Quabbin Harvest Proposal PT-23-13

Proposal Update, May 2024:

*This forestry proposal was originally approved through the public process in. 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

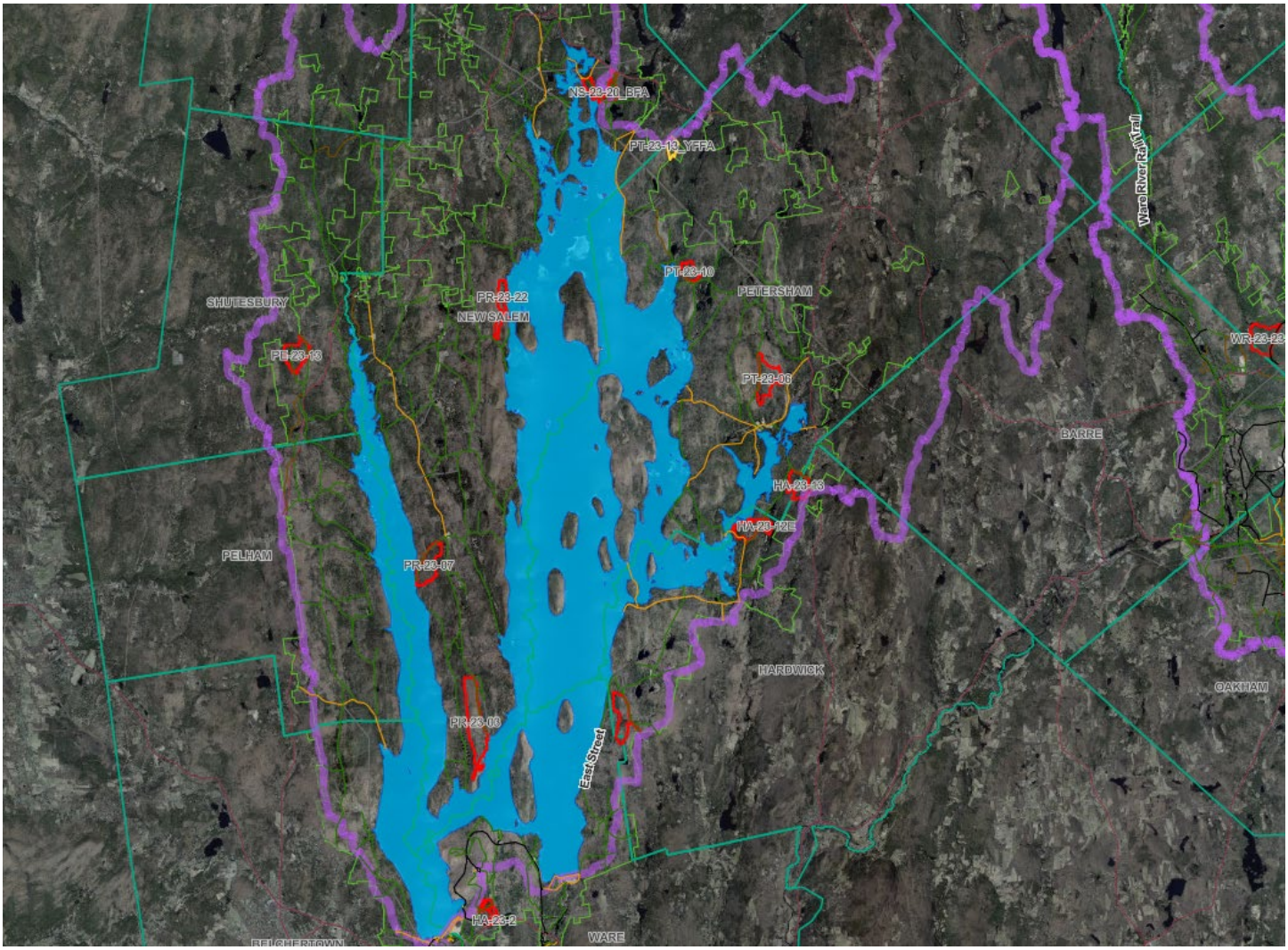
The goal of this proposal is to create a 10-14 acre patch of young forest that will provide early successional habitat for species that are undergoing regional population declines. The location was designated as a Young Forest Focus Area in the 2017 DCR-DWSP Land Management Plan ..

Proposal Location

(Yellow highlighted polygon in the map) DWSP property boundary to the north and south, a large wetland and stone wall to the east, and a stream drainage to the west. This is the northeast corner of the Young Forest Focus Area (YFFA) shown in Figure 4-8 on page 122 of the DWSP 2017 Land Management Plan (top image).

Total Acres: 35

Figure 1. Watershed Locus, PT-23-13.



General Description

Overstory Type(s)	Acres
White pine - hardwoods	35

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

Description of forest composition/condition:

This area has a two-aged structure, with an oak-pine overstory and a mixed hardwood midstory. The overstory is dominated by sawtimber-sized black, white and red oak, with scattered white pine. Oak form is poor to fair for all species and vigor is generally good. There are a few recently killed oak snags, but overall gypsy moth damage was light. The white pine has good vigor but variable form, ranging from poor (weevilled with many large branches) to good. The midstory is dominated by black birch and red maple poles, with associates of hemlock, white pine, sugar maple and beech, and occasional dying paper birch and white ash.

