Quabbin Harvest Proposal PR-23-22

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

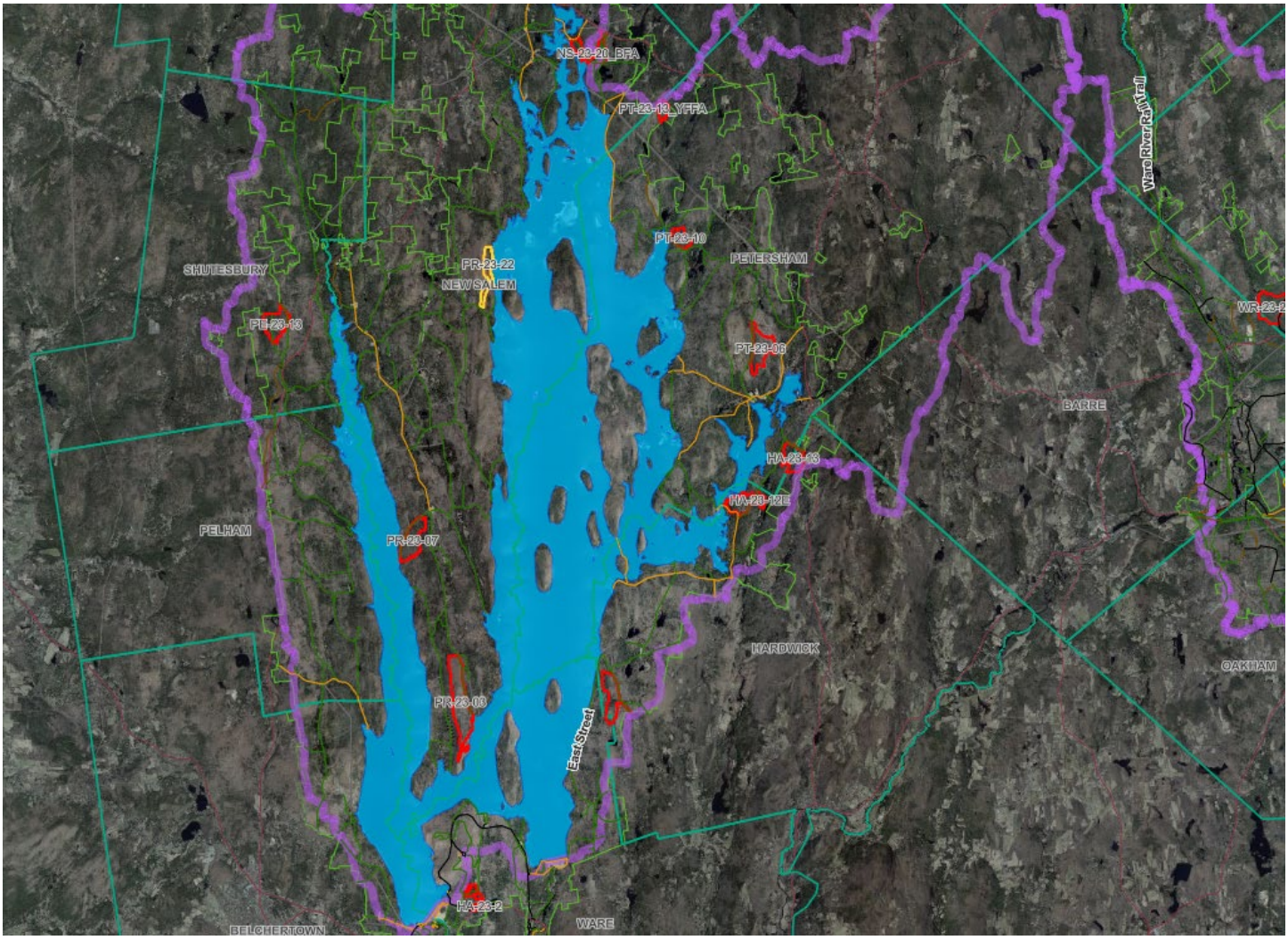
The primary goal will be to salvage oak mortality, release advance regeneration, and further diversify age structure through the removal of groups of white pine and other trees of poor form and quality.

