pine/Hemlock/Hardwoods	11

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

Description of forest composition/condition:

Most of the proposed area is dominated by white pine sawtimber, mixed with hardwoods north of the AT&T right of way and red pine at the south end of the lot. Where white pine is dominant, differentiation has resulted in a range of crown classes, from vigorous co-dominants to declining suppressed trees. Form is also variable, ranging from poor to good. White pine weevil damage is present but not extreme. The red pine at the south end of the proposal has good form but is declining, presumably due to red pine scale.

Diverse hardwoods are present in the northern portion of the lot, including red, black, and white oak; red and sugar maple; black, yellow, and paper birch; white ash, black cherry, aspen, and beech. Oaks are typically sawlog-sized, with red oak more common and having better form than black or white oak. The other hardwoods are predominantly pole or small sawlog-sized, with red maple poles being particularly common. Beech, ash, cherry, and paper birch generally have poor to fair form and vigor; red maple and black and yellow birch have variable form but generally good vigor. Scattered hemlock poles are are present throughout the north and central portions of the proposed area, with some hemlock sawlogs in the higher elevations near the power line.

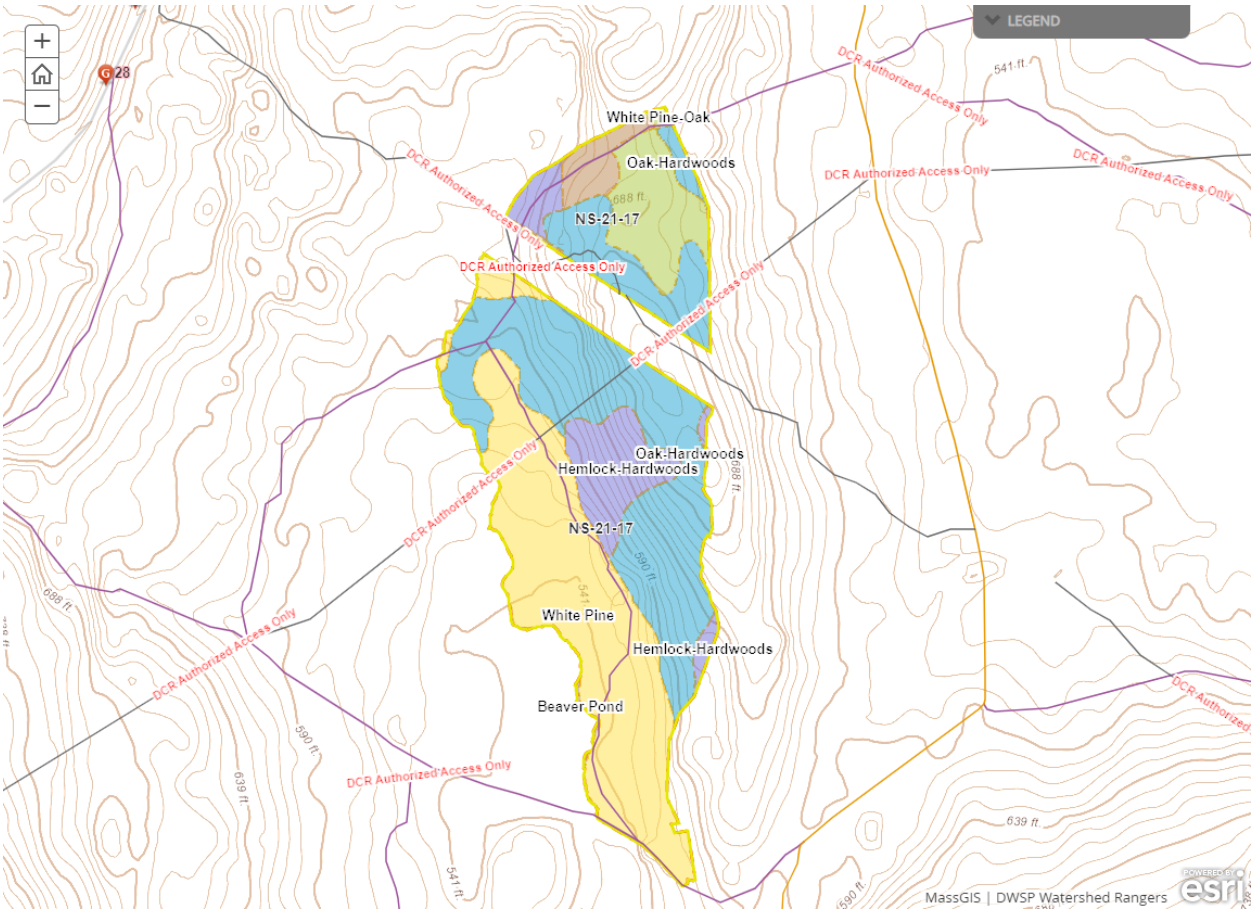
Advance regeneration is present throughout the lot and is dominated by white pine and black birch seedlings and saplings. Also present are hemlock, beech, red maple, and occasional oak seedlings and saplings. In some areas there is little regeneration of any species. In the southern portion of the proposed area there is a large patch of white pine saplings and poles with widely scattered white pine sawlogs of variable form. This appears to have been initiated by a seed tree cut about 40-50 years ago.

Species in the understory include mountain laurel, witch hazel, high bush blueberry, hay scented fern, wood fern, Christmas fern, clubmoss, dewberry, wintergreen and partridge berry. Mountain laurel occurs primarily in small patches near the north access road and along Manning Brook and associated wetlands, where harvesting will be limited. High bush blueberry, sensitive fern, cinnamon fern and gold thread are present where soils are poorly drained. Sweet fern and trailing arbutus, both indicators of heathlands, are present at the south end of the proposed area.