Hemlock, white pine, black birch and occasional oak saplings are present but patchy, and located most commonly in old skid roads. Chestnut stump sprouts persist as well. Numerous deer pellets were observed, and heavy browse on young hemlock indicates the likely presence of moose and/or porcupine.

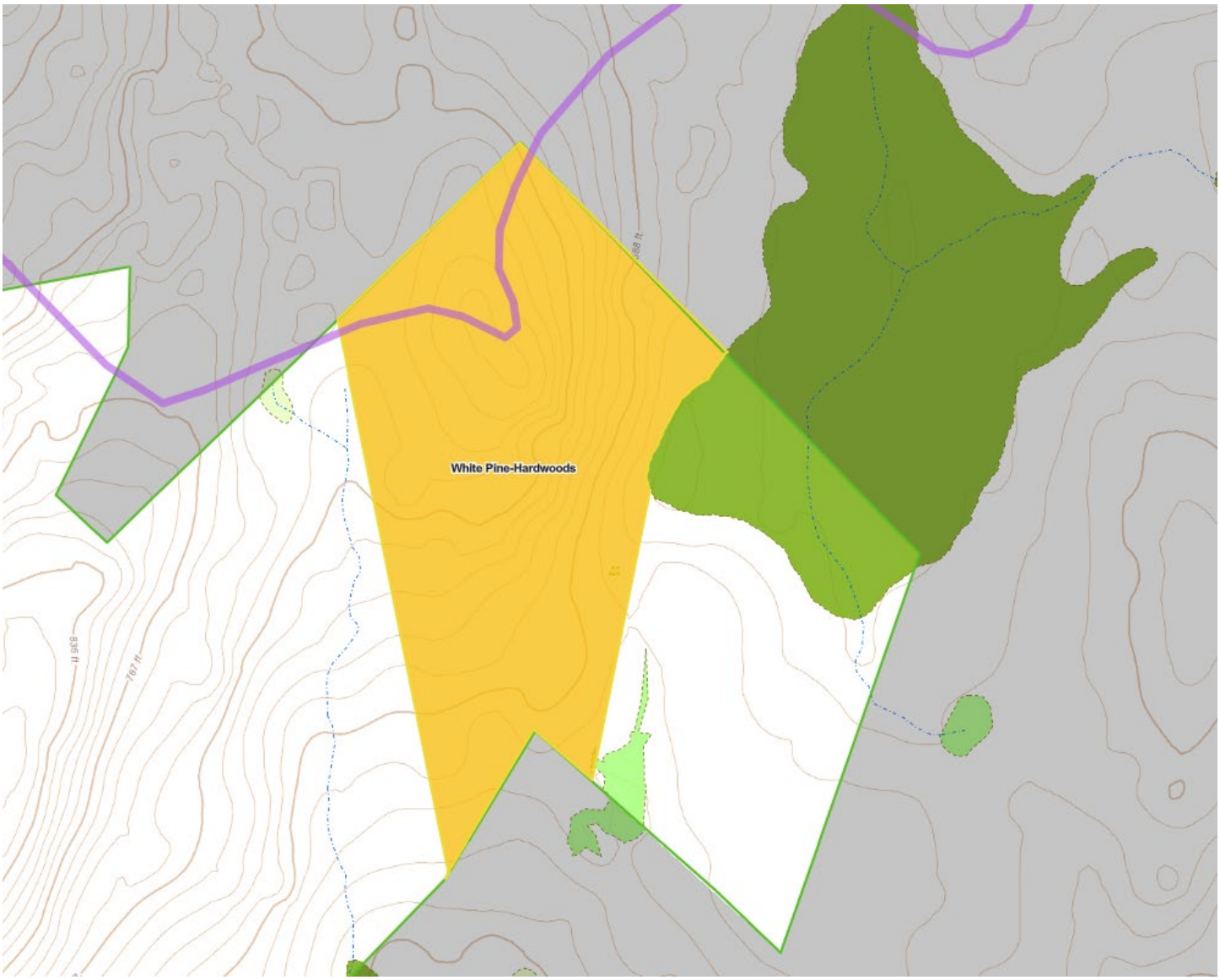
Dense mountain laurel is common along the eastern edge of the proposal area, in the headwaters of the intermittent stream; the harvest boundary will be outside this area both to protect the stream and to avoid releasing the mountain laurel. In the interior of the lot there are few shrubs other than an occasional low bush blueberry. Ground cover species include wintergreen, partridgeberry, clubmoss, and scattered hay scented fern.

There have been no harvests in this area since 1979, when there was a shelterwood prep cut (Quabbin Lot 154).

Assessment of Terrestrial Invasive Species:

None noted.

Figure 2. Forest cover types, PT-23-13.