Proposal Location

(Yellow highlighted polygon in the map) The area is bounded by the reservoir to the east, an old abandoned road to the south, steep slope to the west and an intermittent brook to the north.

Total Acres: 79

Figure 1. Watershed Locus, PR-23-22.



General Description

Overstory Type(s)	Acres
White pine	28
Northern red oak	51

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

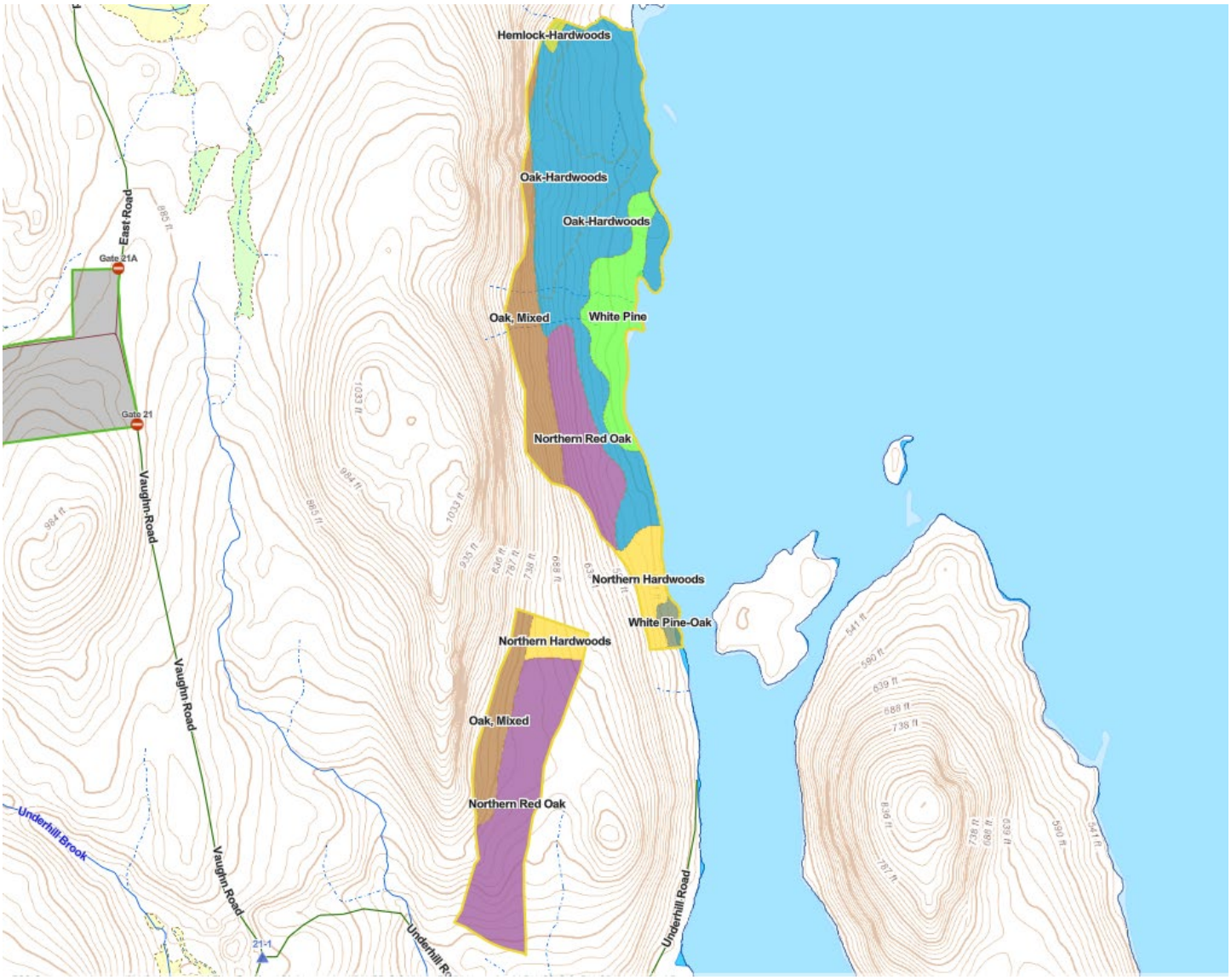
Description of forest composition/condition:

Tall sawtimber size white pine and red oak comprise the lion share of the area. Primary associates include black oak, white oak, black birch, red maple and hemlock. Secondary associates include white ash, sugar maple, hickory and black cherry. Oak mortality from Spongy Moth infestation is fairly high at approximately 40%. Hemlock is sparse and stressed from the suite of pathogens attacking it over the past 40 years (woolly adelgid, elongate scale, and looper). The lower slope has a higher concentration of white pine which transitions to mostly hardwood (oak birch maple and ash) up slope. Other than an old skid road and scattered tenth of an acre gaps growing pole size black birch, the understory is fairly static. The understory black birch in the northern sections was likely triggered by a 1971 thinning, and in the southern section by a shelterwood prep harvest completed in 2006.

Assessment of Terrestrial Invasive Species:

Generally speaking the area has low invasive species concern. An informal visual inventory found bittersweet, multiflora rose adjacent to landing on Underhill Brook rd. Within the area, pockets of Japanese barberry were found in the vicinity of the old cellar hole and along seeps and intermittent brooks.

Figure 2. Forest cover types, PR-23-22.


Hemlock-Hardwoods
Oak-Hardwoods
Oak-Hardwoods
Oak, Mixed
White Pine
Northern Red Oak
Northern Hardwoods
White Pine-Oak
Northern Hardwoods
Oak, Mixed
Northern Red Oak
East Road
Gate 21A
Gate 21
Vaughn Road
Vaughn Road
Vaughn Road
Underhill Brook
Underhill Road
21-1

Soils

Drainage Class	%
Excessively Drained	0
Well Drained Thin	50
Well Drained Thick	50
Moderately Well Drained	0
Poorly to Very Poorly Drained	0

Canton fine sandy loam, 8 to 15 percent slopes, very stony
Chatfield Hollis Complex, rocky to very rocky
Montauk fine sandy loam
Canton Chatfield Hollis Complex

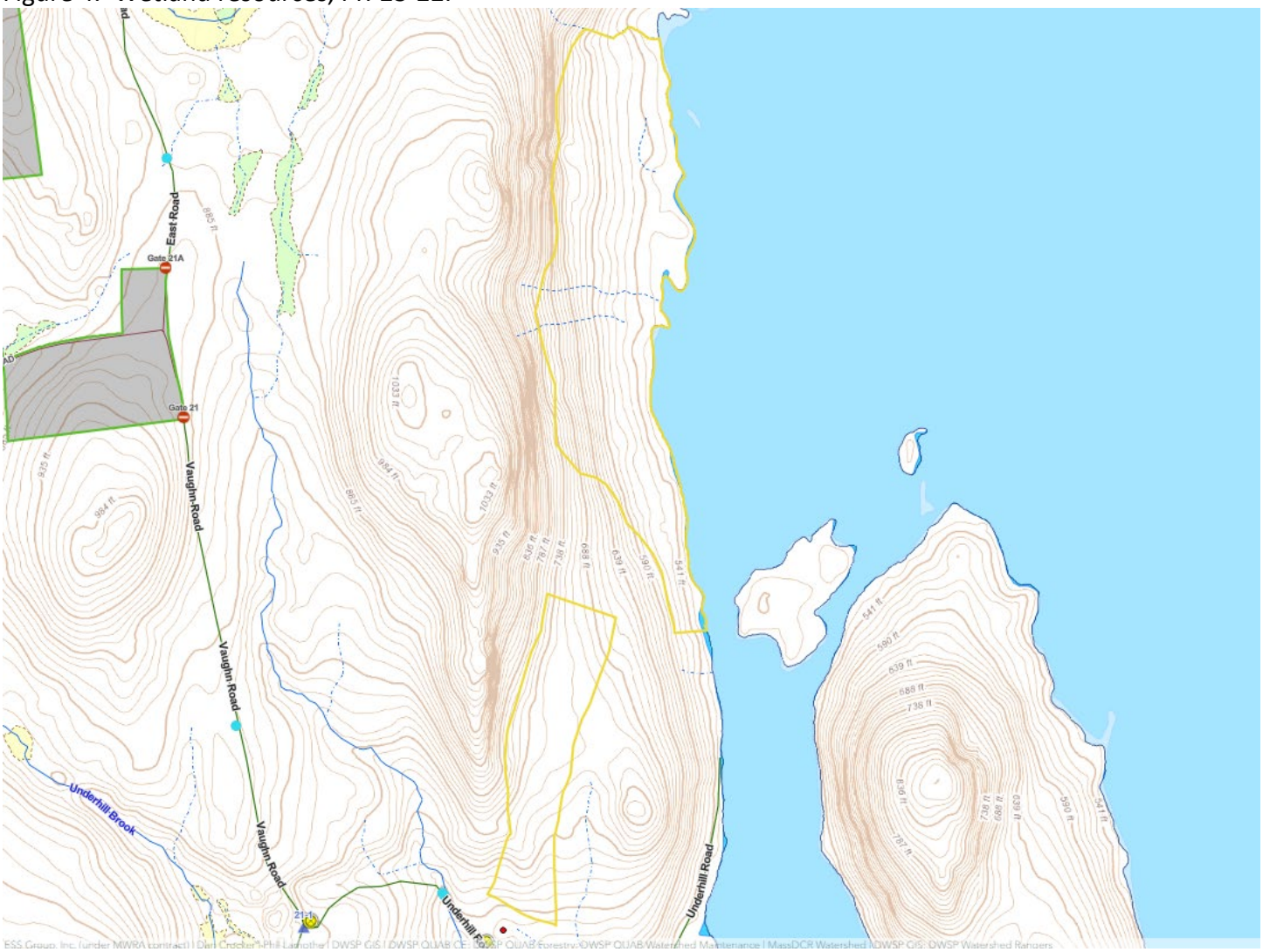
Figure 3. Soil classes, PR-23-22.

