Quabbin Harvest Proposal HA-23-12W

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

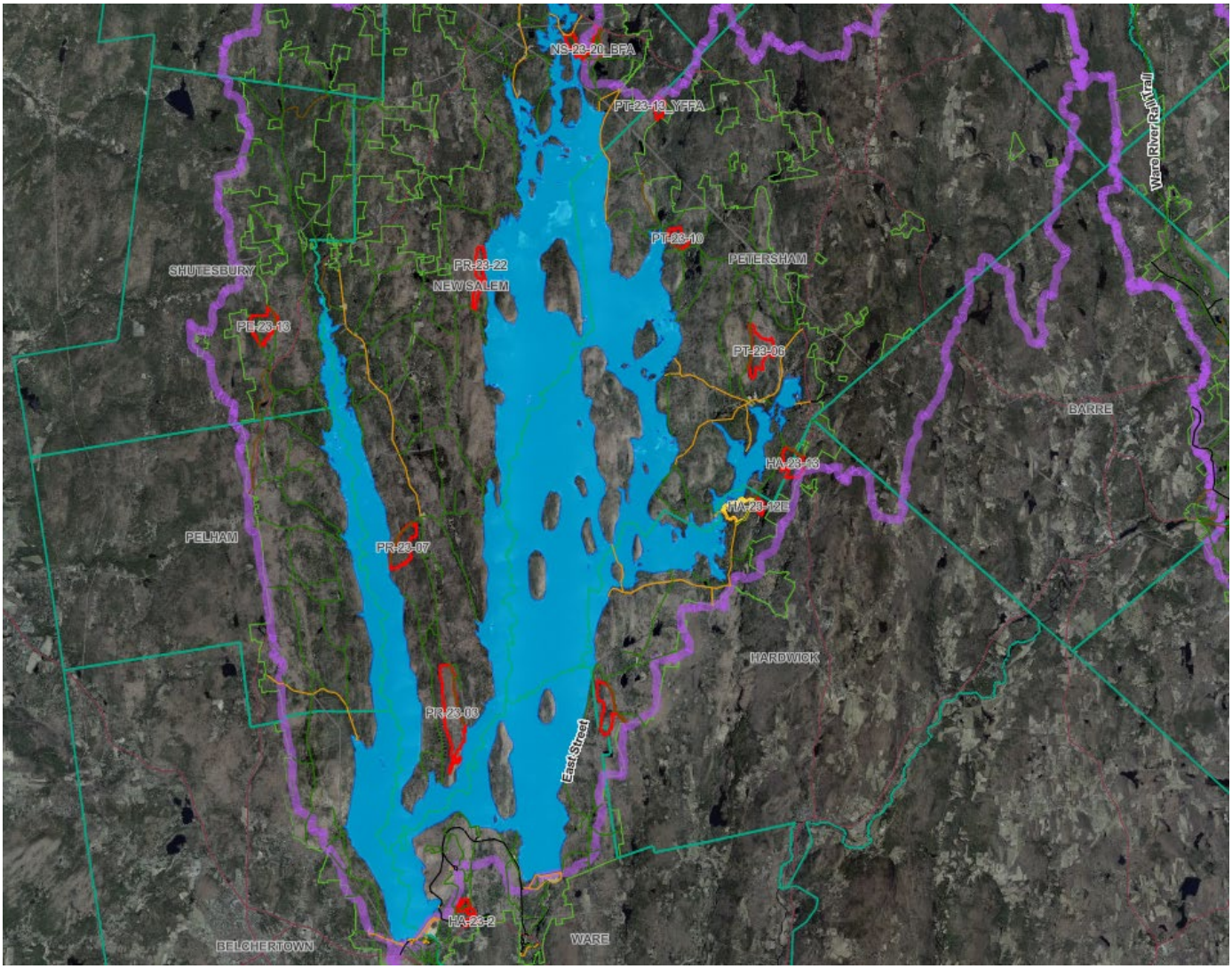
This proposal is for continuation of development of new age classes in these white pine and oak stands by enlarging existing openings with new ¼-5 acre openings. Treatment will improve vigor of established seedlings and saplings and additional thinning and shelterwood prep cutting will release retained trees and will improve overall stem form and growth rate.