Soils

Drainage Class	%
Excessively Drained	0
Well Drained Thin	0
Well Drained Thick	99
Moderately Well Drained	0
Poorly to Very Poorly Drained	1

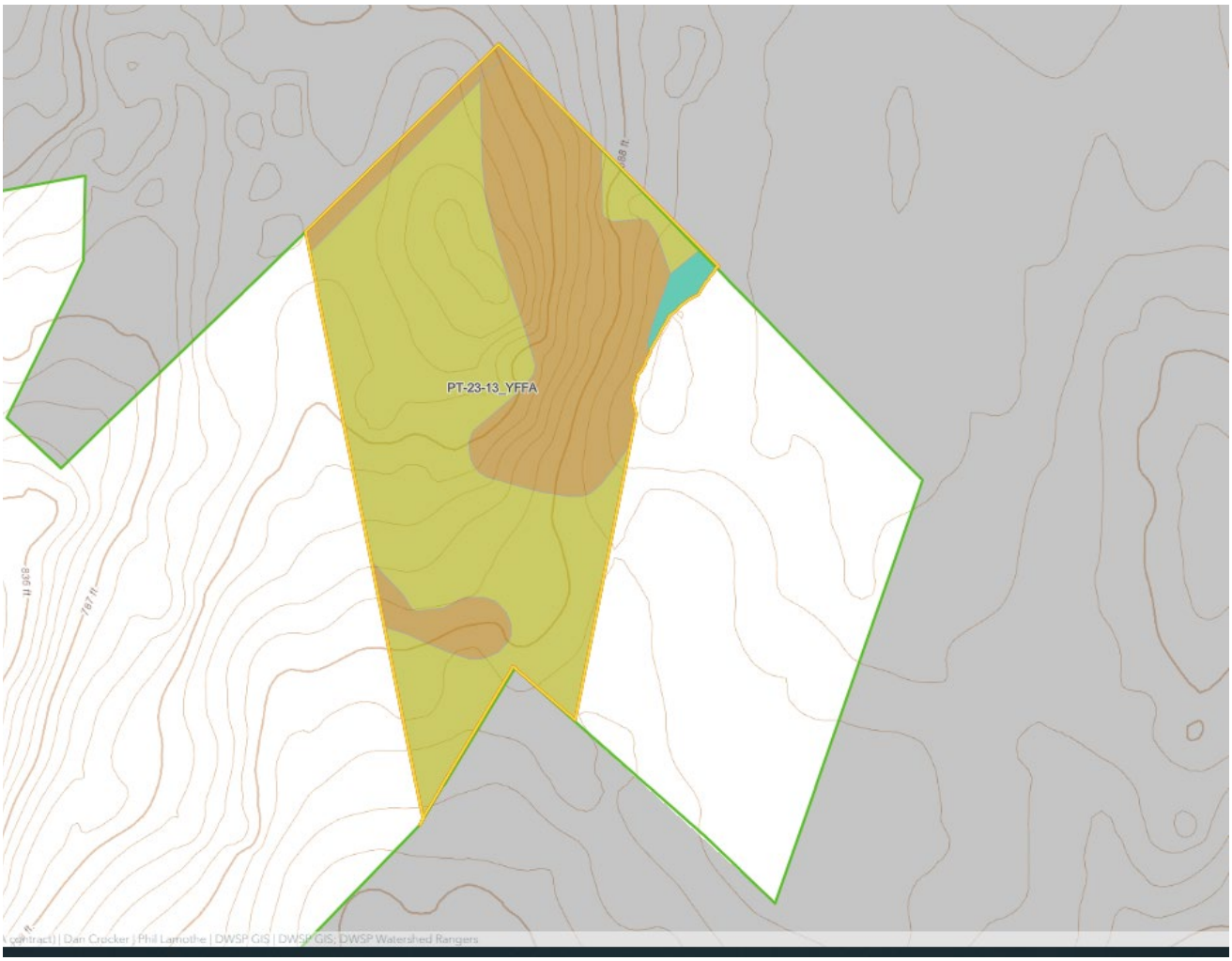
Most of the soils in the proposed area are Montauk-Scituate Canton association, 3 to 15% slopes, extremely stony, or Montauk-Canton association, 15 to 35% slopes.

Near the southwest corner there are 1.2 acres of Charlton-Chatfield-Hollis association, 15 to 45 percent slopes, very rocky. Despite the slope rating, the terrain in this area is actually moderate, in the 12-15% range.

All of the above soils are vulnerable to erosion, so skidder/forwarder trails need to be located on gentle to moderate slopes and protected with water bars. The steepest soils are on the south flank of a drumlin in the northern part of the proposal area, and can be avoided by placing skid trails on the gentler west and southwest slopes.

A half acre adjacent to the wetland in the northeast corner is shown on NRCS soil maps as Catden and Natchaug mucks, but no wetland vegetation was found in this area during field reconnaissance. However, wetland transition zone vegetation was found in the southeast corner along the stone wall, despite the absence of wetland features in that area on maps by NRCS or Mass. DEP. All wetlands, whether mapped by other agencies or not, will be identified on the ground and protected in accordance with Chapter 132 and DCR-DWSP requirements.

Figure 3. Soil classes, PT-23-13.