Wetlands

- Wetlands present? - **No**
- Streams present? - **Yes**
- Vernal pools present? - **Yes**
- Seeps present? – **Yes**
- Are stream crossings required? - **Yes**
- Are wetland crossings required? - **No**
- Is logging in filter strips planned? - **Yes** **(Riparian Zone Mgt)**
- Is logging in wetlands planned? - **No**

There are two intermittent brooks shown that should be bridged given their apparent proximity to the reservoir; however they actually disappear below the surface and will likely require no crossing mitigation.

Figure 4. Wetland resources, PR-23-22.



Silviculture

Acres in Intermediate cuts: **0**
Acres in prep/establishment cuts: **0**
Acres in Regeneration cuts: **27**
Average regen opening size: **2**
Maximum regen opening size: **5**

Description of advance regeneration in proposal area:

Sparse to dense black birch pole and sapling stock established by the 1971 thinning, the 2006 shelterwood, and hemlock mortality.

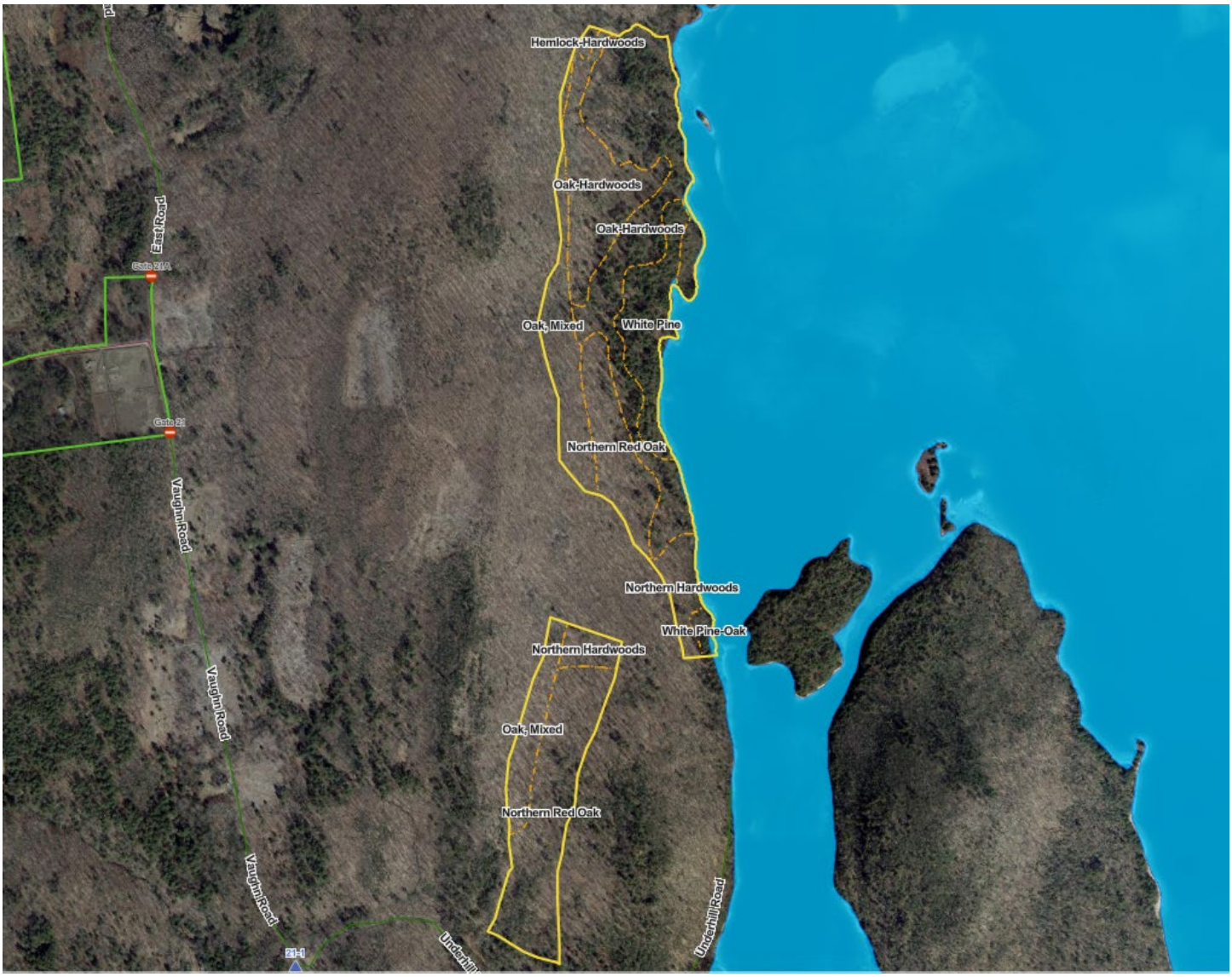
General comments on silviculture proposed:

First priority will be to salvage dead oak sawtimber and firewood. Openings will reflect the variability of oak mortality; meaning certain locales with heavy mortality will be open while areas of little to no mortality will likely be uncut. Following oak salvage, the focus will turn to harvesting concentrations of black birch and red maple; particularly ones with poorer form. Third will be creating a few patches in mature white pine to create some structural variability within this forest type. Overall, patch/opening silviculture should allow a portion of area's forest floor to receive abundant sun; triggering vigorous forest regeneration that should comprise a wide range of native tree species.

Climate Change considerations:

Typical silviculture in this proposal designed to sustain fundamental ecological processes, reduce the risks of impacts from severe disturbances, and enhance species and structural/habitat diversity. Salvaging of dead oak has the added benefit of helping to target the establishment or release of patches of advance regeneration.

Figure 5. Orthophoto and cover types, PR-23-22.