Prior harvests include a red pine thinning/improvement cut in 1983 (Lot 368), and shelterwood prep cuts in the area between the red pine and the northern access road in 1975 (Lots 116 and 117). The 1975 shelterwood prep cuts probably included the small seed tree cut described above.

Assessment of Terrestrial Invasive Species:

Japanese barberry and glossy buckthorn are present near the two roads, and there's a large patch of Japanese barberry outside the proposed area to the northwest. Ideally, invasives should be treated before or immediately after harvest, but if this is not possible, harvesting in areas with invasives will be avoided.



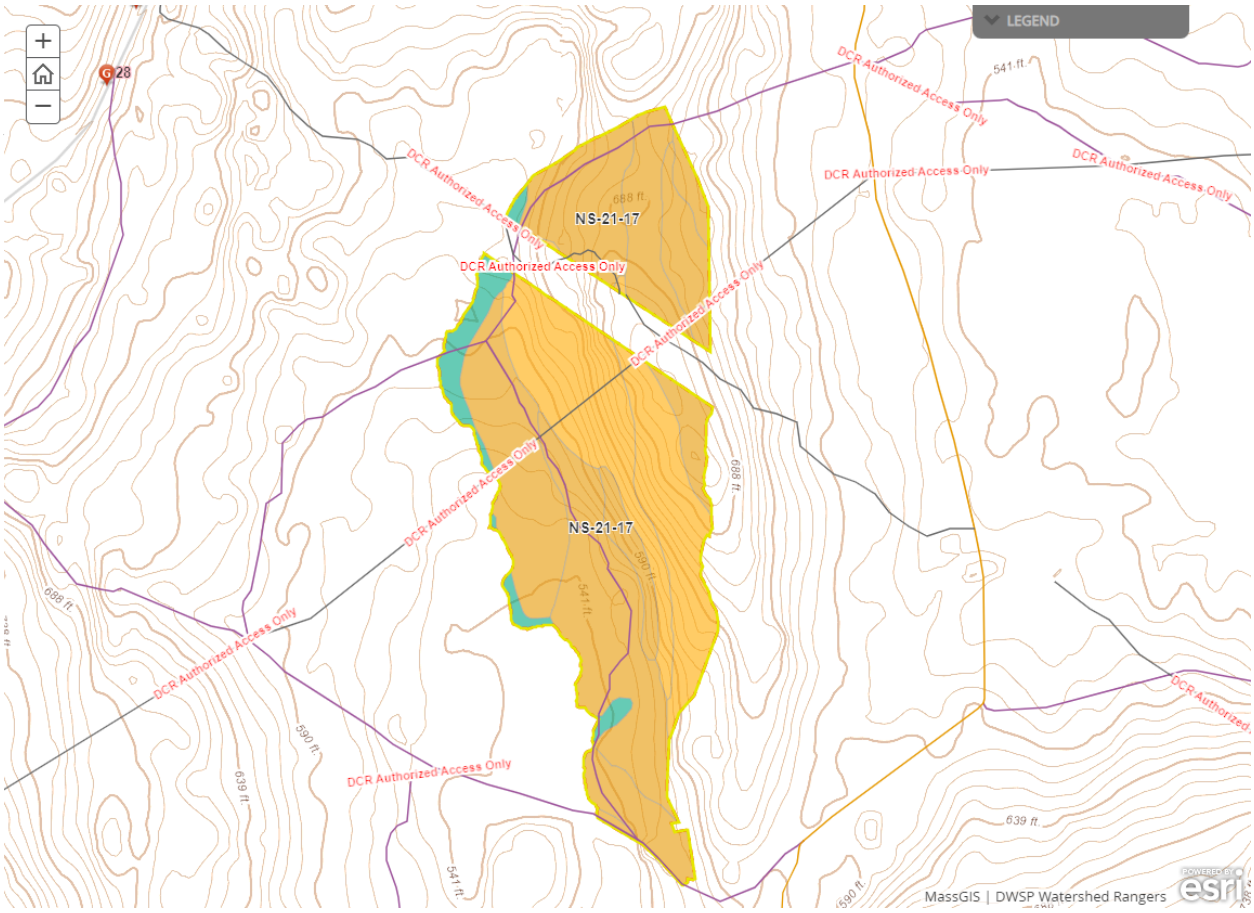
Soils

Drainage Class	%
Excessively Drained	0
Well Drained Thin	0
Well Drained Thick	91
Moderately Well Drained	0
Poorly to Very Poorly Drained	9

According to the Natural Resources Conservation Service, soil types include:

49.2% Canton-Chatfield-Hollis complex, rocky
14.3% Chatfield-Hollis complex, rocky
26.5% Montauk fine sandy loam, very stony
6.7% Walpole fine sandy loam, very stony
2.7% Walpole sandy loam
0.6% Agawam fine sandy loam

All are well drained except for Walpole fine sandy loam and sandy loam, which are wetland types that occur along the beaver pond, Manning Brook, and associated bordering vegetated wetlands. No equipment will be allowed on these poorly drained soils.

