Quabbin Harvest Proposal PR-23-03

Proposal Update, May 2024:

*This forestry proposal was originally approved through the public process in 2022. 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 is **continuing the pause on this project** pending further development of EEA-wide policy related to recommendations in the report issued from the CFC. The proposal language and mapping below are preserved unchanged from that presented to the public in 2022 in ArcGIS Online story map format.*

Proposal Goals

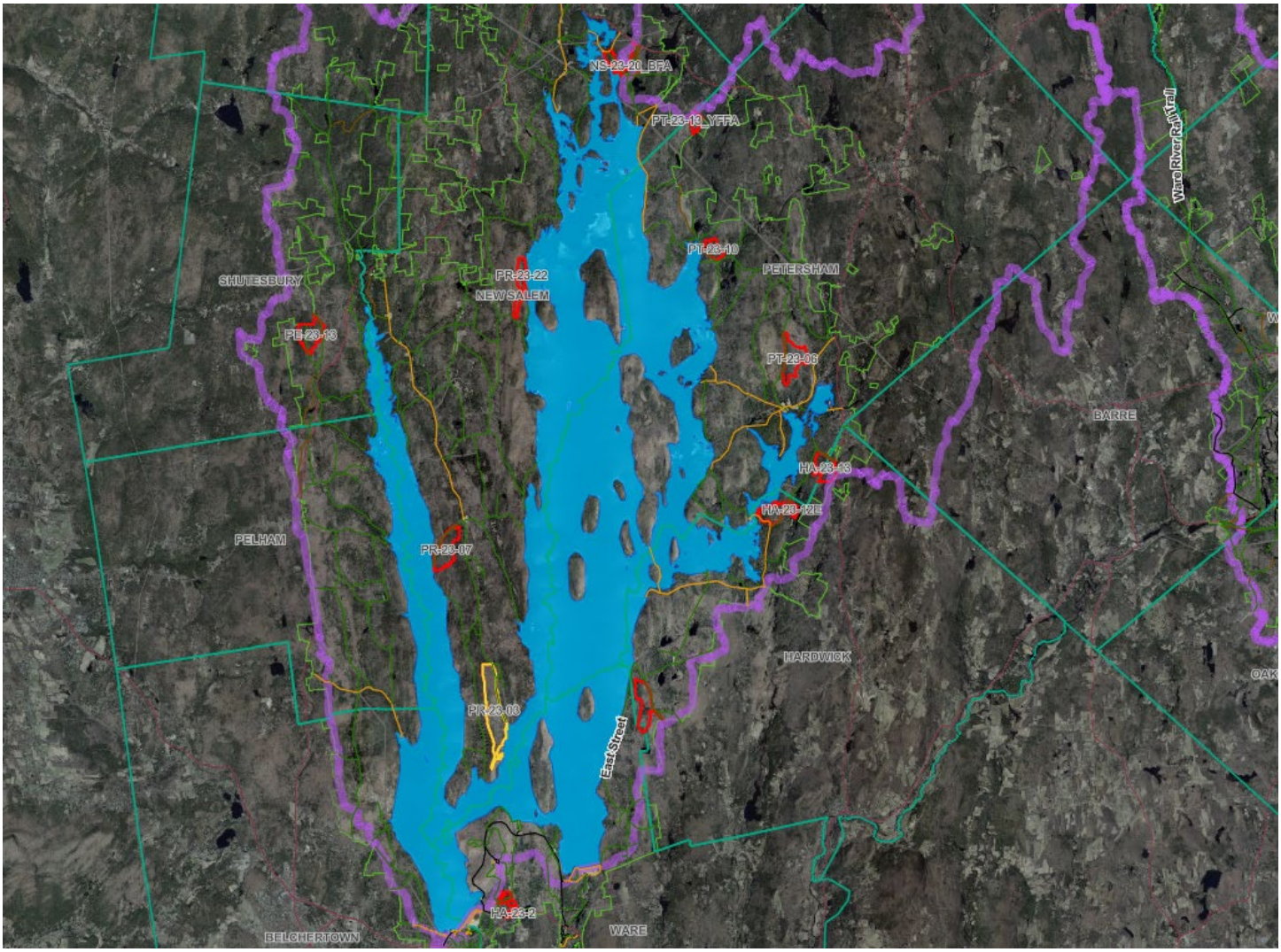
The primary goal will be to salvage oak mortality, release advance regeneration, and further diversify age structure through the removal of groups of white pine and other trees of poor form and quality.

