Ware River Harvest Proposal WR-23-23-2

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 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 2022 in ArcGIS Online Story Map format.

Proposal Goals

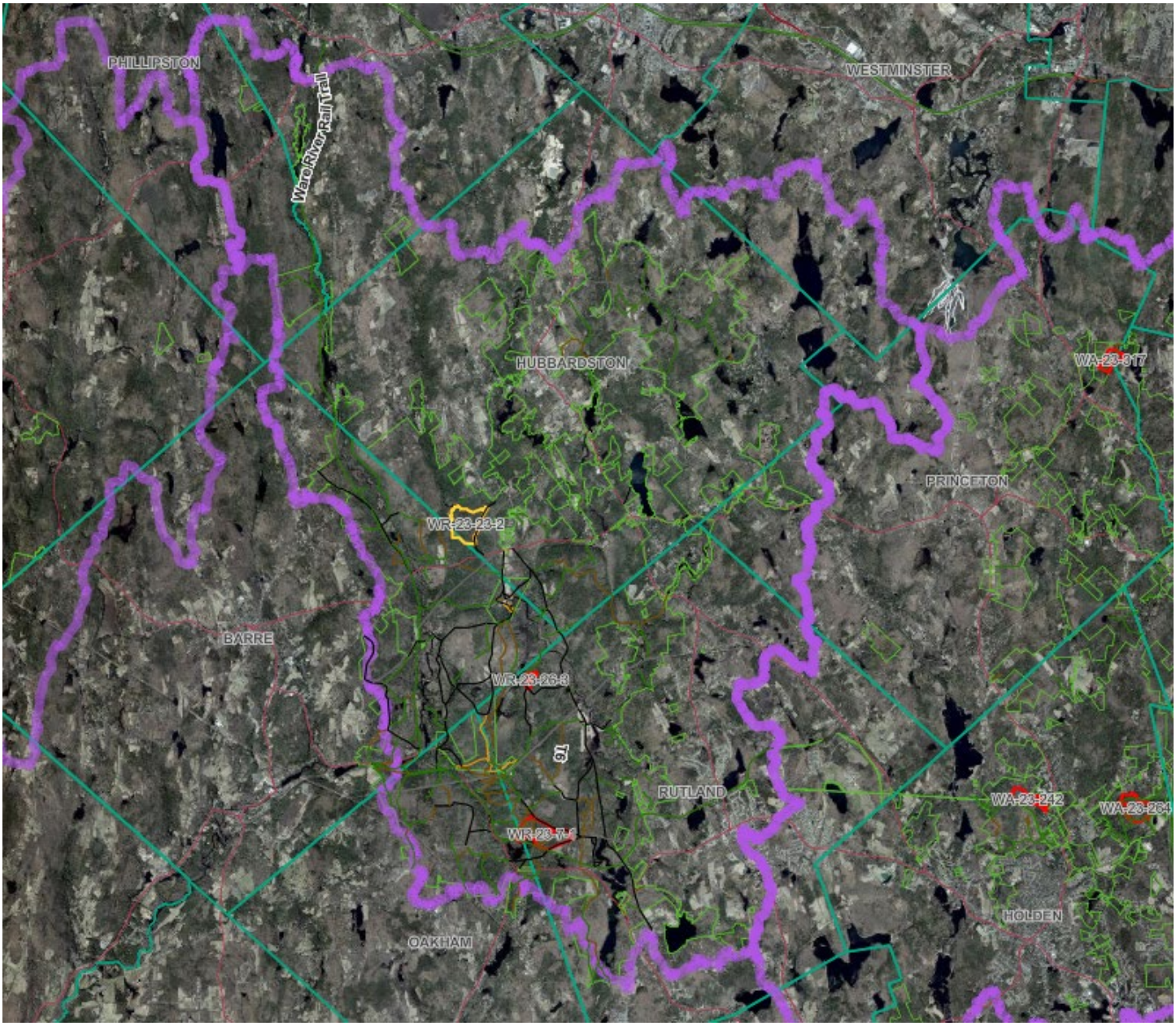
The goals of this proposal are to increase the diversity of tree species and age classes in this area, release young trees that were established after previous harvests, and reduce the amount of old field white pine.

Proposal Location

(Yellow highlighted polygon in the map) This lot is located almost entirely in the town of Hubbardston on Hale Fire Road. It is bound to the east by Hale Fire Road, to the north by Natty Pond Brook, to the west by Canesto Brook, and the southern end extends slightly over the town boundary into Barre.

Total Acres: 143

Figure 1. Watershed Locus, WR-23-23-2.



General Description

Overstory Type(s)	Acres
White pine - hemlock	87
White pine - hardwoods	40
Other	16

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

Description of forest composition/condition:

The 1938 aerial photos show this area mostly forested at that point. There were two open fields at that time - an approximately 4-acre field in the northeast corner of the lot and an approximately 2-acre field west of the southern landing on Hale Fire Road. Harvest Lot 195 was a 12-acre shelterwood prep cut in the northern part of the proposal that was completed in 1997. Harvest Lot 4320 consisted of a 10.5-acre seed tree cut in the center of the proposal and a 6-acre shelterwood removal cut in the southwestern part of the proposal adjacent to Canesto Brook.