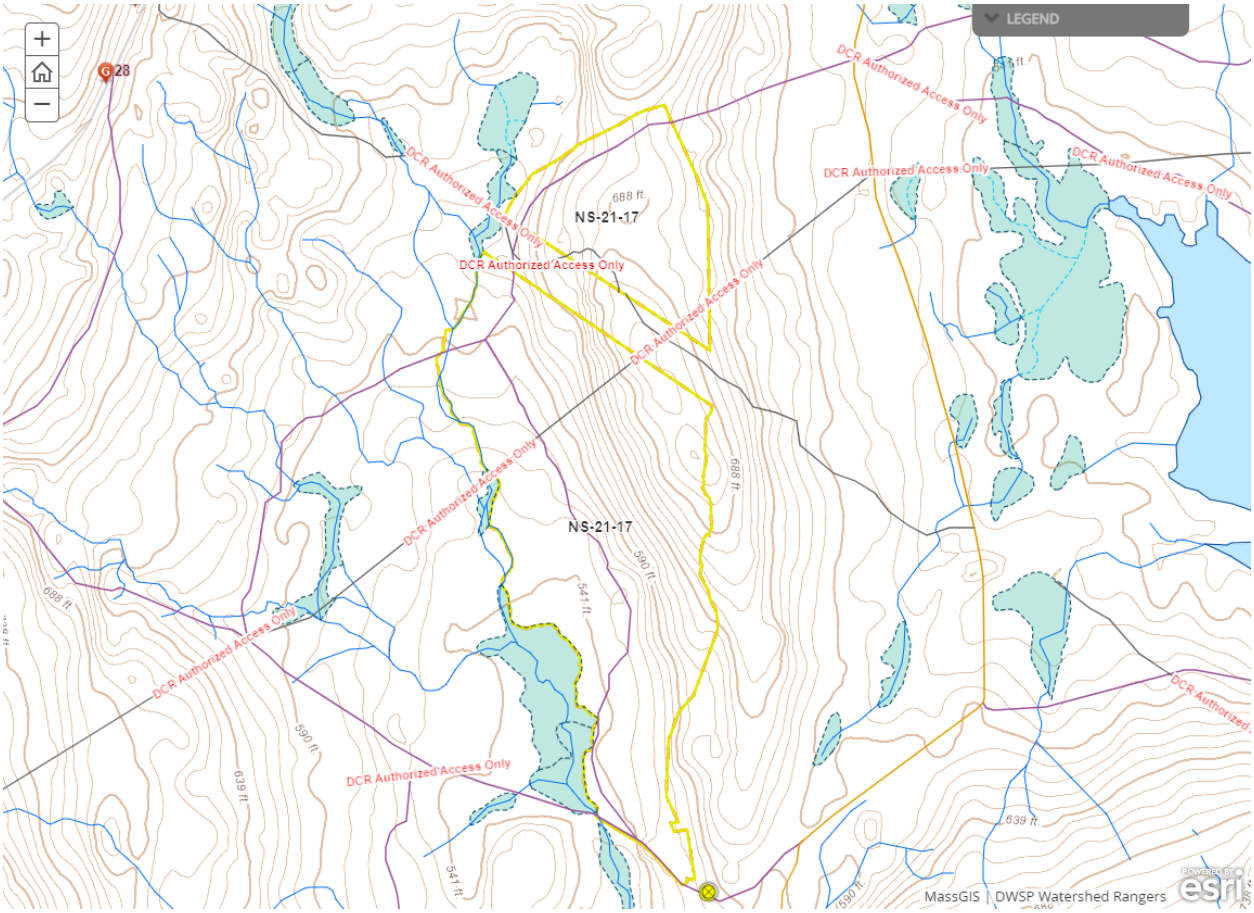


Wetlands

- Wetlands present? - **Yes**
- 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**

A beaver pond, Manning Brook and associated wetlands form the west boundary of this lot. These features will be protected with variable width filter strips, in accordance with the Massachusetts Forest Cutting Practices Act (M.G.L. Chapter 132) and the 2017 DWSP Land Management Plan.

Beavers are active in this area, and may cause changes to the extent of wetlands. Wetland features throughout the lot will be delineated at the time of marking based on Massachusetts Wetland Protection Act criteria (M.G.L. Chapter 131).