Proposal Location

(Yellow highlighted polygon in the map) From junction of Hell Huddle Road and Carter Road follow Hell Huddle towards Fishing Area 3. At wetland just before Pottapaug Pond head generally northeast along wetlands/Pottapaug shoreline about 2200' (straight line) to a small stream/wetland. Follow that easterly to source seep, then head easterly along the white pine type edge to Carter Road. Follow Carter Road southwesterly back to beginning.

Total Acres: 90

Figure 1. Watershed Locus, HA-23-12W.



General Description

Overstory Type(s)	Acres
White pine - oak	22
White pine - hemlock	20
Hemlock - hardwoods	18
Oak - hardwoods	10
Northern Red Oak	10

	Understory Type(s)
Dominant	Tree seedlings/saplings dominate site
Secondary	Mesic site - cinnamon fern, mixed hardwood

Description of forest composition/condition:

Area was all previously harvested, most recently was lot 1018 completed 8/10/07 and was an irregular shelterwood/small group selection with about 1/4 of area untreated. Previous to that there were 4 harvests on parts of the proposal, appears this will be the third or 4th cut for most sections. These harvests appear to have been mainly thinnings: Lot 543 completed 2/28/89, 23 acres along shoreline and NE corner; Lot 193 completed 11/22/79, 47 acres south end; Lot 129 completed 2/11/76, 35 acres south end; Lot 'M+B comp 12' completed 1963, ~23 acres on the north end.

These past treatments established some regeneration, mainly white pine and black birch. In addition to the types listed above there are remnants of a red pine plantation behind the Carter Road Landing, an oak/hardwood type and a small section of red oak. Hemlock has dropped out of some sections, having succumbed to adelgid/scale/spongy moth infestations and/or competition with mainly white pine. White pine and/or red oak are the most common species, and both the hardwood and softwood types have similar associated species: red maple, black and white birch, black cherry, hemlock and black oak. There is also some ash, yellow birch and more hemlock along the brooks and wetlands. Ferns and winterberry were also common here.

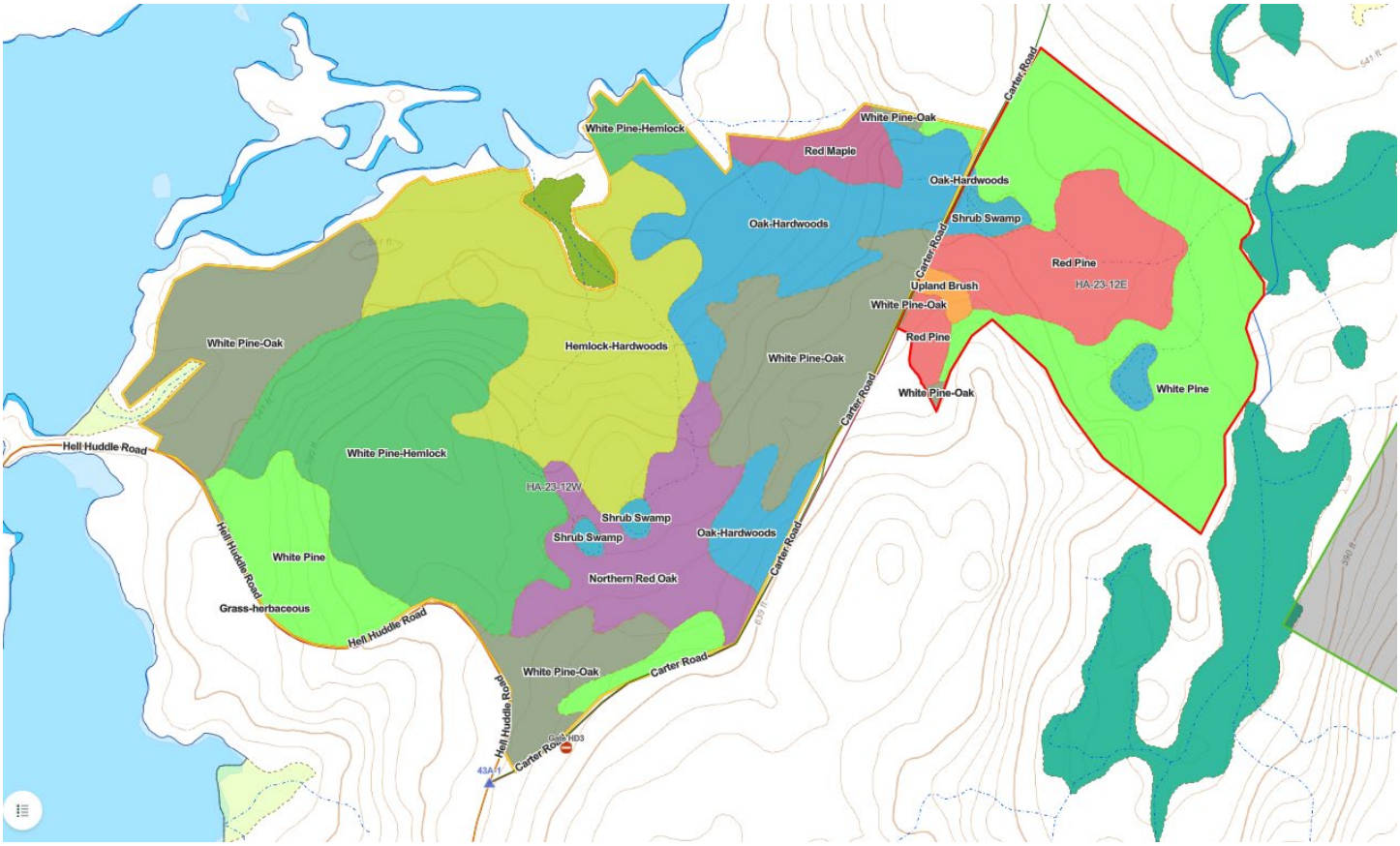
Judging from the many stone walls and info on the real-estate sheet, most of this area was farmed in the past, most likely use was pasture. The area was influenced by the 1938 hurricane and there are not many trees that appear to be over 110 years old. Some pit and mounding is still evident but could be from other storms.