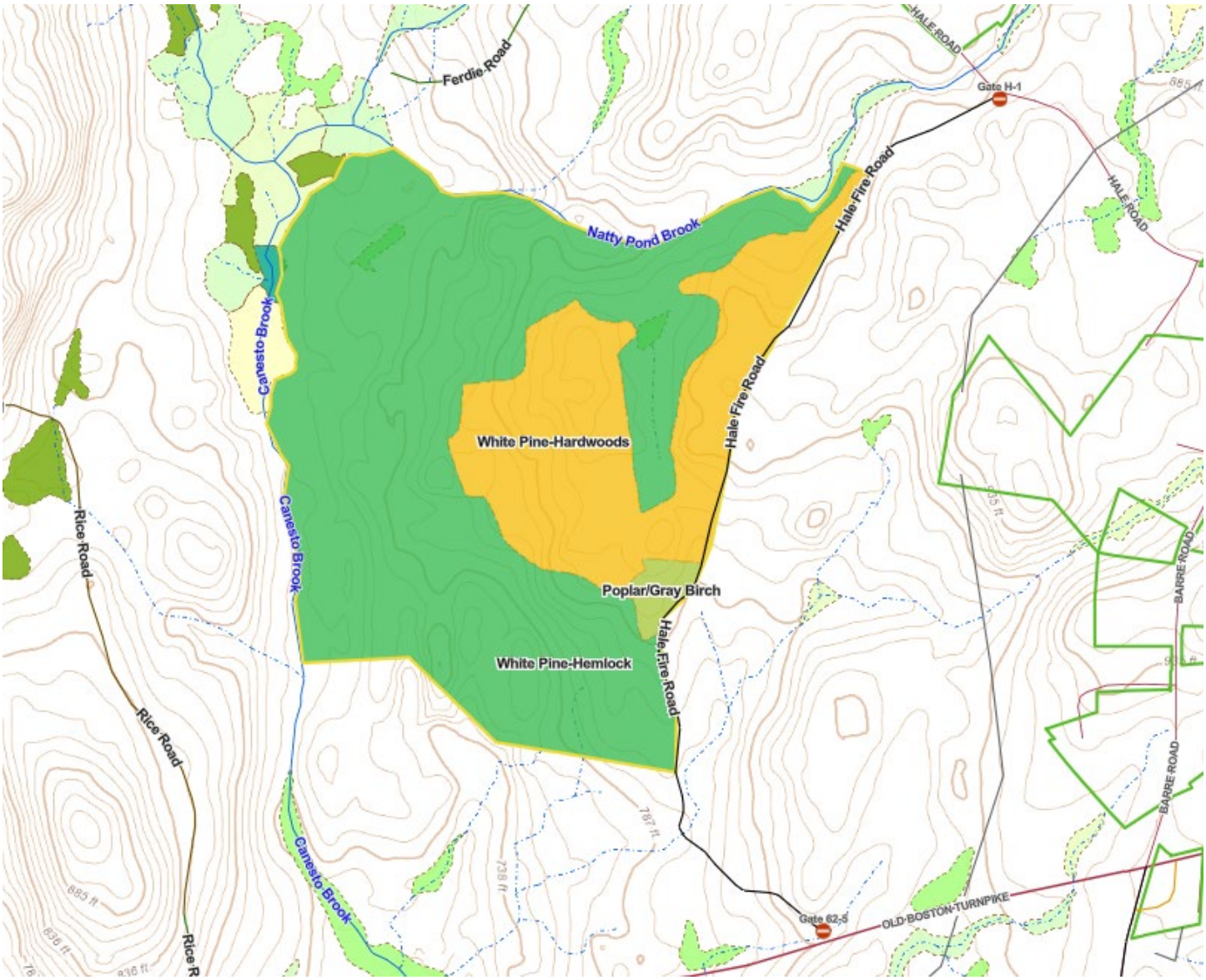
White pine - hemlock: This stand is located in the northern part of the lot along Natty Pond Brook, in the western part of the lot along Canesto Brook, and in the southern part of the lot. The amount of hemlock in the stand is variable, with pockets dominated by hemlock. Throughout most of the stand, white pine is the dominant tree, with some areas of low quality old field white pine. The stand is well stocked with an average of approximately 150 square feet of basal area per acre. Sawlog sized white pine dominates most of the stand. The stem quality is average overall, with patches of very low quality old field white pine present. Eastern hemlock is present throughout and is dominant in some patches. No hemlock woolly adelgid was observed but is most likely present. Red and white oak, red maple, black cherry, paper birch, and yellow birch are also present in the overstory. Regeneration is variable, and relatively sparse in areas dominated by hemlock. Most of the white pine dominated areas have a good mix of sapling species including white pine, red maple, eastern hemlock, and black birch. Some areas adjacent to hemlock dominated stands have a midstory of hemlock poles.

White pine - hardwoods: This stand is located in the eastern and central part of the lot. White pine is dominant is most areas. There is a pocket north of the seed tree cut from lot 4320 in the center of the proposal that is dominated by red oak. The stand is well stocked with an average of approximately 150 square feet of basal area per acre. Sawlog sized white pine dominates the stand. Stem quality is very low in patches of old field white pine, and average to good in other areas. Good quality sawlog red oak is present through much of the stand. Red maple, white oak, black cherry and black birch are also present in the overstory. Regeneration is generally abundant and consists of white pine, hemlock, red maple, and red and white oak.