Proposal Location

(Yellow highlighted polygon in the map) The proposal area is bounded to the north by stone wall and south boundary of past harvest 3124, to the east by Thurston Brook or Prescott Ridge Road and steep slope, to the south by steep slope and to the west by height of land.

Total Acres: 265

Figure 1. Watershed Locus, PR-23-03.



General Description

Overstory Type(s)	Acres
White pine	16
Northern red oak	250

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

Description of forest composition/condition:

Sawtimber size red oak is the dominant forest cover. Primary associates are black oak, scarlet oak and white oak. Secondary associates include red maple and black birch. And to even lesser extent; white pine, hickory, white birch, white ash and sugar maple. An approximate one acre red pine plantation is located south and west from the end of Prescott Ridge road. There are two locales in the southern portion of the area where sawtimber size white pine is the dominate cover. The first being about 14 acres along the western edge of the area; and the second being a couple acres several hundred feet west of the reservoir shoreline.

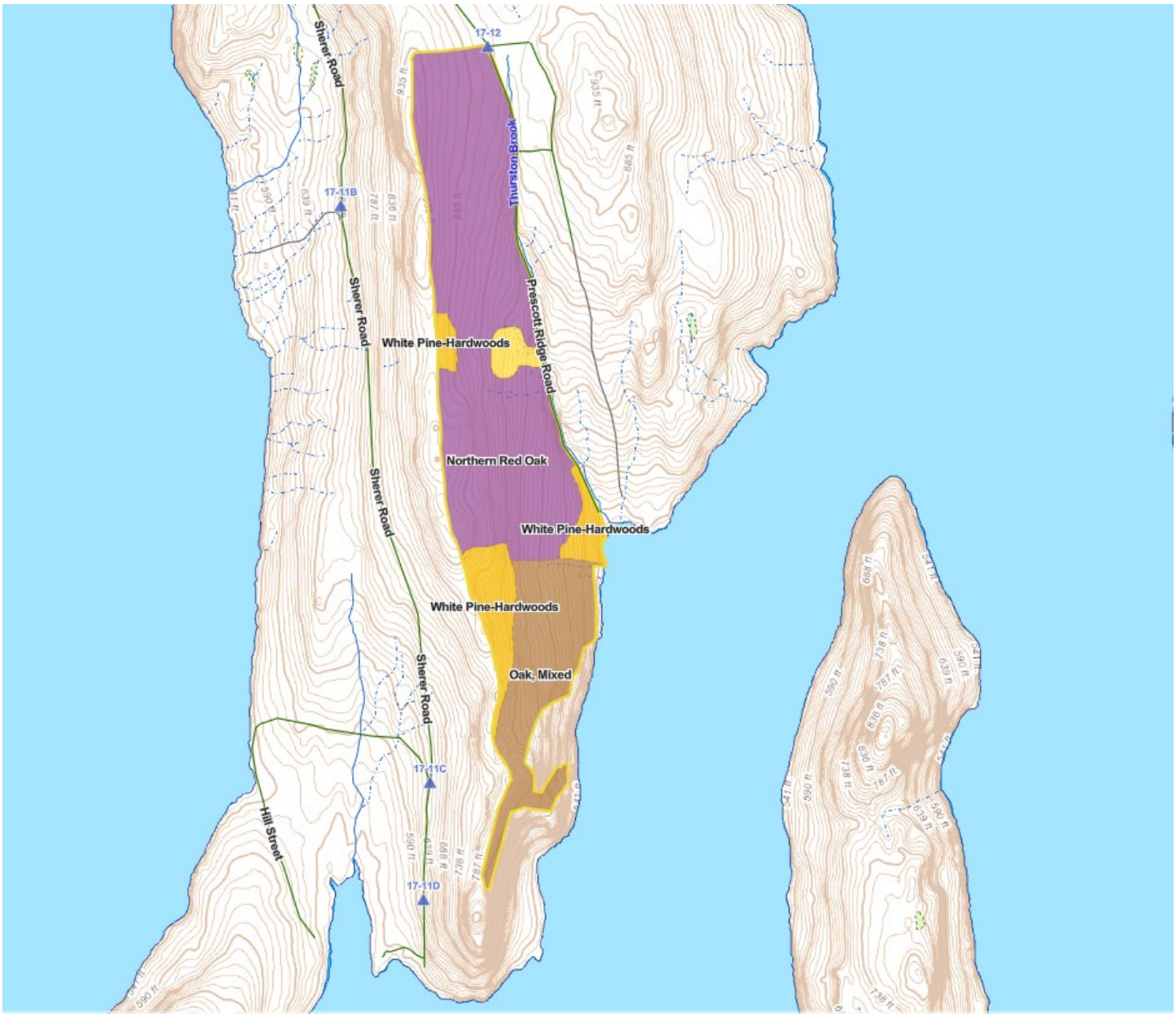
On average, approximately 17% of the area's oak component has died from repeated Spongy moth infestations (2016,'17 and'18). Severity of mortality ranges from none to upwards of 70%. The aforementioned red pine plantation has also experienced about 50% mortality from red pine scale infestations beginning in the mid 2000s.