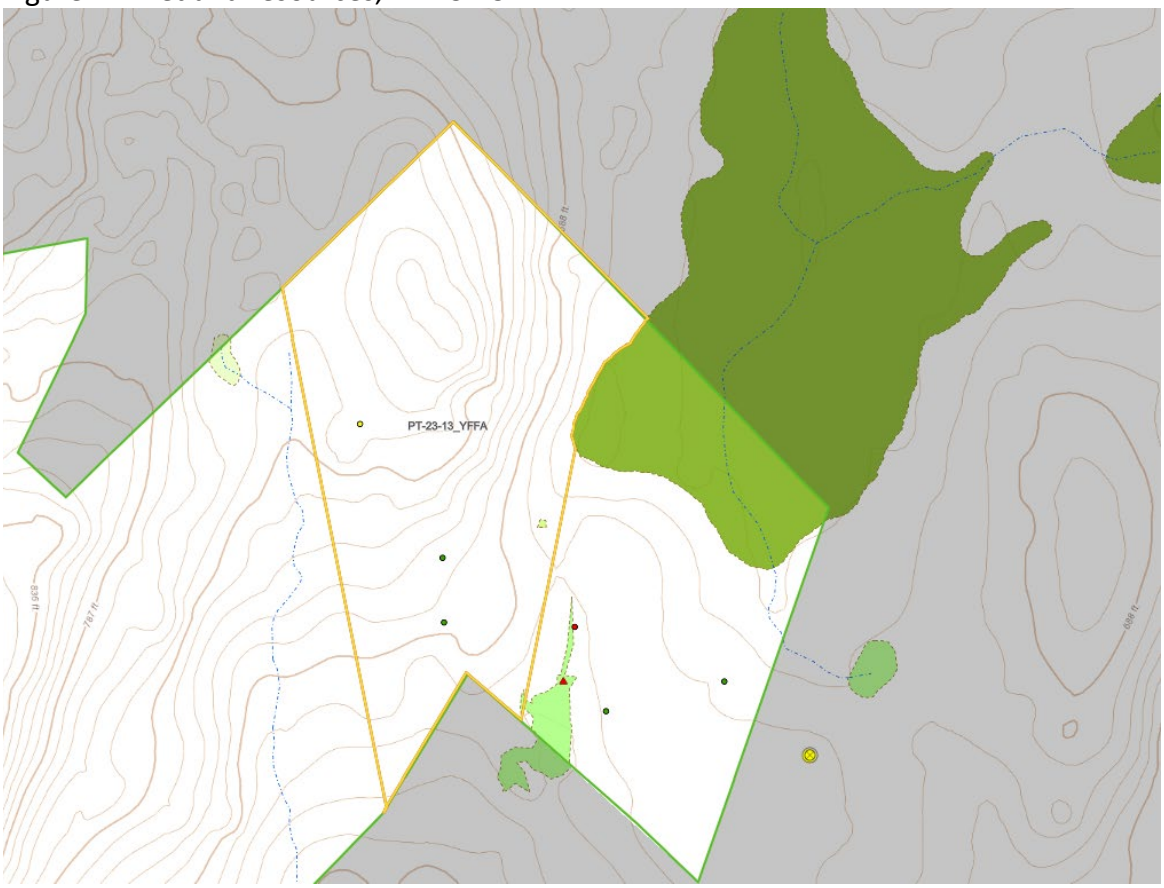
Wetlands

- Wetlands present? - **Yes**
- Streams present? - **Yes**
- Vernal pools present? - **Yes**
- Seeps present? – **None known**
- Are stream crossings required? - **Yes**
- Are wetland crossings required? - **Yes**
- Is logging in filter strips planned? - **No** **(Riparian Zone Mgt)**
- Is logging in wetlands planned? - **No**

One potential vernal pool (PVP 982) was surveyed. The pool had the characteristics of a classic vernal pool, but no vernal pool species were found. The pool will be revisited and treated as a verified pool until its status is confirmed to be a VVP or not a pool. Two areas were surveyed and determined to be not vernal pools (980 and 983).

The harvest area has been selected to avoid wetland resources and their associated filter strips. Wetlands, streams, and DWSP verified vernal pool 366 are near but not within the proposal boundaries. However the main skidder/forwarder road will have to go through the area east of the stone wall, where there are several wetlands, intermittent streams, and verified (#366) and potential vernal pools. The road will be routed as far from these features as possible, especially the vernal pool, but may need to be within 200 feet of the verified vernal pool due to this area's challenging terrain. Ruts near vernal pools will be smoothed to ≤6 inches as required by the DWSP 2017 Management Plan (Figure 4-16, items 3-2 and 4-2, page 171).

Figure 4. Wetland resources, PT-23-13.



Silviculture

Acres in Intermediate cuts: **0**
Acres in prep/establishment cuts: **0**
Acres in Regeneration cuts: **14**
Average regen opening size: **14**
Maximum regen opening size: **14**

Description of advance regeneration in proposal area:

Regeneration is spotty, and consists primarily of hemlock, white pine, black birch and occasional oak saplings, particularly in old skid roads.

General comments on silviculture proposed:

This area was designated as a Young Forest Focus Area (YFFA) in the DWSP 2017 Land Management Plan (pp. 120-122). This first entry will create early successional habitat in the northeast corner of the YFFA, building on the habitat already provided by a large adjacent wetland and recent heavy harvests on the private property to the north.

Twelve to fourteen (12-14) acres of the proposal area will be clearcut with minimal reserves. (Note: the "Regen opening size" fields above do not allow a range of values; the upper value has been entered in order to be conservative at this proposal stage.) The reserve trees will be widely scattered oaks with large crowns and sound form, to provide seed for the future stand.

The exact footprint of the cut will be based on conditions on the ground, avoiding steep slopes and dense mountain laurel. The larger proposal area is also intended to allow and encourage advance planning for a subsequent harvest, to be located adjacent to this one.

There is some consideration being given to using this proposal area as a chance to test the slash wall method of deer/moose exclosure fencing at Quabbin; a slash wall was constructed at Ware River in 2021 and works well.