Assessment of Terrestrial Invasive Species:

Glossy buckthorn is present throughout the lot, but particularly heavy in old field areas adjacent to Hale Fire Road and areas adjacent to Natty Pond Brook and Canesto Brook that are not dominated by hemlock. Multiflora rose and bittersweet are also present in the old field area adjacent to Hale Fire Road and ideally should be treated prior to and after any harvest.

Figure 2. Forest cover types, WR-23-23-2.



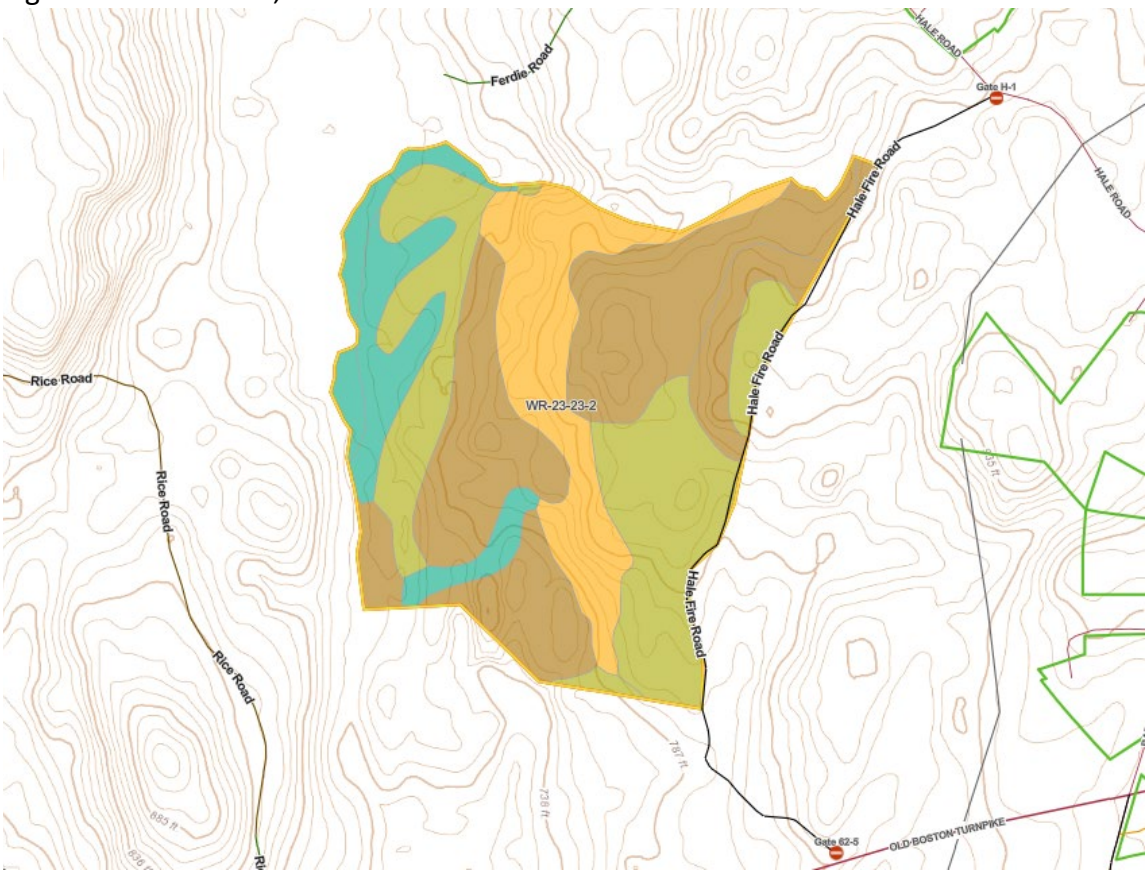
Soils

Drainage Class	%
Excessively Drained	0
Well Drained Thin	18
Well Drained Thick	68
Moderately Well Drained	0
Poorly to Very Poorly Drained	13

926C - Charlton-Chatfield association - Well drained thick - 48.0 acres

927C - Montauk-Scituate-Canton association - Well drained thick - 41.3 acres
925E - Charlton-Chatfield-Hollis association - Well drained thin - 24.9 acres
918B - Ridgebury-Whitman association - Poorly to very poorly drained - 12.6 acres - this soil is found on the western edge adjacent to Canesto Brook and associated wetlands and will be avoided where present.
915E - Montauk - Canton association - Well drained thick - 7.2 acres
59A - Bucksport and Wonsqueak mucks - Poorly to very poorly drained - 5.5 acres - this soil is found on the western edge adjacent to Canesto Brook and associated wetlands and will be avoided where present.

Figure 3. Soil classes, WR-23-23-2.