A variety of silviculture, ranging from a clear cut to commercial thinning, was completed in 1999 on over 1/3 of the area's northern portion. The purpose was monitoring how oak regeneration responded to different light regimes/growing conditions created by the silviculture. The remaining middle and southern portions of the area have not experienced any silvicultural work since state purchase in the 1920s.

Assessment of Terrestrial Invasive Species:

Field review identified a few acres of moderately dense to dense Japanese barberry southwest of the end of Prescott Ridge Road. Bittersweet can't be ruled out in the vicinity as well. Historically this section is classified arable (ability to grow crops). In many cases, barberry also follows ephemeral rills up slope.

Figure 2. Forest cover types, PR-23-03.



Soils

Drainage Class	%
Excessively Drained	0
Well Drained Thin	31
Well Drained Thick	61
Moderately Well Drained	8
Poorly to Very Poorly Drained	0

Scituate Fine Sandy Loam, very stony
Montauk Fine Sandy Loam, very stony
Chatfield Hollis Complex, rocky.

Figure 3. Soil classes, PR-23-03.

Wetlands

- Wetlands present? - **No**
- Streams present? - **Yes**
- Vernal pools present? - **Yes**
- Seeps present? – **Yes**
- 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**

Access to landing will utilize an existing culverted crossing of Thurston Brook under the gravel road.

There is 1 Verified Vernal Pool (VVP) 247 located in the eastern side of the lot.

Figure 4. Wetland resources, PR-23-03.

Silviculture

Acres in Intermediate cuts: **0**
Acres in prep/establishment cuts: **0**
Acres in Regeneration cuts: **46**
Average regen opening size: **2**
Maximum regen opening size: **5**

Description of advance regeneration in proposal area:

Regeneration/understory origin varies from forest management to natural success. The oak regeneration experiment harvest area is mostly growing sapling/pole size black birch; followed by red maple, white pine, the oaks (black, scarlet, white and red) and hickory. The highest frequency of oak regeneration, mostly from coppice, is found in the 5 acre clear-cut. Lighter cuts within the harvest did regenerate oak, but over time was unable to compete with black birch in shadier scenarios. In addition to lack of light, the oak was subjected to moderate browsing and two extreme weather events (ice storm and late autumn snowstorm) in the last 15 years. There is an abundance of white pine saplings in the unharvested/fully stocked part of the area. Vigor is not particularly good, however, due to Spongy moth oak mortality some pockets have exhibited growth response from additional light/water/finite resources.