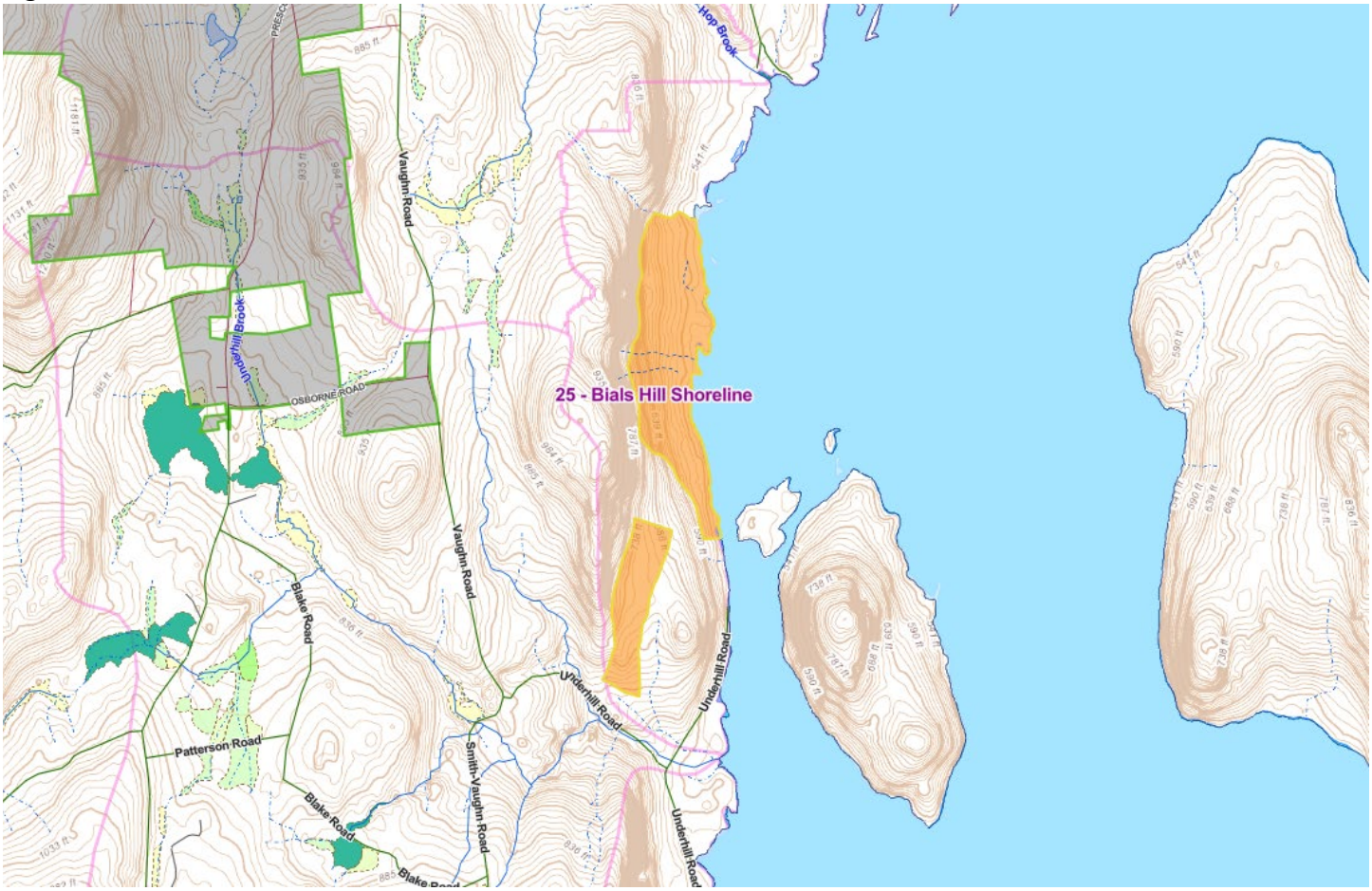


Subwatershed Analysis

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
25 (Bials Hill Shoreline)	296	0	74	79

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-23-22.