Climate Change considerations:

Proposing the initial occurrence of large-block even-age Young Forest within this LMP-designated Focus Area; expectation is to develop redundancy by repeat operations within this and other Focus Areas within DWSP. Slash wall method, if implemented, will reduce pressure from herbivory until other moose control methods become available.

Figure 5. Orthophoto and cover types, PT-23-13.

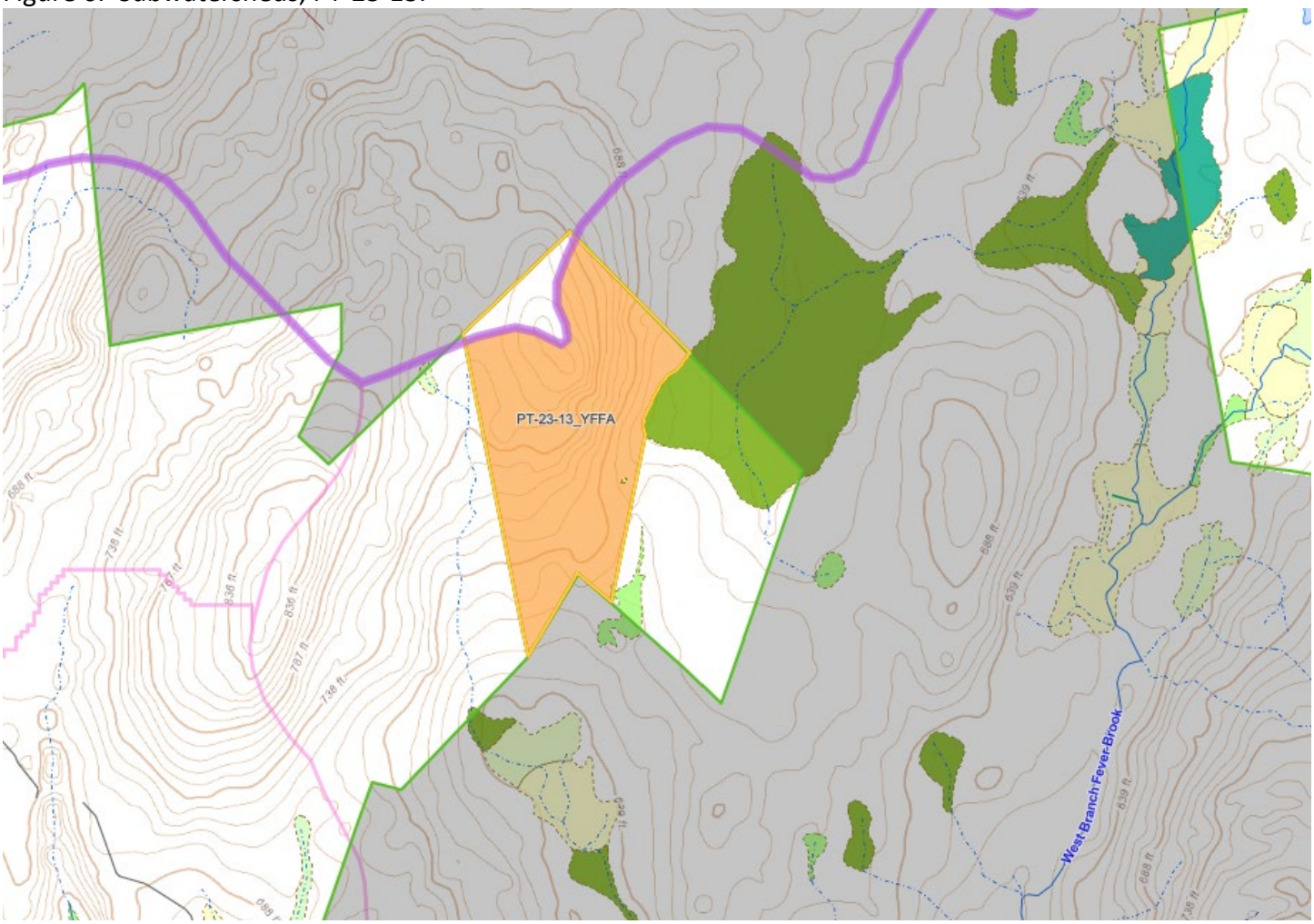
Subwatershed Analysis

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
44 (West Branch Fever Brook)	753	2	187	31

The remaining 4 acres of the proposal are not within a subwatershed which feeds into the DWSP system.

The proposed harvesting levels will not exceed the 25% threshold.

Figure 6. Subwatersheds, PT-23-13.