Silviculture

Acres in Intermediate cuts: **8**

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

Acres in Regeneration cuts: **12**

Average regen opening size: **1**

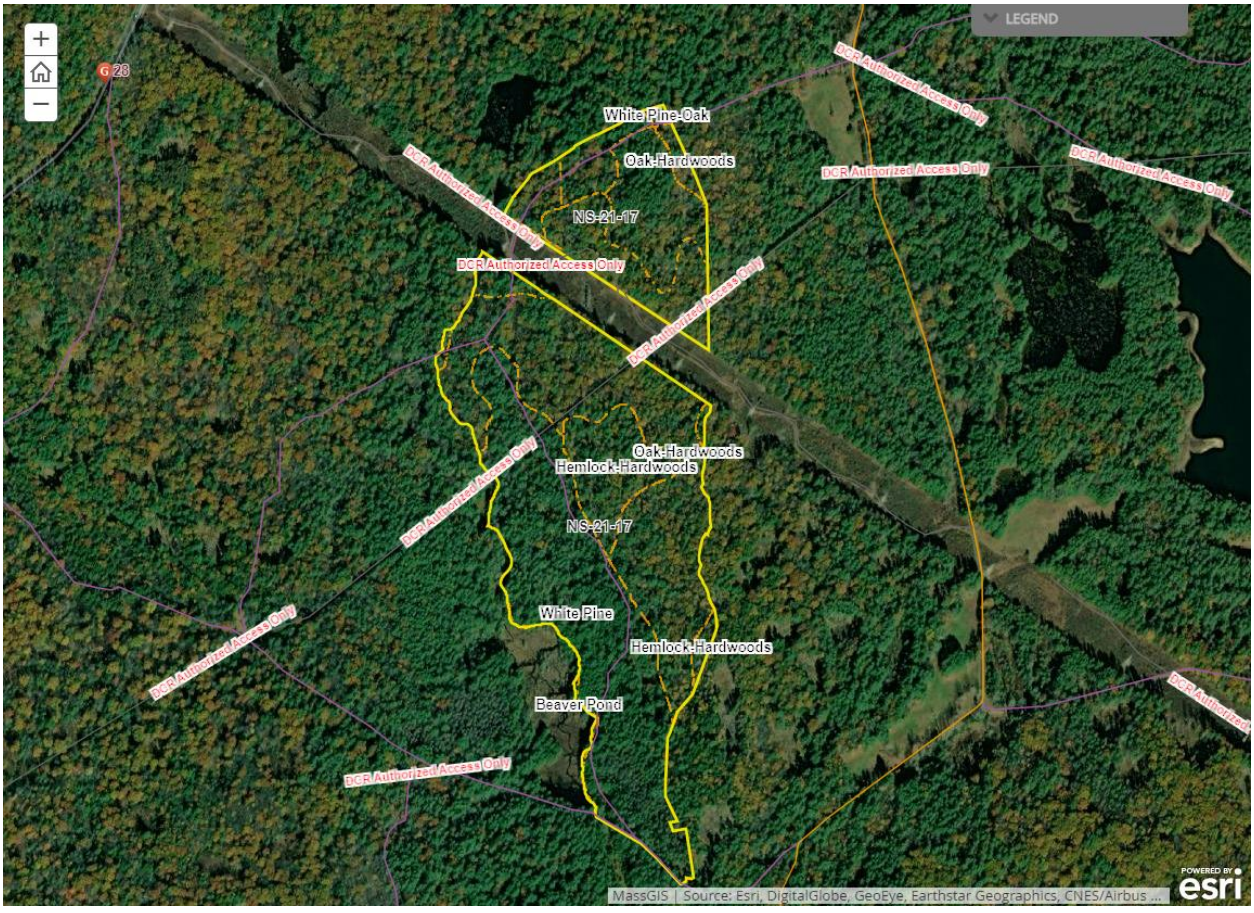
Maximum regen opening size: **4**

Description of advance regeneration in proposal area:

Advance regeneration is present throughout the lot and is dominated by white pine and black birch seedlings and saplings. Also present are hemlock, beech, red maple, and occasional oak seedlings and saplings. In some areas there is little regeneration of any species. In the southern portion of the proposed area there is a large patch of white pine saplings and poles with widely scattered white pine sawlogs of variable form. This appears to have been initiated by a seed tree cut about 40-50 years ago.

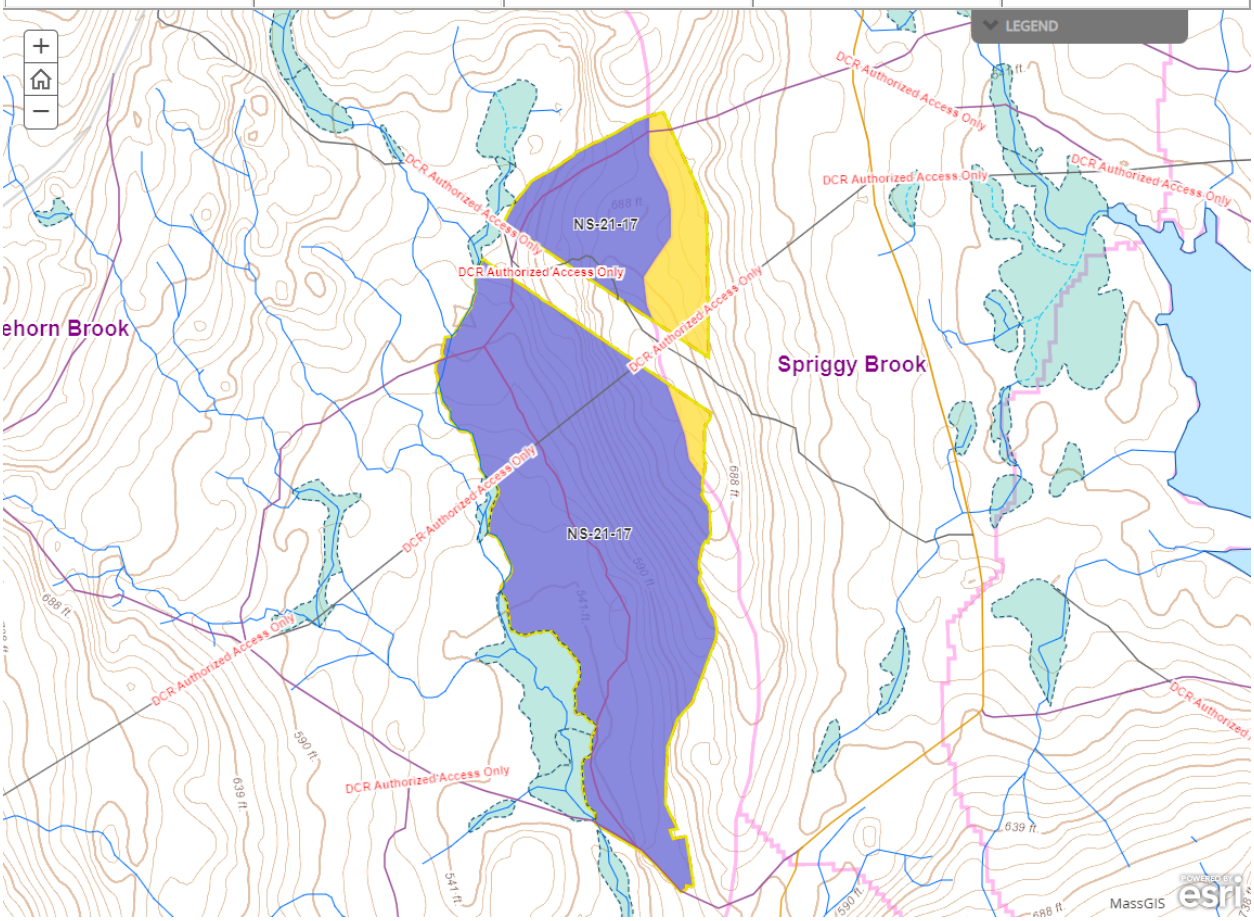
General comments on silviculture proposed:

Openings will be irregular in shape, and will be located where there are clusters of trees that are diseased, declining, or have poor stem structure, and where there is advance regeneration of high quality (healthy, well formed, and well suited to the site) that needs to be released. Five to ten square feet per acre of basal area of sawlog- and pole-sized trees will be retained in openings >½ acre. Virtually all living red pine will be removed, unless it's inaccessible such as due to filter strips. For all other species, the healthiest trees will be retained. The maximum size for most openings will be 2 acres, with one larger opening in the red pine at the southern end of the lot. Intermediate cutting will focus on areas where large openings are not possible due to filter strip regulations, and the white pine poles that were initiated by a seed tree cut around 1975.



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
75 (Moosehorn Brook)	1290	10	293	41
93 (Spriggy Brook)	262	7	59	7



Harvesting Limitations

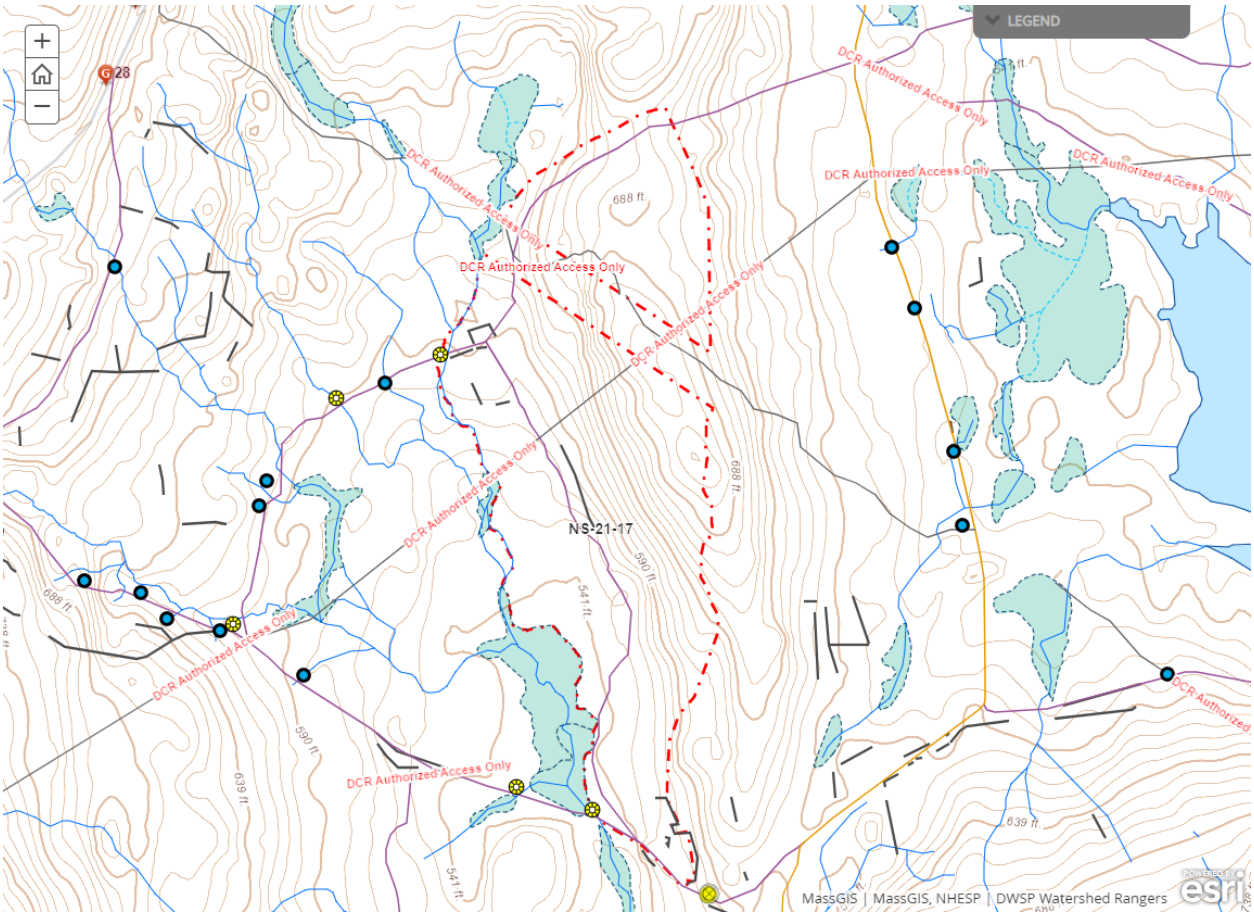
Forwarder required: **No**

Feller/processor required: **No**

Steep slopes present: **Yes**

Comments on harvesting limitations:

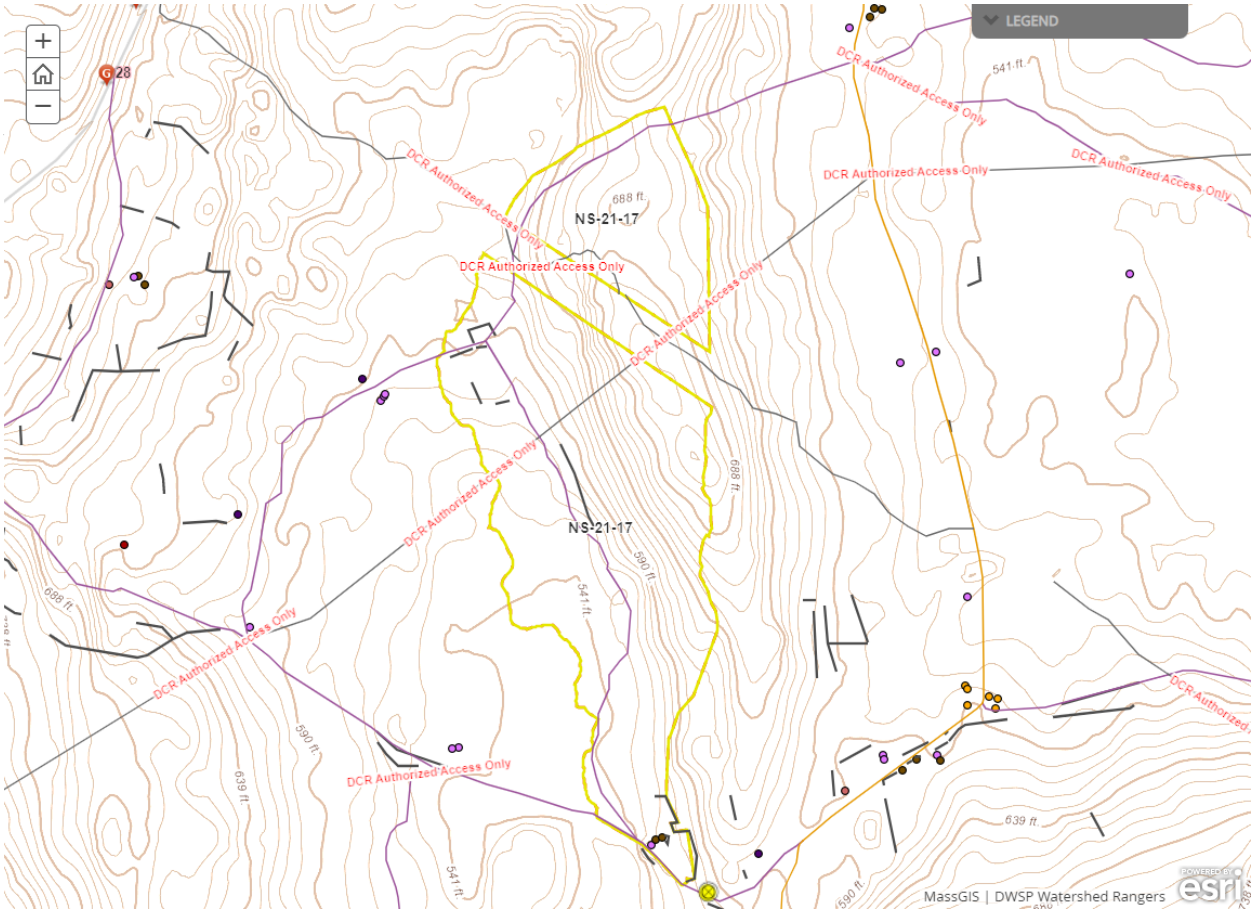
Skid roads will be routed to avoid steep slopes.



Cultural Resources

Comments on Cultural Resources:

All cultural features will be flagged, avoided, and protected.