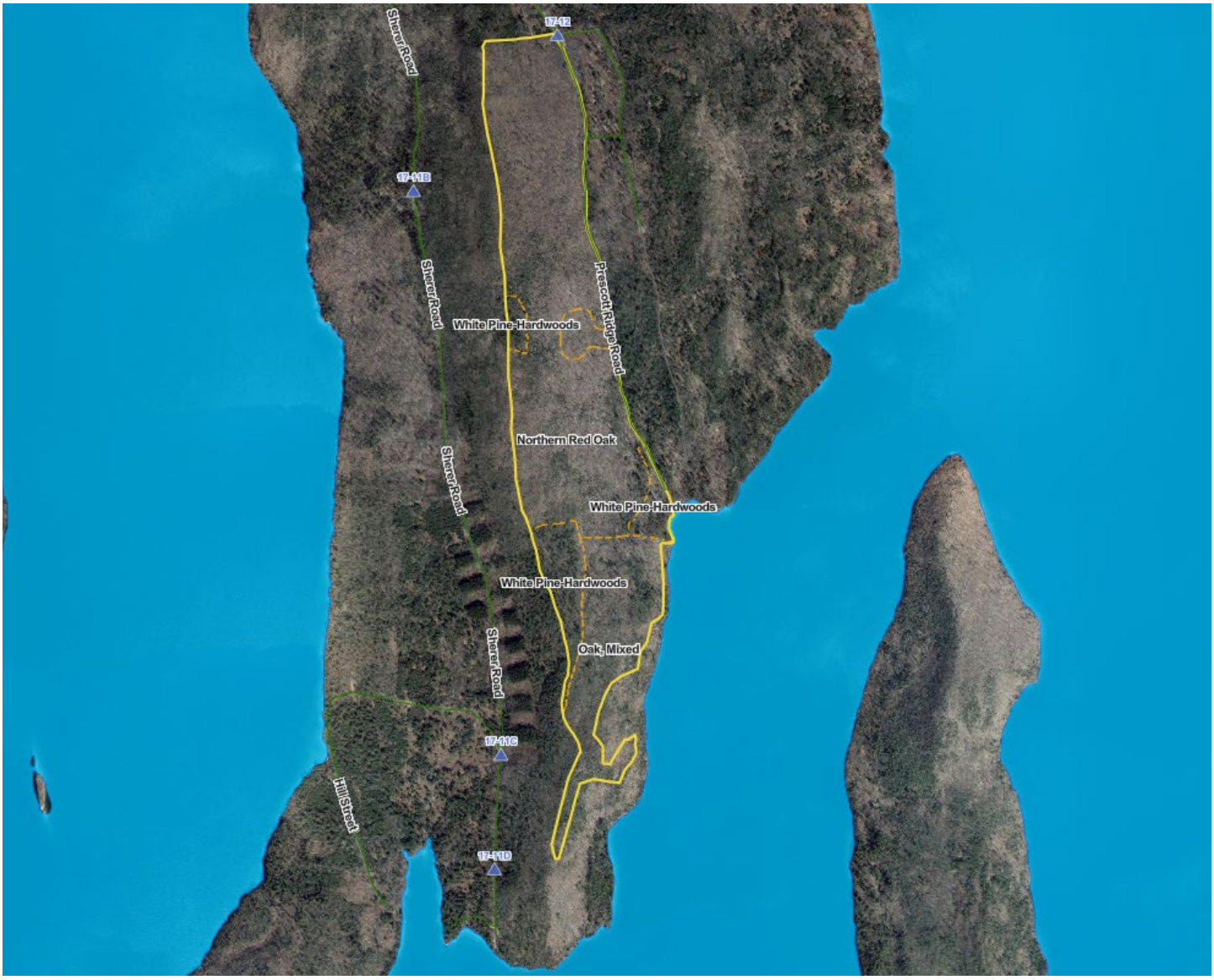
General comments on silviculture proposed:

The primary focus will be salvage of the heaviest oak mortality locales; followed by lesser areas. Due to the haphazard distribution of spongy moth oak mortality, canopy opening size will vary widely. Within oak mortality areas, poorly formed suppressed live trees will also be removed so as not to hinder regeneration development. A secondary focus will be to, via openings, remove white pine in the southwestern part of the area. Opening locations will be prioritized by low quality trees coupled with advanced regeneration. An additional target for removal are a few acres of low quality mixed hardwood located on the western side of the area, just south of the southern boundary of the oak regeneration experimental harvest.

Climate Change considerations:

Salvaging of dead oak has the added benefits of establishing/releasing patches of advance regeneration, promoting restoration and structural diversity. Upgrading the road and culverts will improve conditions for future storm events, and establishing a new spur and landing will improve long-term ability to manage the entire area while minimizing impacts to surface water resources.

Figure 5. Orthophoto and cover types, PR-23-03.