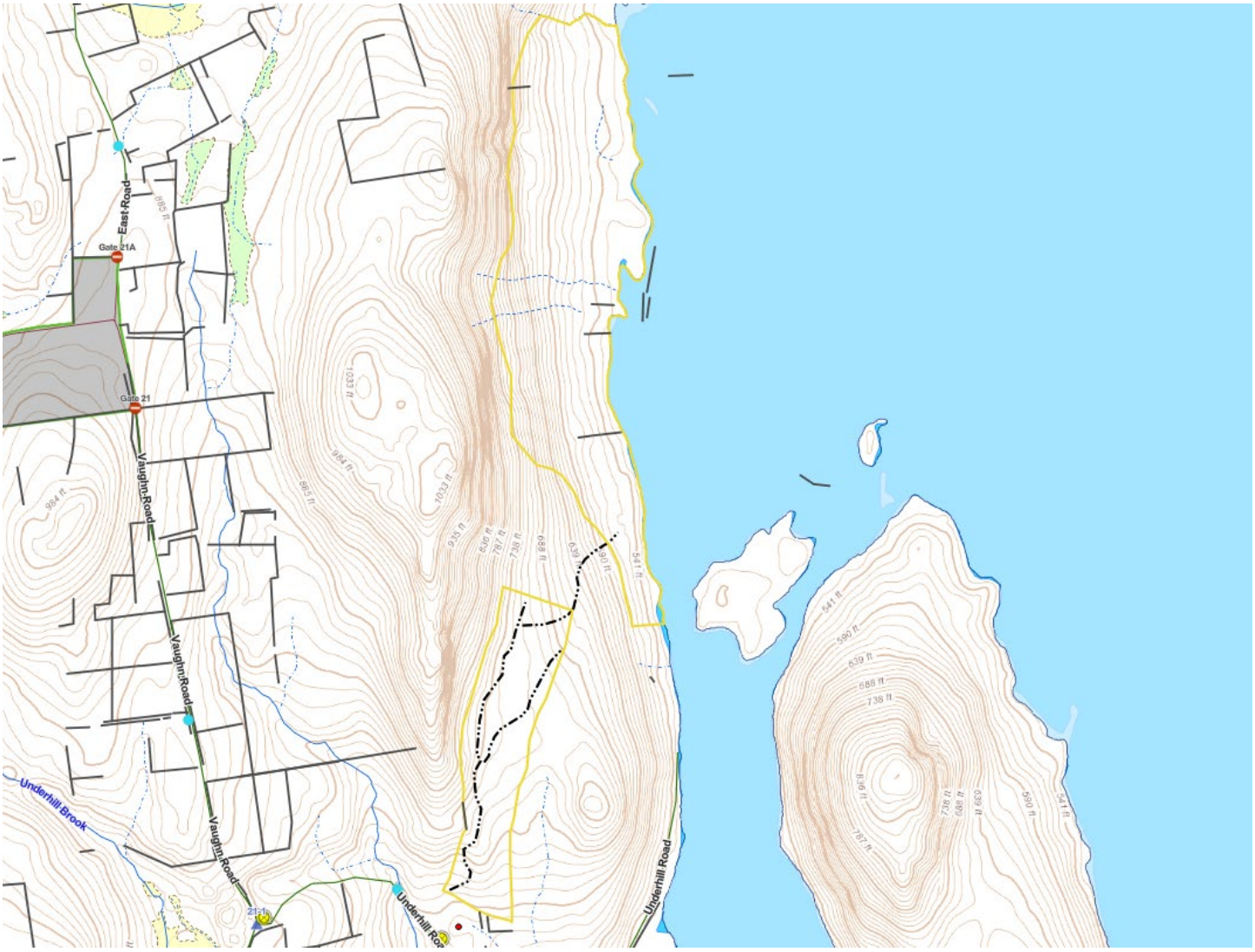
Equipment

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

Comments on harvesting limitations:

Forwarder will be required to protect regeneration and accommodate landing needs

Figure 7. Harvesting limitations, PR-23-22.



Cultural Resources

Comments on Cultural Resources:
BMPs to minimize soil disturbance will be implemented in accordance with recommendations from the DCR archaeologist. Above ground features will be identified and avoided.

Figure 8. Stony and Extremely stony soils, PR-23-22.