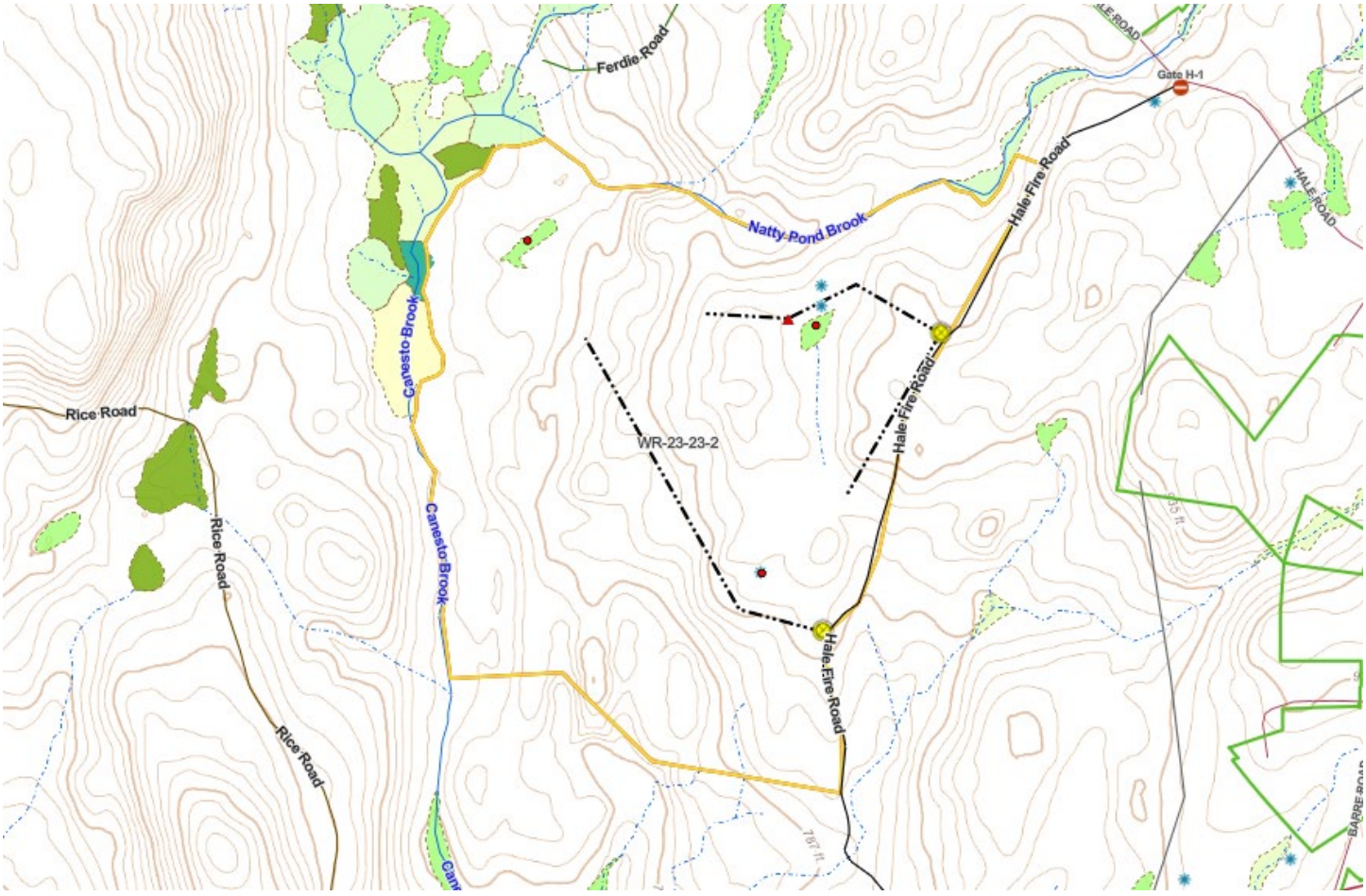


Wetlands

- Wetlands present? - **Yes**
- Streams present? - **Yes**
- Vernal pools present? - **Yes**
- 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**

There are 3 verified vernal pools within the proposal area, two of which are also NHESP Certified (another mapped Certified pool is not at the mapped location and the point may be an error).

Figure 4. Wetland resources, WR-23-23-2.



Silviculture

Acres in Intermediate cuts: **0**
Acres in prep/establishment cuts: **0**
Acres in Regeneration cuts: **25**
Average regen opening size: **2**
Maximum regen opening size: **5**

Description of advance regeneration in proposal area:

White pine - hemlock stand: Regeneration is variable, with areas dominated by hemlock relatively sparse. Most of the white pine dominated areas have a good mix of sapling species including white pine, red maple, eastern hemlock, and black birch. Some areas adjacent to hemlock dominated stands have a midstory of hemlock poles.

White pine - hardwood stand: Regeneration is generally abundant and consists of white pine, hemlock, red maple, and red and white oak.

General comments on silviculture proposed:

The silviculture objectives of this proposal are to remove old field white pine in patches, to release regeneration from the shelterwood prep cut, to expand the seed tree and overstory removal openings where possible, and to create new regeneration openings. Areas with over 50% of basal area overstory hemlock will be avoided. Groups will be located to target lower quality white pine and hardwoods where possible, and to take advantage of topography and avoid wet soils. Two new regeneration openings, including the patch of old field white pine in the northeast corner, will be up to five acres. Eight to ten groups between 1 and 2 acres will be created. All openings will retain 5 square feet of basal area per acre of healthy overstory stems of various species. Some tending/improvement cutting will be done in between groups adjacent to skid trails.

Areas of old field white pine will be targeted for group removals. The 4-acre patch of old field white pine in the northeast corner of the lot will be removed. The patches of old field white pine adjacent to Canesto Brook will also be removed.