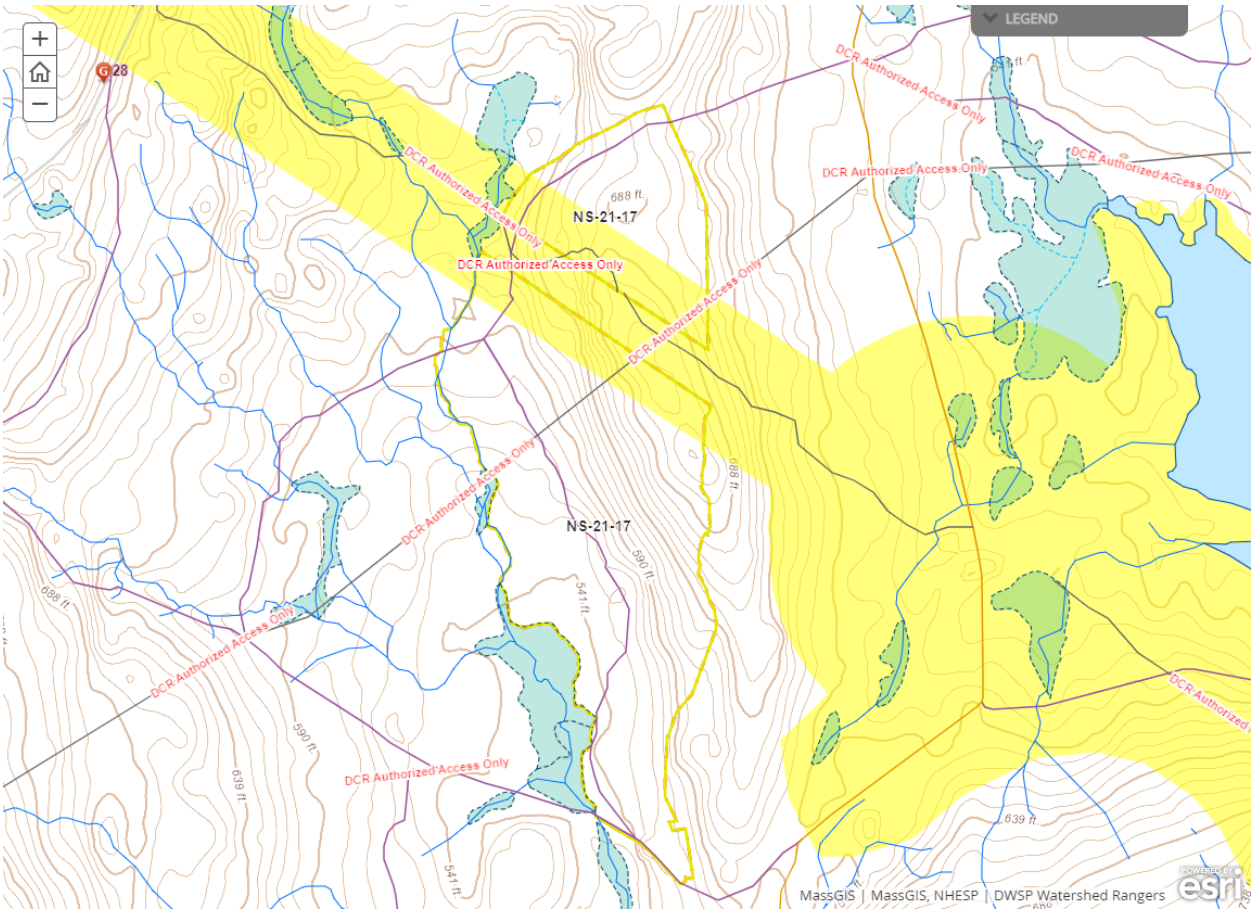
Wildlife Resources & Rare and Endangered Species

General Wildlife Comments:

Deer scat is prevalent in the southern portion of the lot, and some moose scat is also present. Overbrowsing may partially explain the dominance of softwoods in this area, but the sandy soils are also favorable for pine. Porcupine browsing was observed on hemlocks on the slopes near the powerline. Evidence of beaver activity (chews, dams, lodges) is present throughout the length of Manning Brook as well as in and around the beaver pond.

Comments on Rare Species/Habitats:

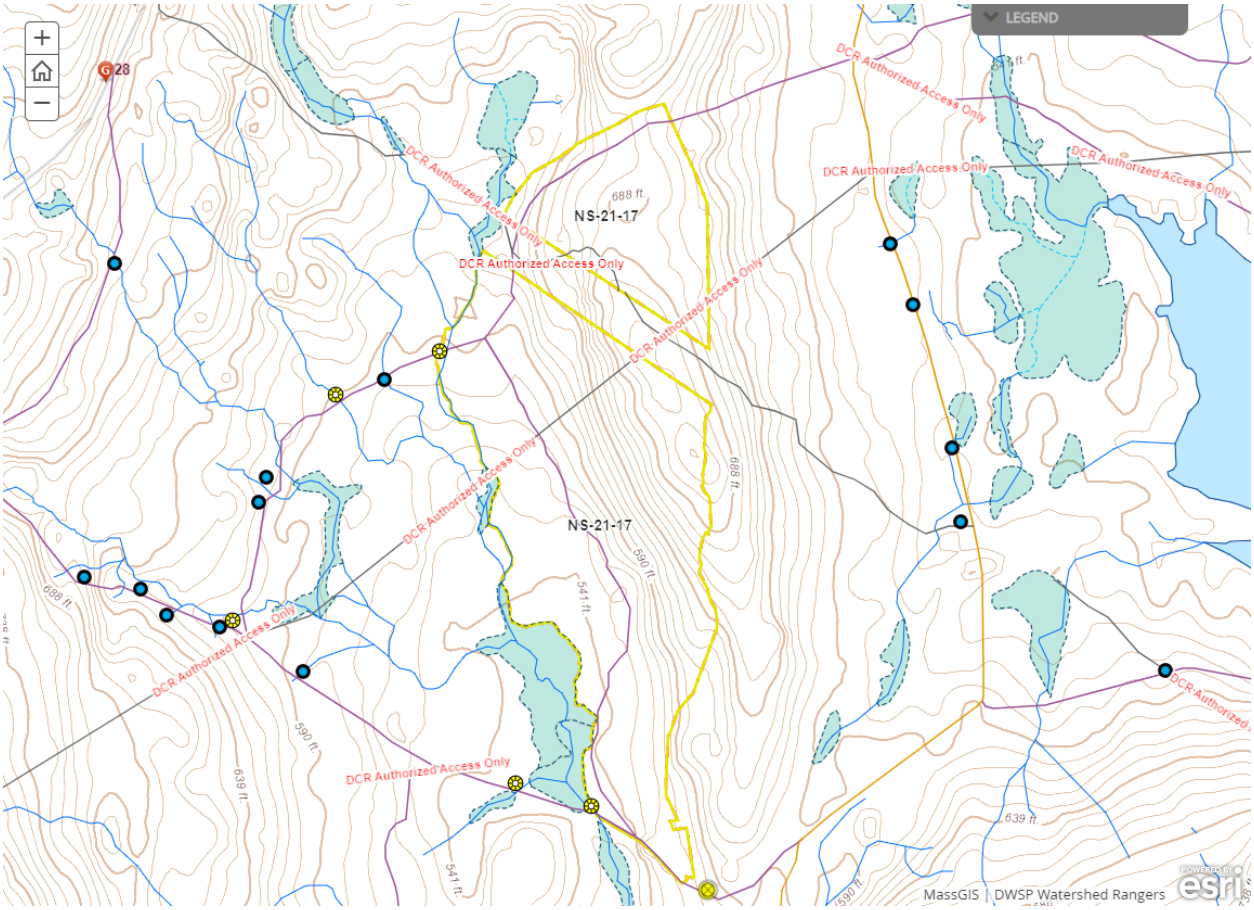
NHESP has determined that certain state-listed sensitive species or habitats may exist within the lot proposal area. To protect them from any necessary disturbance, detailed information regarding affected species and their locations is not included in this report. DWSP will coordinate with NHESP and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