Wildlife Resources & Rare and Endangered Species

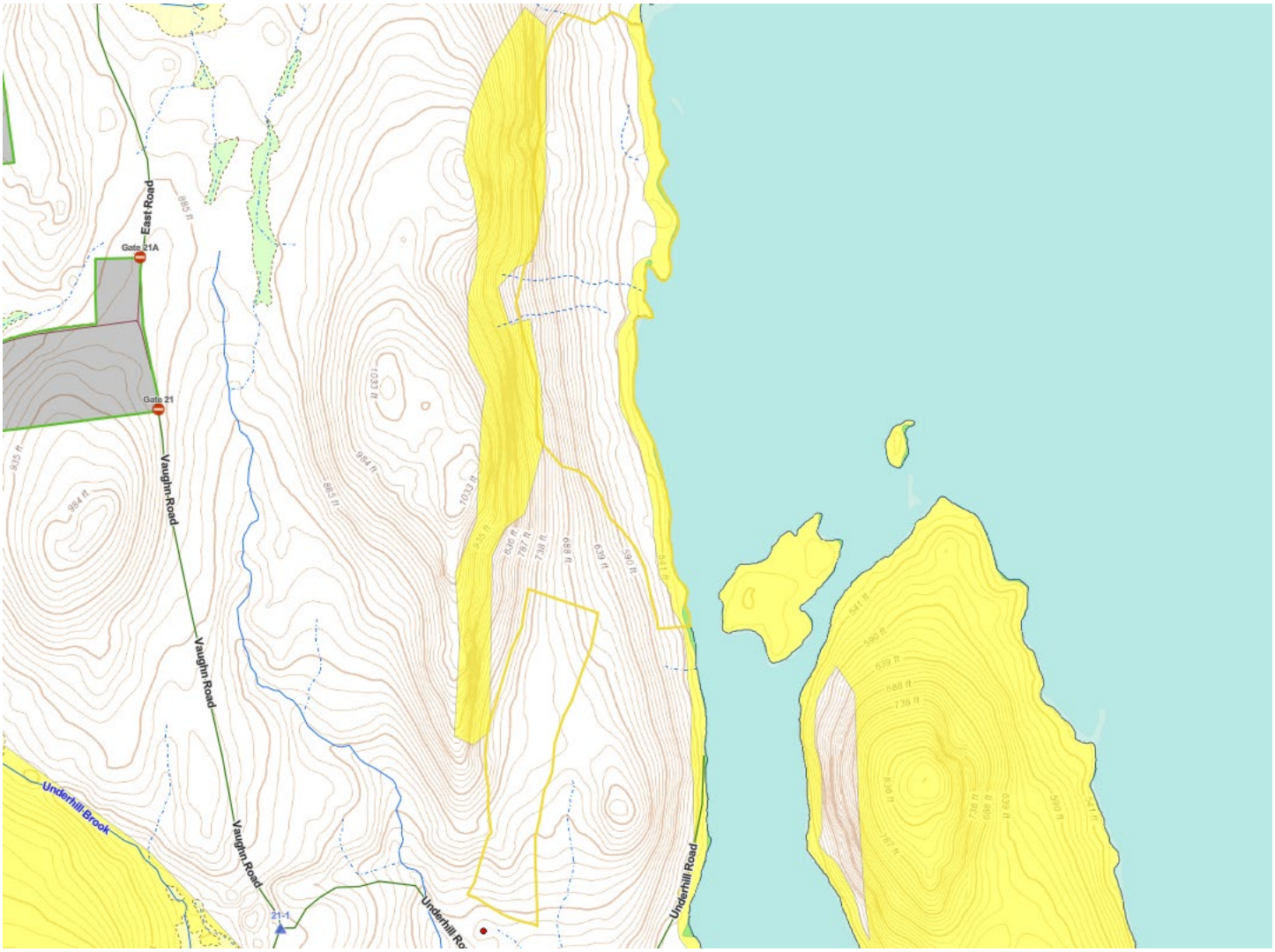
General Wildlife Comments:

No vernal pools within the lot, however, a new pool (VVP 988) was verified just outside the southern section of the lot. Moose sign present, including browse on the many striped maple saplings present.

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 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 activity.

Figure 9. NHESP Priority habitat overlay, PR-23-22.



Environmental Quality Engineering

Comments on EQ Issues:
Intermittent stream crossings only, and likely not required. No EQ concerns.

Figure 10. Access planning, PR-23-22.

Forest Access Engineering

Gravel needed: Yes
Landing work needed: No
Culverts needed: No
Work needed on permanent bridges: No
Beaver issue: No
Further comment on access needs:
May need general maintenance on the northern portion of Vaughn Road (Gate 21). May need to fortify (with gravel) the tri axle landing used for timber lot 3060 on the east side of Underhill Brook Road.

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