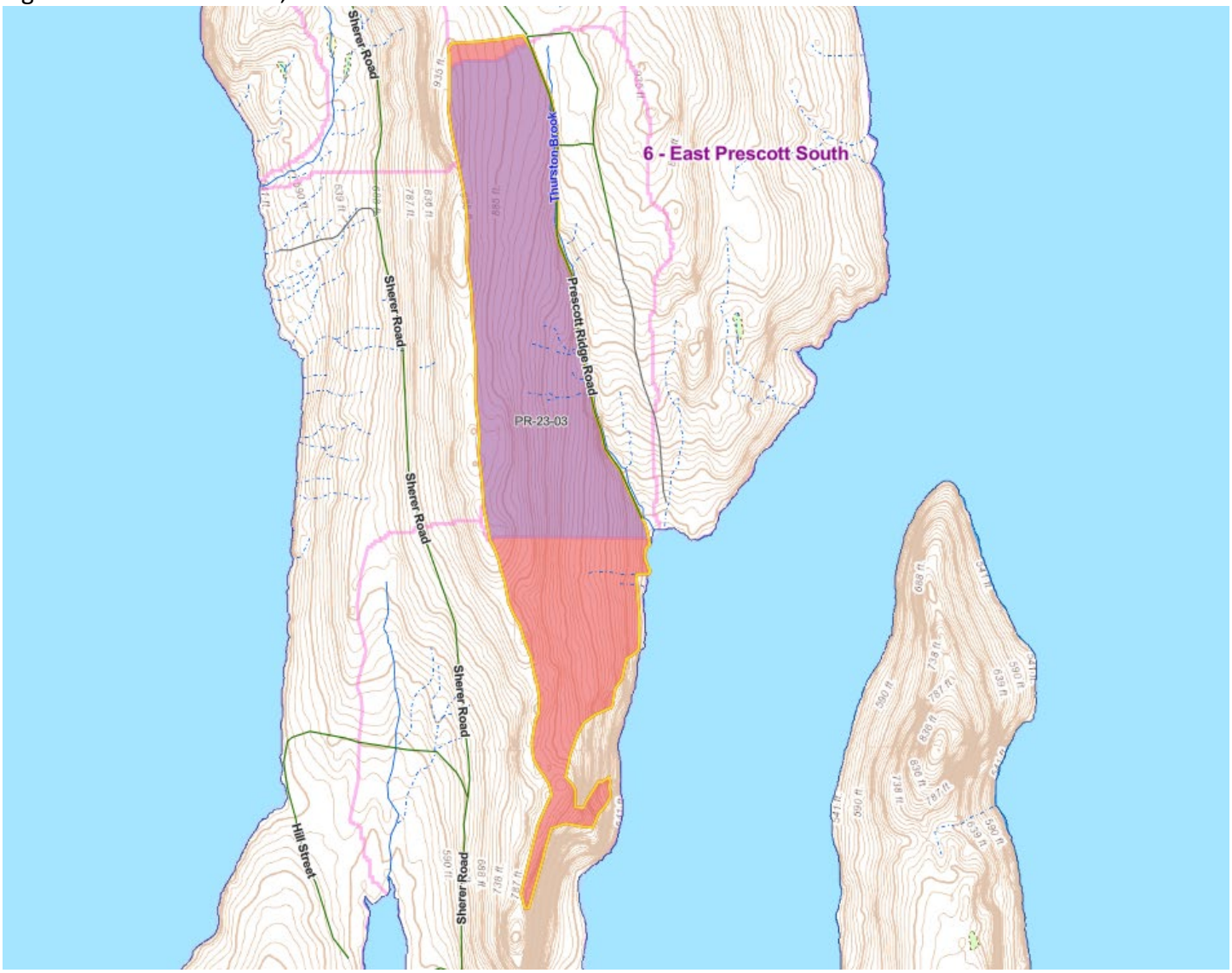


Subwatershed Analysis

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
64 (Thurston Brook)	298	0	74	194
7 (Sherer Road South)	380	0	95	71

Approximately 70 acres of sub watershed 7 is not likely manageable. The proposed harvesting levels will not exceed the 25% threshold.

Figure 6. Subwatersheds, PR-23-03.



Equipment

Forwarder required: **Yes**
Feller/processor required: **No**
Steep slopes present: **No**

Comments on harvesting limitations:

Figure 7. Harvesting limitations, PR-23-03.

Cultural Resources

Comments on Cultural Resources:
There appears to be a small quarry at the end and west side of Prescott Ridge Road. South and west of the end of Prescott Ridge Road are a number of field stone wells that serviced farmsteads that are now just below reservoir high water mark.

Figure 8. Stony and Extremely stony soils, PR-23-03.