An overstory removal will be done on harvest lot 195 to release the regeneration that was started after that harvest. Groups will be established adjacent to the seed tree and overstory removal patches from harvest lot 4320 in order to expand those gaps.

Climate Change considerations:

Typical silviculture in this proposal is designed to sustain fundamental ecological processes, reduce the risks of impacts from severe disturbances, and enhance species and structural/habitat diversity.

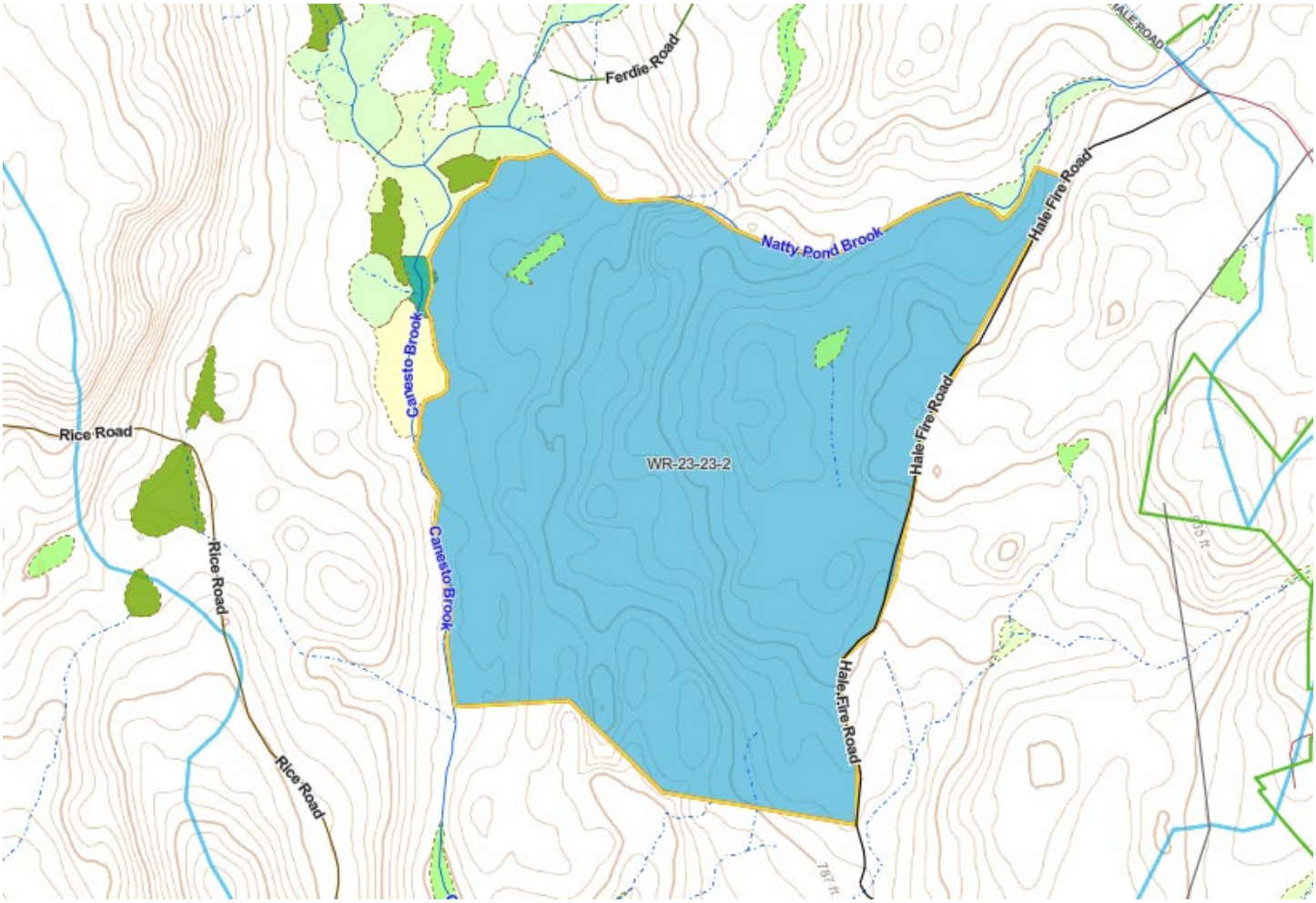
Figure 5. Orthophoto and cover types, WR-23-23-2.

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
8057 (Lower Canesto)	1691	13	409	143

8057 - Lower Canesto - the proposed harvesting will not exceed the 25% stocking removal per 10-year threshold specified in the LMP.

Figure 6. Subwatersheds, WR-23-23-2.