Health of the stand appears generally good although decline and mortality has been occurring in the red pine, undoubtedly from scale and root rot. Hemlock adelgid was noted and scale is assumed to be present. Spongy (Gypsy) moth defoliation was severe from 2016-2020 and has impacted susceptible species and killed some of the oak and probably contributed to hemlock mortality.

Assessment of Terrestrial Invasive Species:

Bittersweet, honeysuckle and Japanese barberry are present in and around northern landing on Carter Road. On walks through lot not many were seen off of the landing other than some barberry that has moved into the wetlands and riparian zones. Other than landing area invasives are scattered or not present and are not expected to impact regeneration much. Those around landing should ideally be controlled, preferably before harvest.

Figure 2. Forest cover types, HA-23-12W.

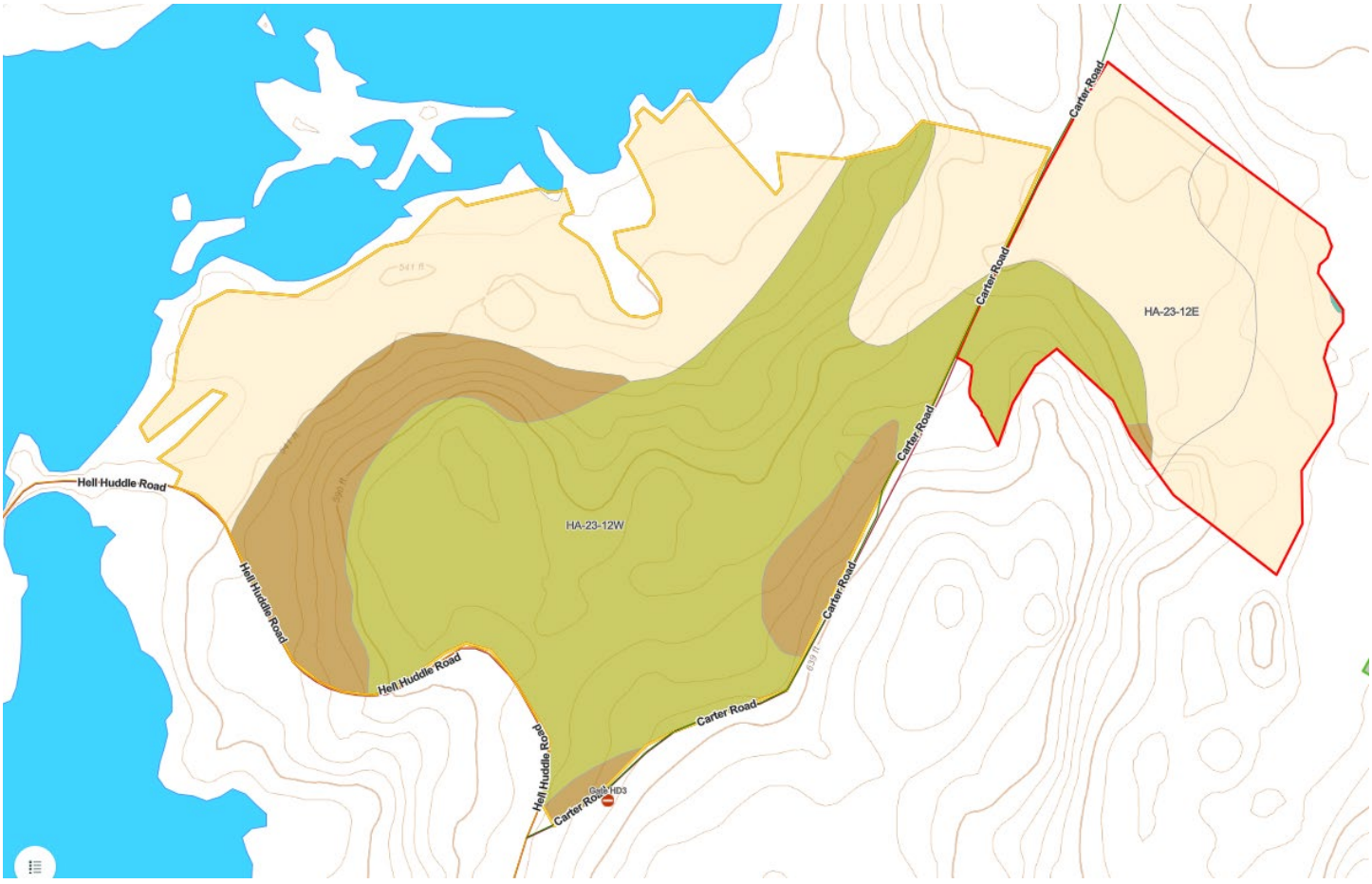


Soils

Drainage Class	%
Excessively Drained	34
Well Drained Thin	0
Well Drained Thick	66
Moderately Well Drained	0
Poorly to Very Poorly Drained	0

66% classified as extremely stony. 44.9 acres Montauk-Scituate-Canton, 14.6 acres of Montauk-Canton and 30.6 acres of Merrimac fine sandy loam.

Figure 3. Soil classes, HA-23-12W.



Wetlands

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

A chain of 3 verified vernal pools are present in the south central part of lot and another just off Carter Road near the northern end and will be buffered per LMP guidelines. There are an additional 5 other temporary wet spots confirmed as not being vernal pools plus a bunch of small