Wildlife Resources & Rare and Endangered Species

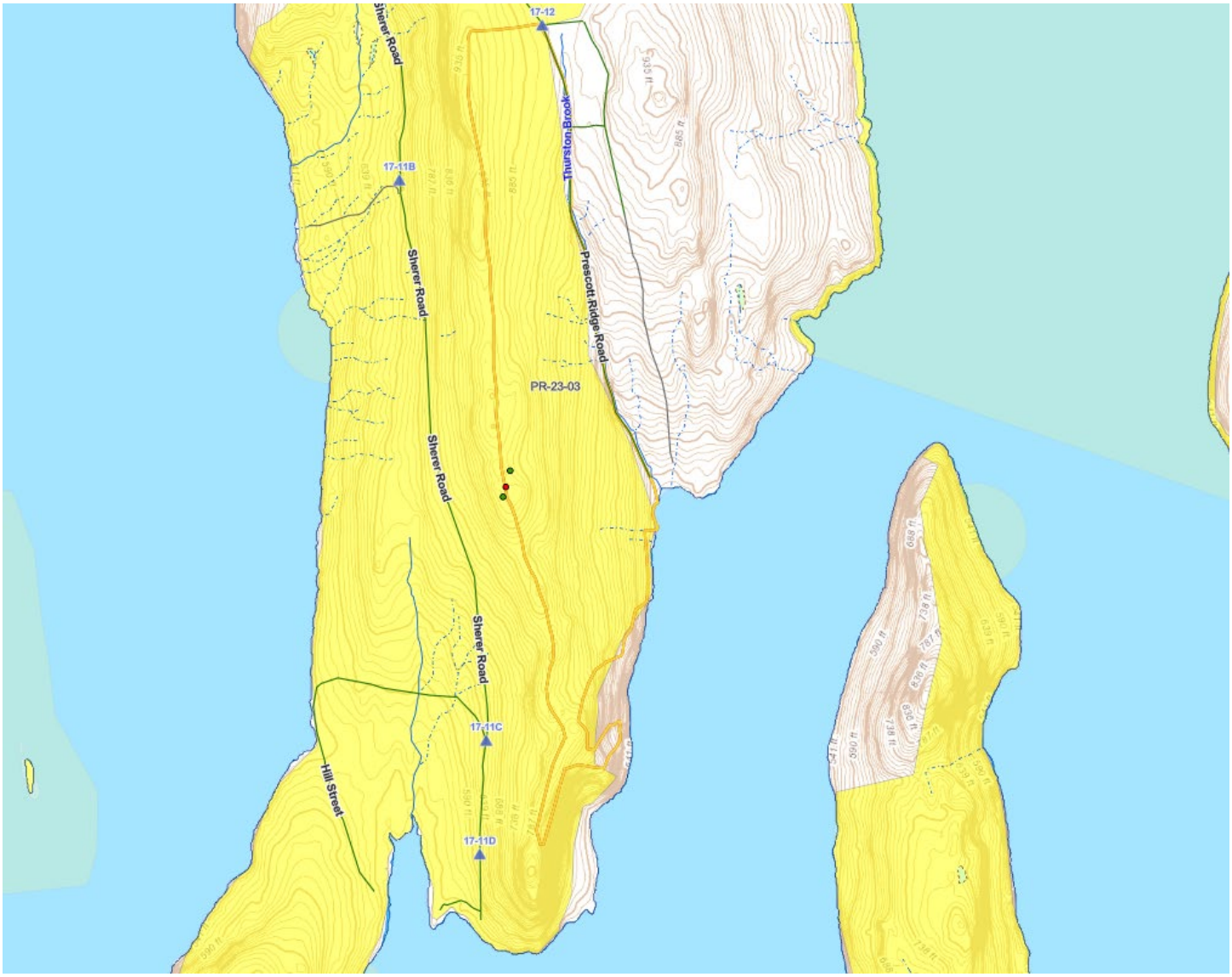
General Wildlife Comments:

There is 1 Verified Vernal Pool (VVP) 247 located in the eastern side of the lot. This pool was dry when visited but the depression and leaf stain was visible. Because this pool was verified in 1996 with vernal pool species, it will be treated as a vernal pool. One potential vernal pool (PVP) within the lot was surveyed and is not a vernal pool (767). Another surveyed and not a pool is located just outside the western boundary of the lot.

Comments on Rare Species/Habitats:

NHESP habitat map area for whippoorwill covers the entire proposal.