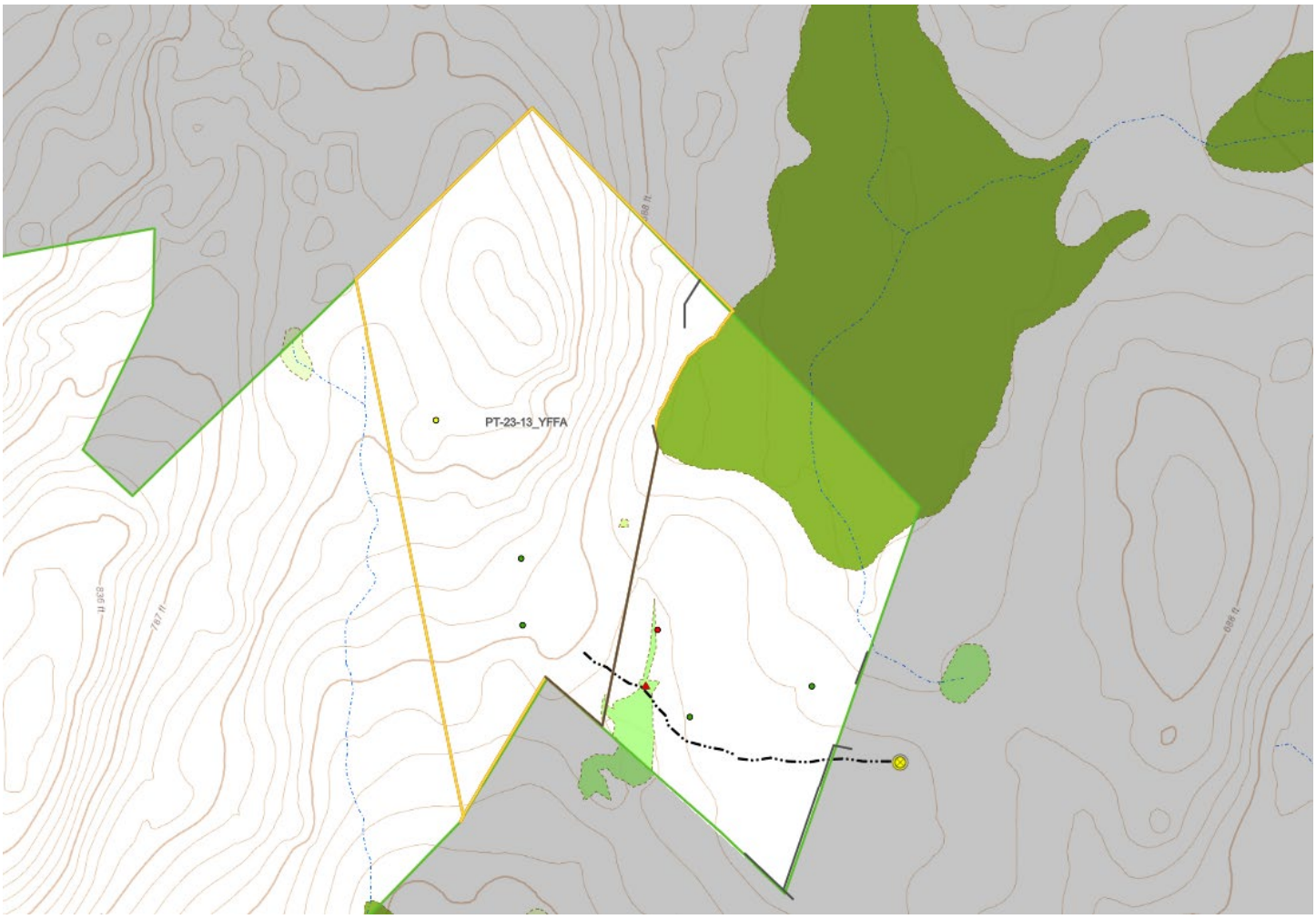
Equipment

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

Comments on harvesting limitations:

The conditions of the proposed harvest area do not require specific limitations. Slopes >20% are present, but skid roads will be routed to avoid them.

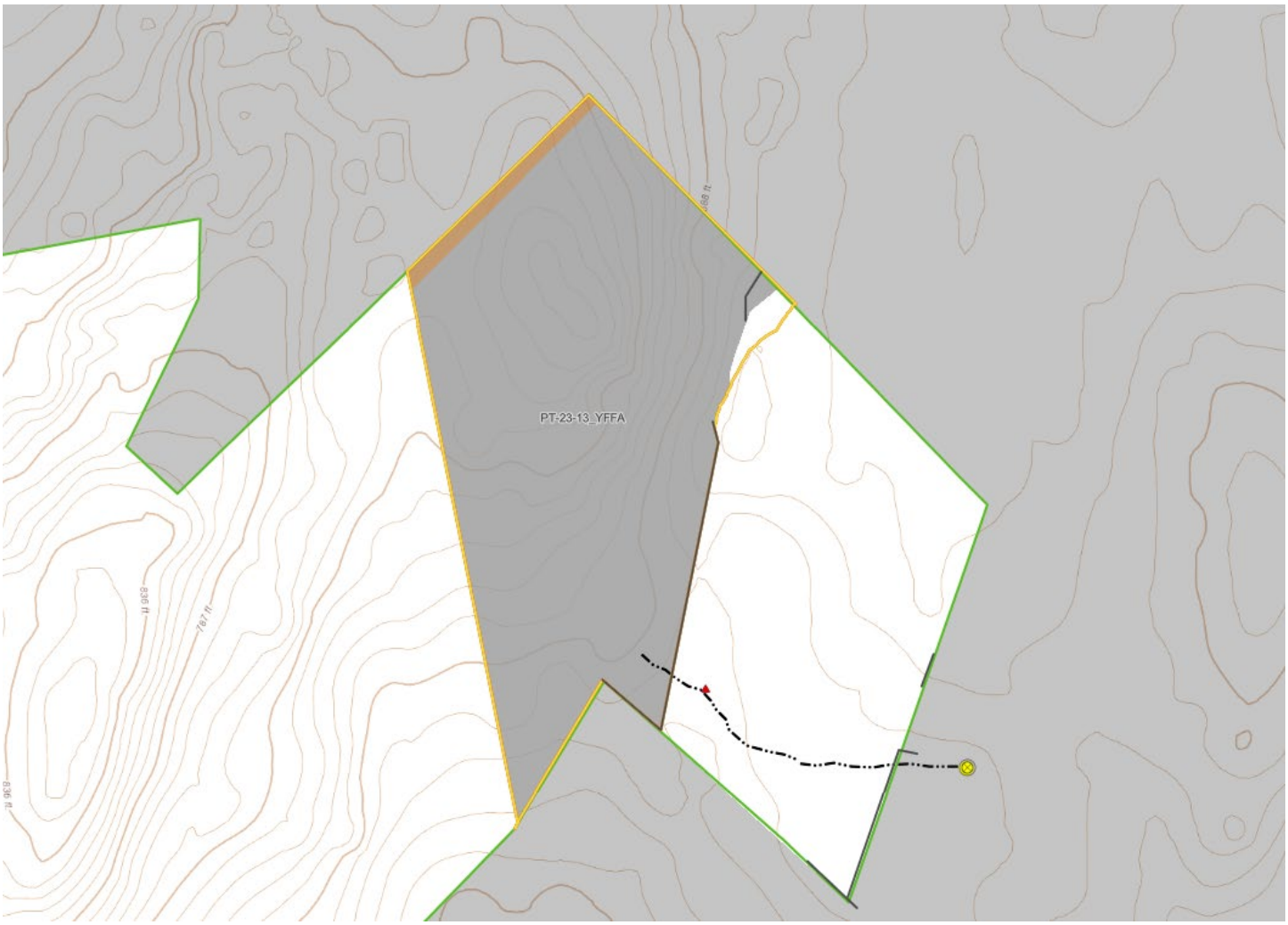
Figure 7. Harvesting limitations, PT-23-13.