seasonally wet spots and areas with poor drainage that will be avoided during the harvest. There are a couple of larger wetlands adjacent to Pottapaug Pond that are not currently accurately mapped. These will be mapped and avoided before marking is completed. The stream and wetland crossing identified so far are both existing and in good locations, and don't have flow sufficient to be sampled.

Figure 4. Wetland resources, HA-23-12W.

Silviculture

Acres in Intermediate cuts: **20**
Acres in prep/establishment cuts: 2**0**
Acres in Regeneration cuts: **23**
Average regen opening size: **1**
Maximum regen opening size: **5**

Description of advance regeneration in proposal area:

Advance regeneration is established on most of the proposal but is not very diverse, mainly black birch, red maple and white pine. Oak, hickory, black cherry, and hemlock are scattered on uplands with some yellow birch and ash, and more hemlock present along the wetlands. Regeneration is mostly in the sapling size with some pole sized particularly where there were larger openings created from past harvests. Seedlings are present throughout but are mainly non-vigorous due to being suppressed for so long. Moose and deer are common here and are one of the reasons for lack of diversity and prevalence of white pine and black birch which are not preferred browse. Almost all the hemlock has been very heavily browsed. There are some oak and red maple seedlings and saplings surviving without too much browse so there is still hope for some to get past the browse height of moose. Most areas have over 1000 seedlings/acre already.