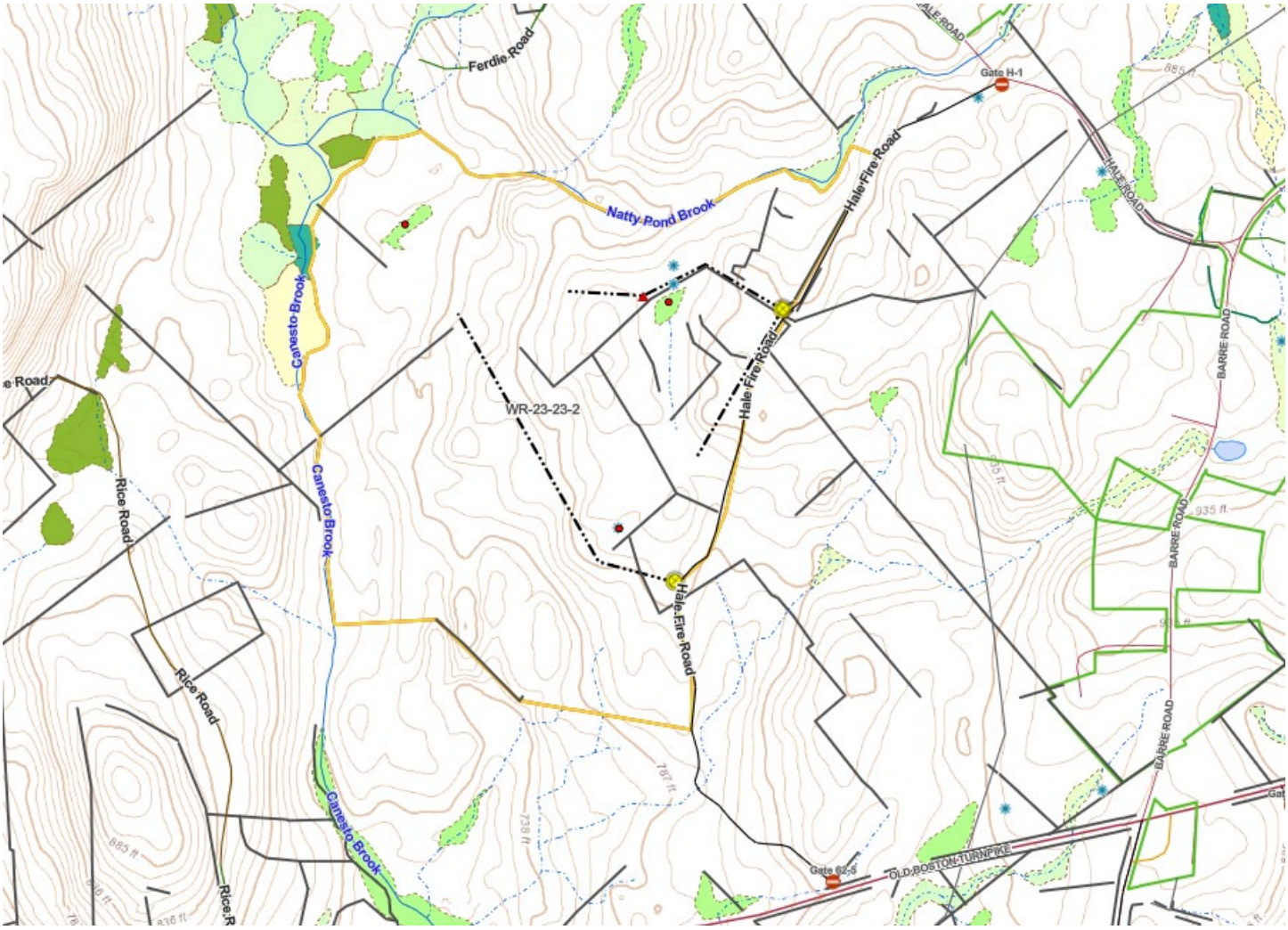
Equipment

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.

Figure 7. Harvesting limitations, WR-23-23-2.