Cultural Resources

Comments on Cultural Resources:
Surface stone is prevalent near the large wetland, mostly outside the harvest area. The numerous large boulders present a challenge for operability, and are not likely to be cut or crossed by skidder/forwarder roads. The wall near the wetland will be crossed where it is lowest / in disrepair from previous crossings. No further culture resources were found, but if identified they will be flagged, mapped, photographed, protected and avoided.

Figure 8. Stony and Extremely stony soils, PT-23-13.



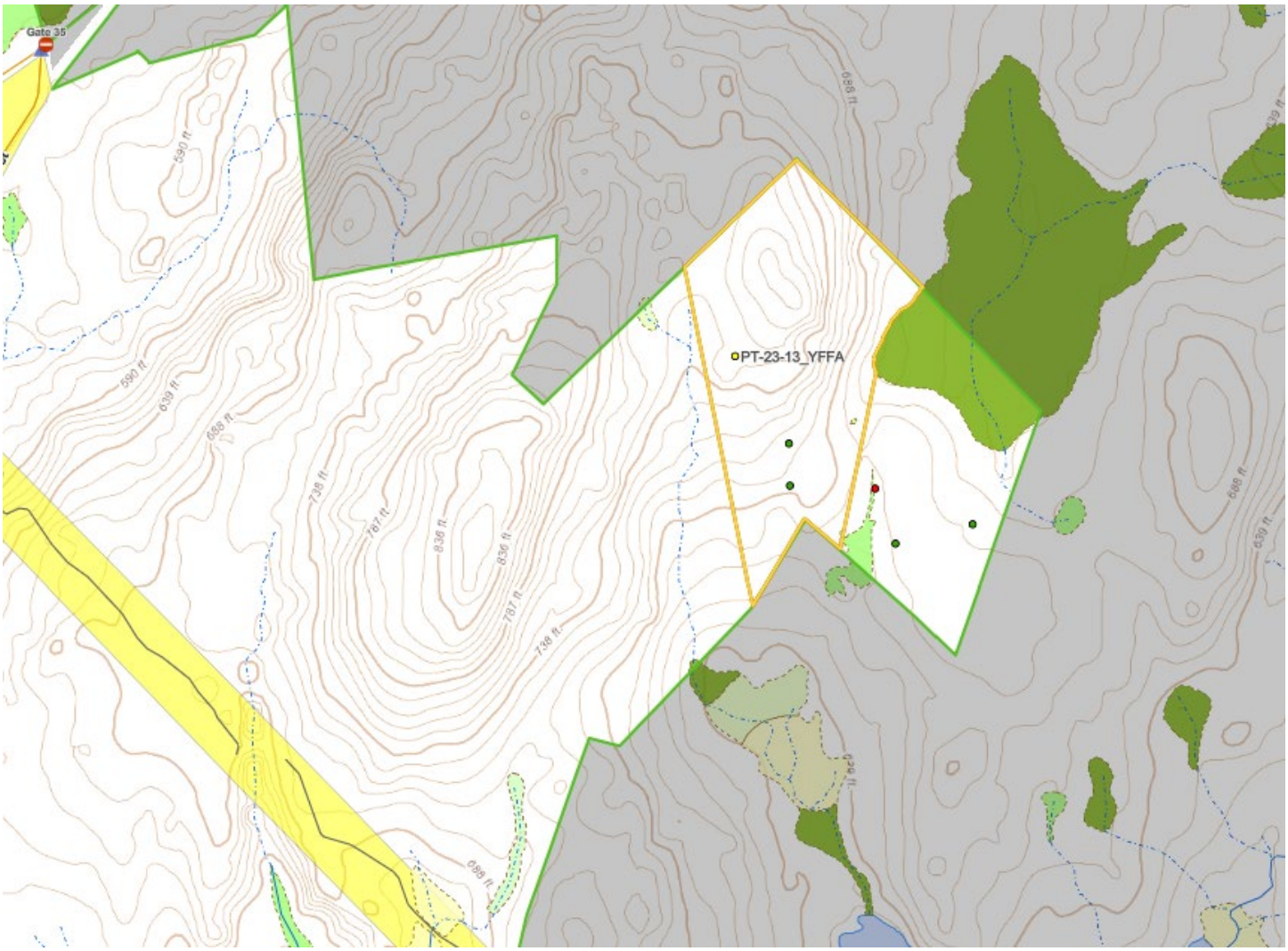
Wildlife Resources & Rare and Endangered Species