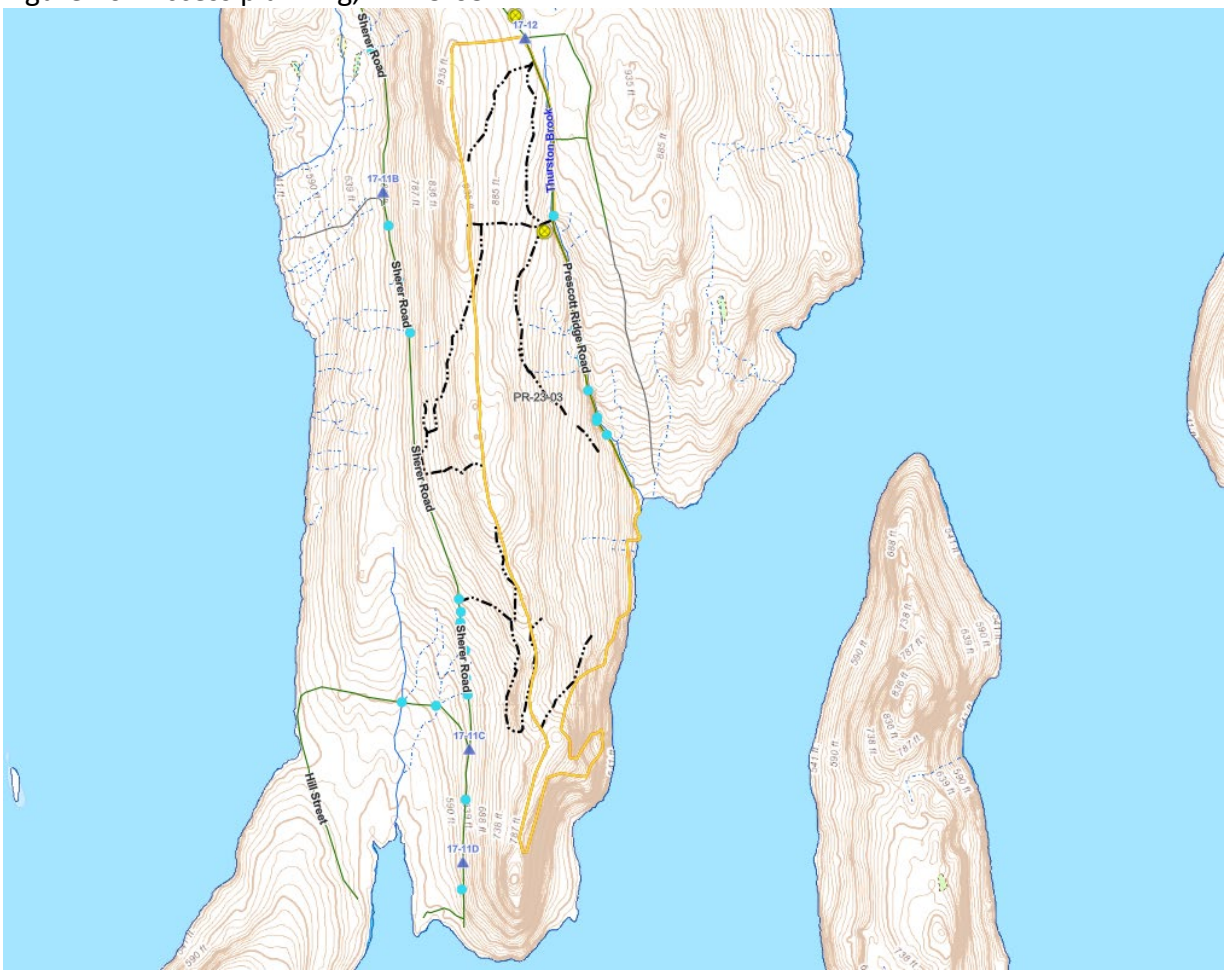
Figure 9. NHESP Priority habitat overlay, PR-23-03.



Environmental Quality Engineering

Comments on EQ Issues:
DCR staff from multiple departments will collaborate in assessment and development/design of proposed spur road and trailer landing. Permitting will be obtained as required. EQ staff will monitor for any stream impacts from this activity and subsequent maintenance and usage.

Figure 10. Access planning, PR-23-03.



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:
Hope to establish a spur from Prescott Ridge Road that would lead to a trailer accessible landing. The spur road and landing would be located on the west side of Prescott Ridge Road just south of where Thurston Brook flows on the east side of the road. The spur would be 200 to 300 feet in length in order to reach upland topography. May need to replace some culverts on Prescott Ridge Road. Although not present now, there is evidence of past beaver activity (old beaver chewed tree stumps) at the confluence of Thurston Brook and reservoir.

Figure 11. DWSP FY 2023 Forestry Proposals – Master Legend for story maps