General comments on silviculture proposed:

Small (1/4 - 5 acre) group selection is proposed for most of the area. Opening sizes and retention will be as directed by current guidelines in place at the time the lot is marked. Opening sizes and retention cited are from current guidelines. Edges of openings and areas that are overstocked will be thinned using the same guidelines mentioned below. For the most part areas to be thinned will be left fully stocked with residual basal area of 60-90 depending on amount of white pine (areas of mainly pine will have the higher BA). A few areas with at least 40 square feet of basal area of well formed, vigorous white pine, red and white oak, hemlock and/or sugar maple may be treated more as a seed cut shelterwood to allow these preferred species to grow (sequester carbon) and produce seed longer.

Openings will be placed as per our then current guidelines and will be located first in areas with more trees of low vigor or poor form or health. In determining their location consideration will also be given to terrain and how the next entry will be done. New openings will be placed adjacent to existing openings to further release the existing regeneration. Additional large higher quality trees will then be included in harvest to create the desired condition. Most of the poorly formed or storm damaged stems and most of the red maple will be cut. All the red pine and much of the ash will be cut as salvage due to the scale and emerald ash borer infestations. Retained trees, other than wildlife trees mentioned below, will generally be the better formed, vigorous individuals, retaining some of all the species that are currently present. Attempt will be made to retain structure and select well rooted, wind firm trees particularly in retained exposed groups in openings.

Scattered wildlife trees with stick nests, dens, or unusual habitat characteristics, will be retained; as will standing dead, healthy individuals of all species present and individuals with superior form and vigor. Goal is to preserve habitat, maintain or increase diversity, improve overall stand health and vigor, and retain some carbon storage and increase the growth rate (carbon sequestration) of the retained trees. One of the main silvicultural goals across the proposal is to diversify species and age structure by regenerating openings with

free to grow regeneration, that should stay vigorous for at least 10 years. These openings should also encourage species that are better adapted to our changing climate to become established.

Intent is to regenerate an additional 23 acres of new age class in this lot through the creation of openings, mainly 1/3-2 acres in size. Openings will be irregularly shaped other than where a stone wall is an edge. 5-10 sq ft of basal area will be retained in most openings over 0.5 ac.

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.

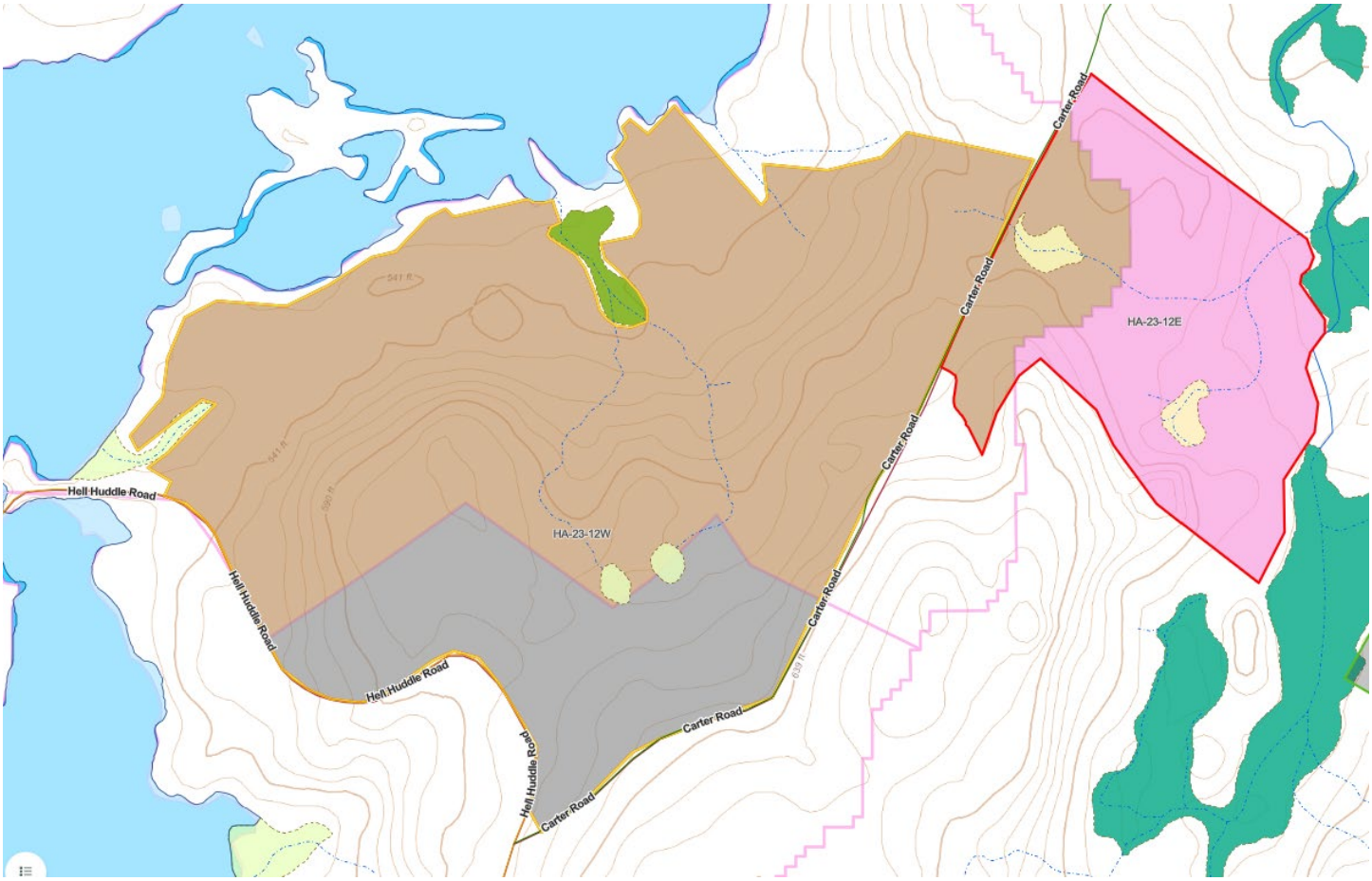
Figure 5. Orthophoto and cover types, HA-23-12W.