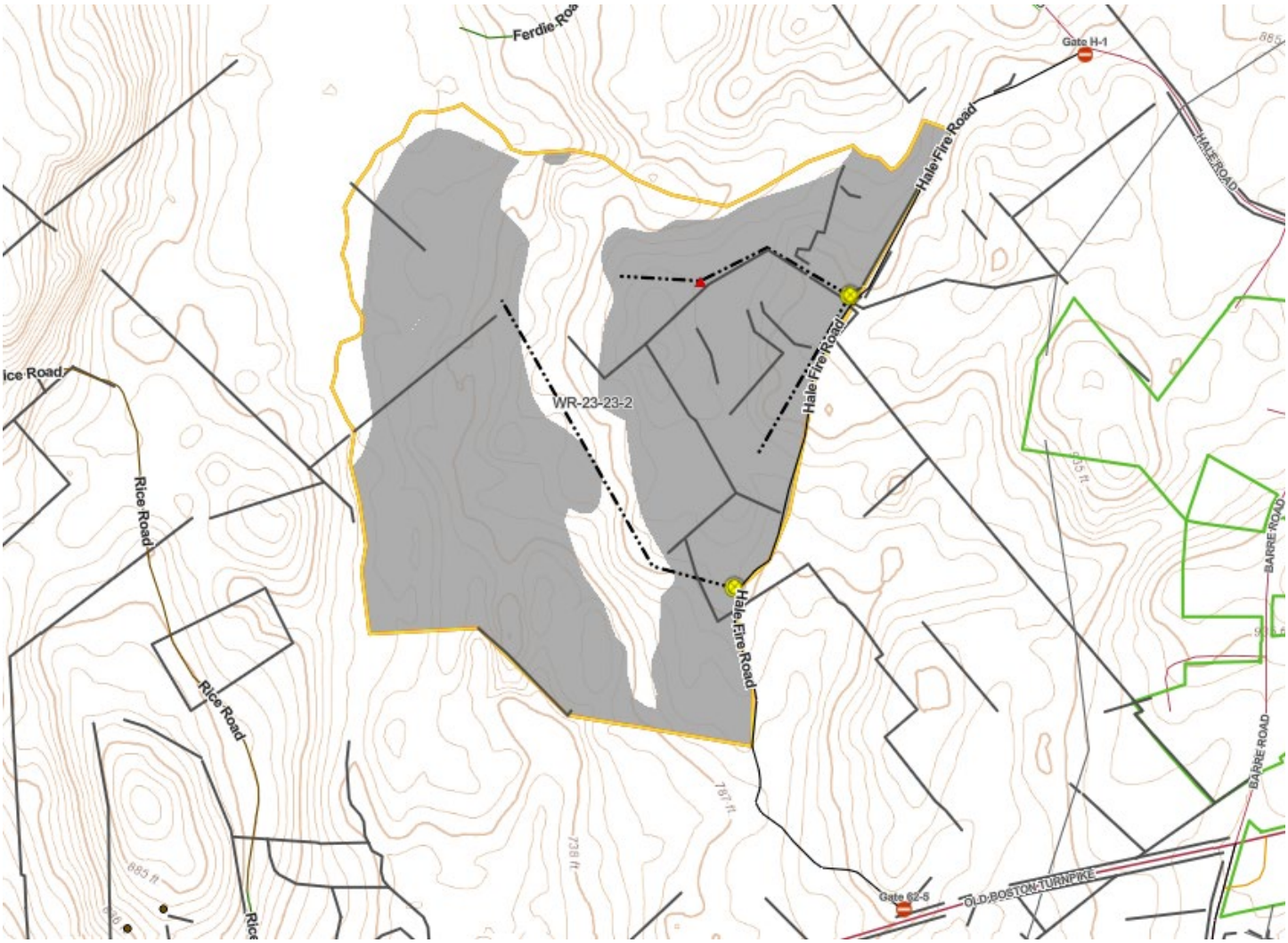


Cultural Resources

Comments on Cultural Resources:

A foundation, cellar hole, and well are located adjacent to Hale Fire Road near the northern landing. Stone walls are present throughout the proposal area, and will be protected as much as possible.

Figure 8. Stony and Extremely stony soils, WR-23-23-2.



Wildlife Resources & Rare and Endangered Species

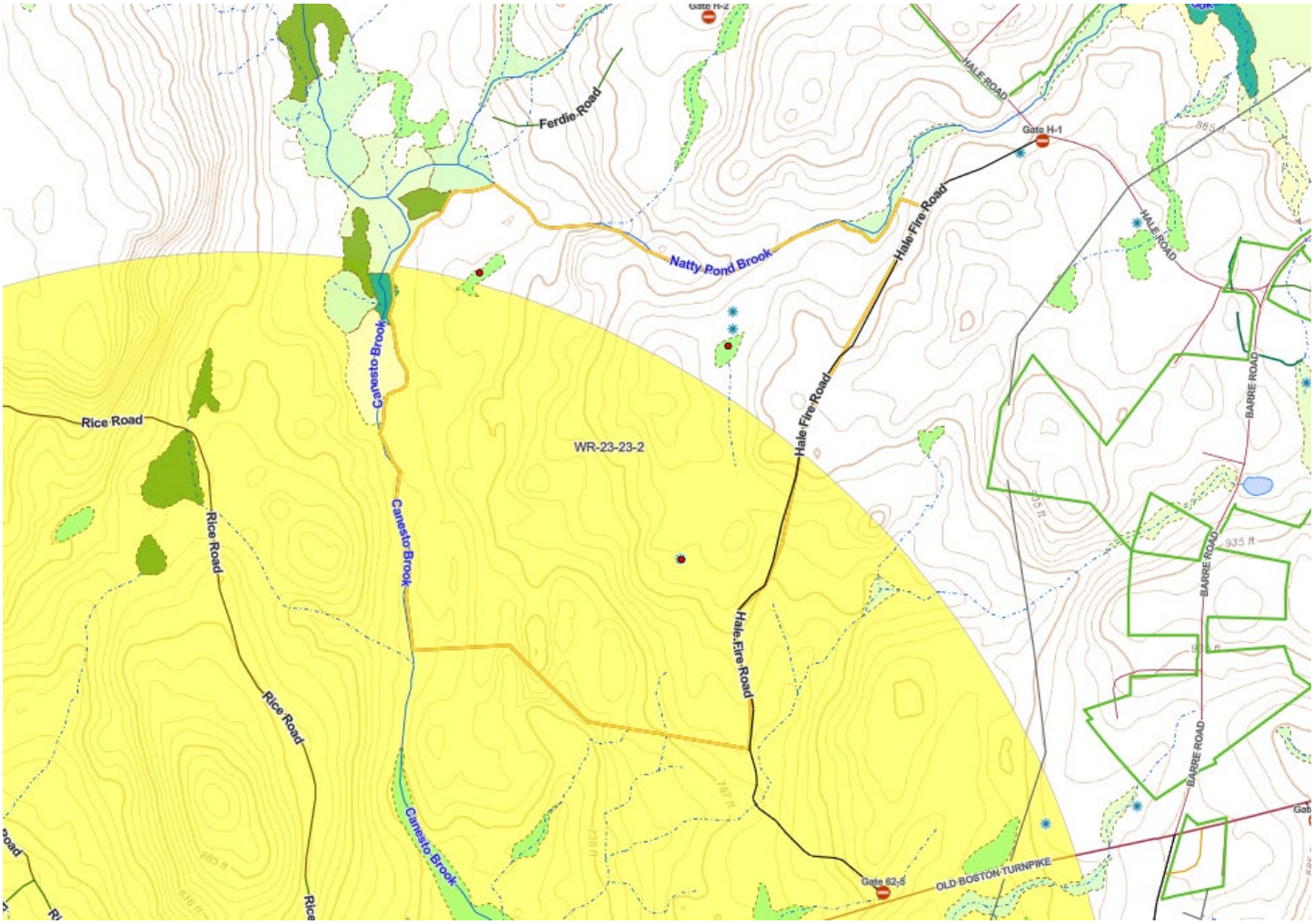
General Wildlife Comments:

Moose and deer sign and browse were observed on the lot, but regeneration levels indicate browse pressure is low.

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, WR-23-23-2.

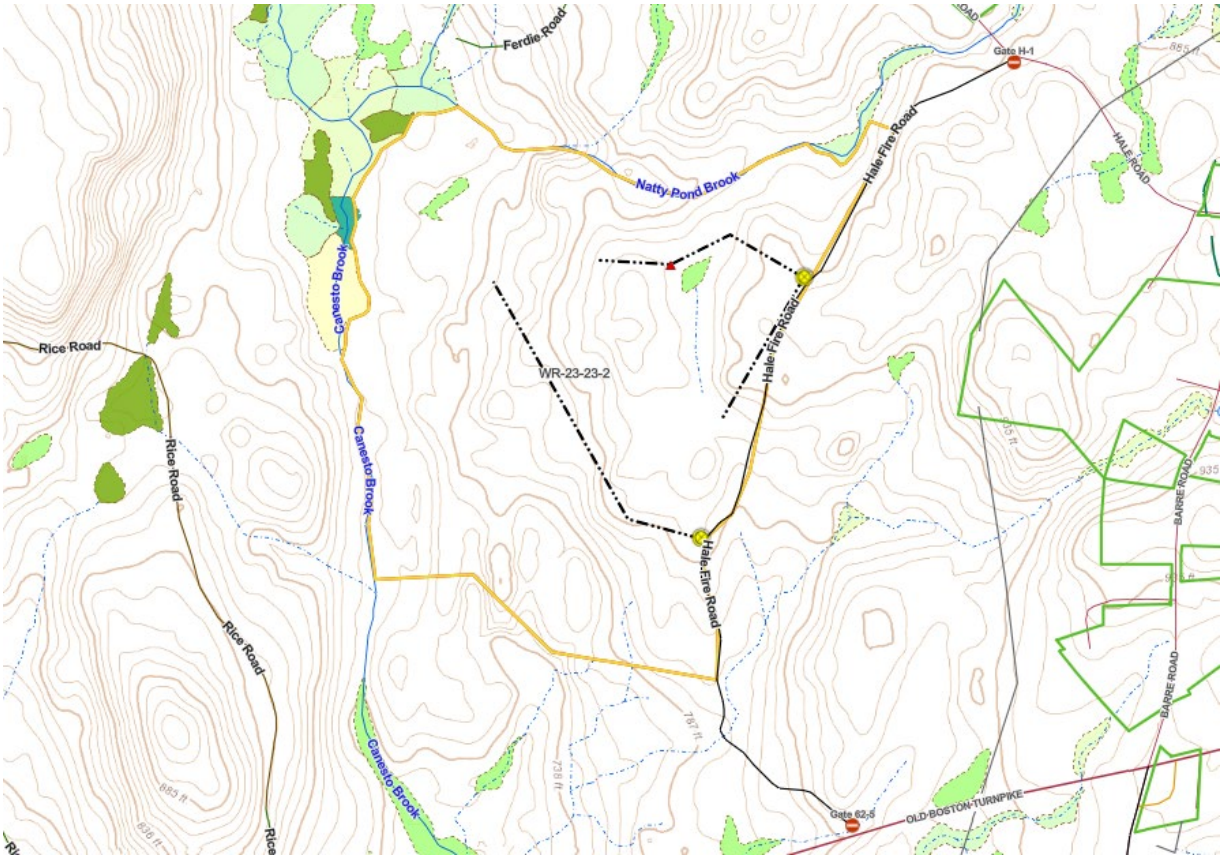


Environmental Quality Engineering

Comments on EQ Issues:

The established trail from the northern landing includes a wetland crossing adjacent to a vernal pool. This may need to be relocated to prevent alteration of amphibian travel routes if the work cannot be accomplished when the ground is frozen.

Figure 10. Access planning, WR-23-23-2.



Forest Access Engineering

Gravel needed: Yes
Landing work needed: No
Culverts needed: Yes
Work needed on permanent bridges: No
Beaver issue: No

Further comment on access needs:

The mouth of Hale Fire Road where it hits Hale Road may need to be widened and have gravel added. The gate may need to be moved, at least temporarily to allow truck access. Hale Fire Road will need gravel, grading, and drainage work.

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