General Wildlife Comments:

The purpose of this harvest is to create early successional habitat for wildlife. The was presence of moose sign (pellet, tracks, and browse) was observed. No active stick nests were found.

Comments on Rare Species/Habitats:
None known within the proposal area.

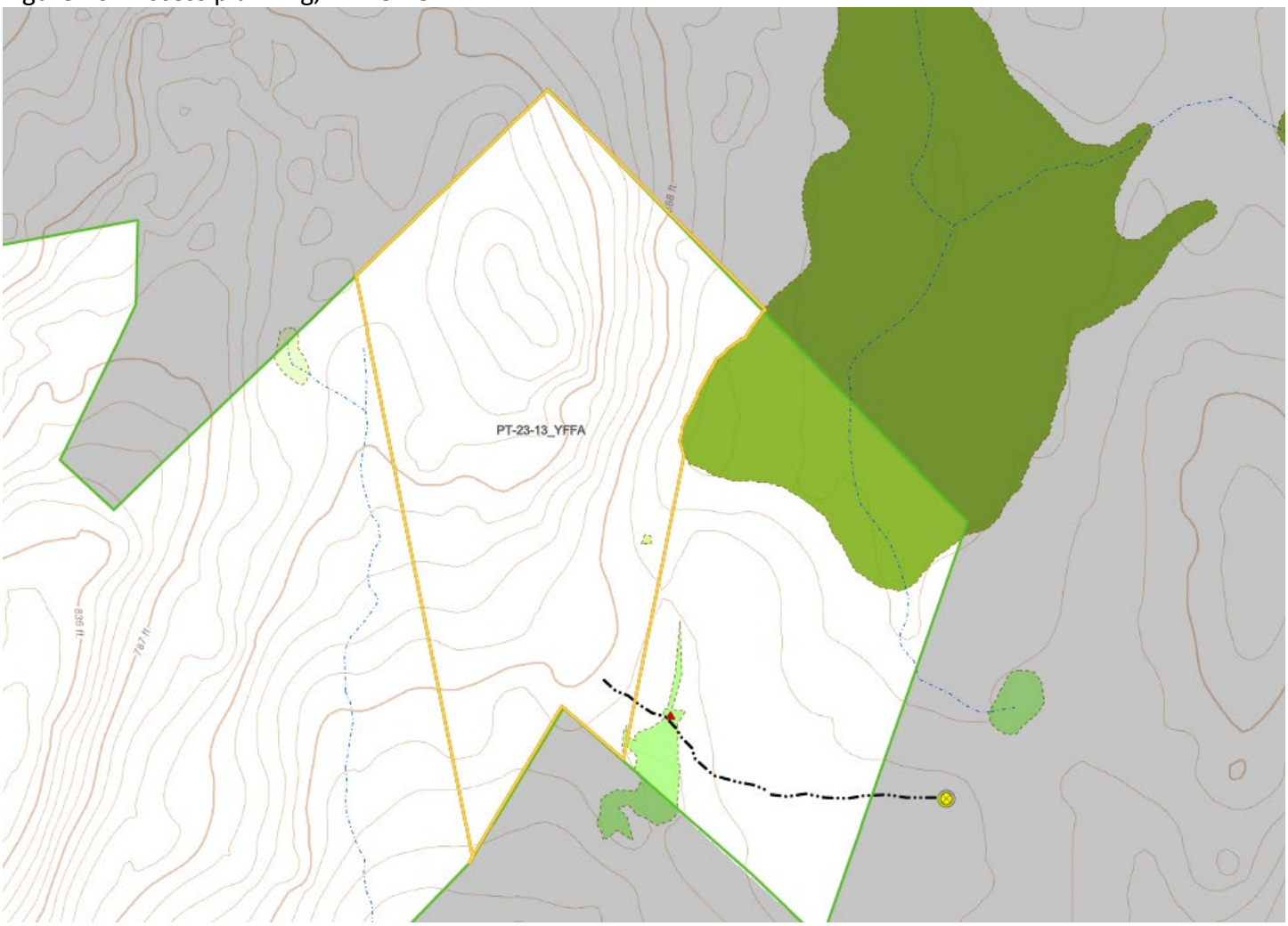
Figure 9. NHESP Priority habitat overlay, PT-23-13.



Environmental Quality Engineering

Comments on EQ Issues:
Intermittent wetland crossing only. No EQ concerns.

Figure 10. Access planning, PT-23-13.



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:
The landing will be to the east on State Forest Road, the main access to the Federated Women's State Forest. Management forestry program lead Tom Brulé has already expressed support for the this project and willingness to provide access.

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