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
1 (Pottapaug East Shoreline)	521	8	123	69
2 (Gate 43 Road Shoreline)	377	0	94	21

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

Figure 6. Subwatersheds, HA-23-12W.



Equipment

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

Comments on harvesting limitations:

Generally no equipment restrictions should be necessary. Multiple wetlands/vernal pools/streams are present so extra care will be needed in operating around these areas and in the wetter soils and filters around them. A cable will be required, or an exemption from service forestry to operate tracked equipment in filter strips will need to be obtained.

Figure 7. Harvesting limitations, HA-23-12W.

Cultural Resources

Comments on Cultural Resources:

Historic features such as stone walls and cellar holes will be avoided and/or protected as per current DWSP policy. Almost all the proposed area has been logged at least once during last 30 years and appears there are barways sufficiently wide to allow modern equipment access with minimal disturbance to them. If such a barway doesn't exist, if possible, the wall will be crossed where previously disturbed or at a section that is low and made of tossed stone. Features that may get obscured by snow or vegetation will be flagged. Main skid trails with unstable soils will be armored with slash to avoid excessive rutting. If applicable, DWSP will follow any additional recommendations from DCR's Archaeologist regarding protection of sensitive sites.

Figure 8. Stony and Extremely stony soils, HA-23-12W.

Wildlife Resources & Rare and Endangered Species

General Wildlife Comments:

Coyote, bear, bobcat, deer, raccoon, turkey, grouse, and moose are some of the larger species known to inhabit this area. No large stick nests were noted but if any are found the trees they are in will be retained.

Comments on Rare Species/Habitats:

See Wetlands description for vernal pool information. No NHESP habitats within proposal area, though the northern edge lies close to a natural Sandplain Heath community. The western side of the proposal is close to bald eagle breeding and wintering habitat, but there are no known eagle nests within or near this proposal area.

Figure 9. NHESP Priority habitat overlay, HA-23-12W.

Environmental Quality Engineering

Comments on EQ Issues:

Intermittent stream crossings only. No EQ concerns.

Figure 10. Access planning, HA-23-12W.

Forest Access Engineering

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

Further comment on access needs:

Some gravel may be needed to firm up the landing. Carter Road has been recently regraded and improved. A pile of road scrapings needs to be removed from the north landing.

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