Environmental Quality Engineering

Comments on EQ Issues:

No stream crossings or EQ comments.



Forest Access Engineering

Gravel needed: No

Landing work needed: No

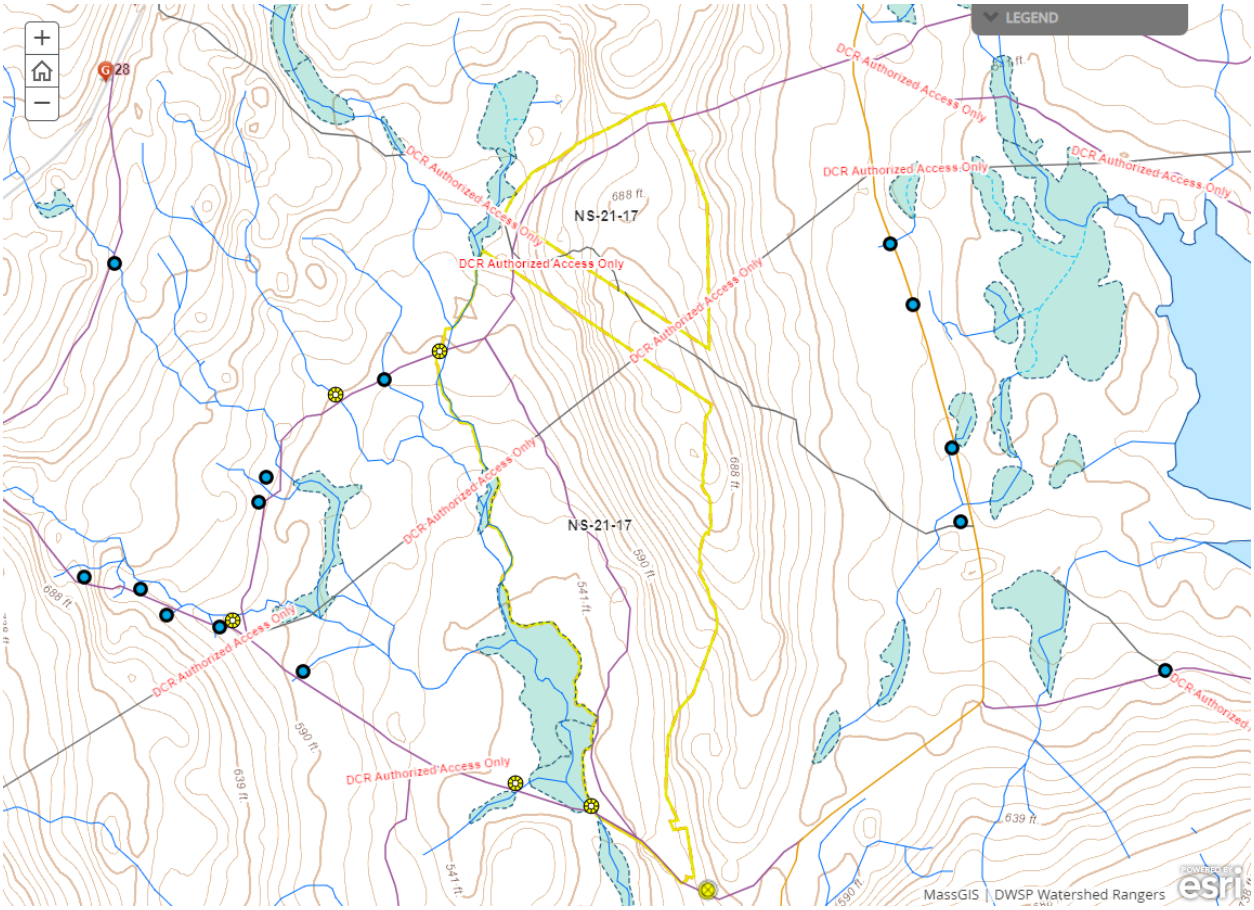
Culverts needed: No

Work needed on permanent bridges: No

Beaver issue: Yes

Further comment on access needs:

The access road from intersection 29-2 to the powerline is eroded and needs grading. Beaver activity is not currently affecting access, but could conceivably in the future.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DWSP FY 2021 Forestry Proposals – Master Legend for story maps