Division of Water Supply Protection

DCR Division of Water Supply Protection: FY2022 Forest Harvest Proposals

USING THIS INTERACTIVE STORY MAP

Each tab across the top of this page will open up an interactive map journal focused on one of the FY 2022 proposals. This year there are ten at Quabbin, five at Ware River, and six at Wachusett (the last tab on the right will open up the list of lots that cannot be fit across the top). As you scroll down in the frame on the left side, maps will update to highlight appropriate information relevant to the accompanying text section. The maps themselves can also be panned and zoomed using your mouse. (*If you are having issues with loading times or seemingly missing information, we have found that* ***clearing your browser cache*** *can help*.) A tab discussion archaeological review and protection of cultural resources during forestry activities has been included at the end.

Public comment on these proposals is welcome and can be submitted online at this link: https://www.mass.gov/forms/dcr-public-comments. Comments may also be submitted by U.S. mail to

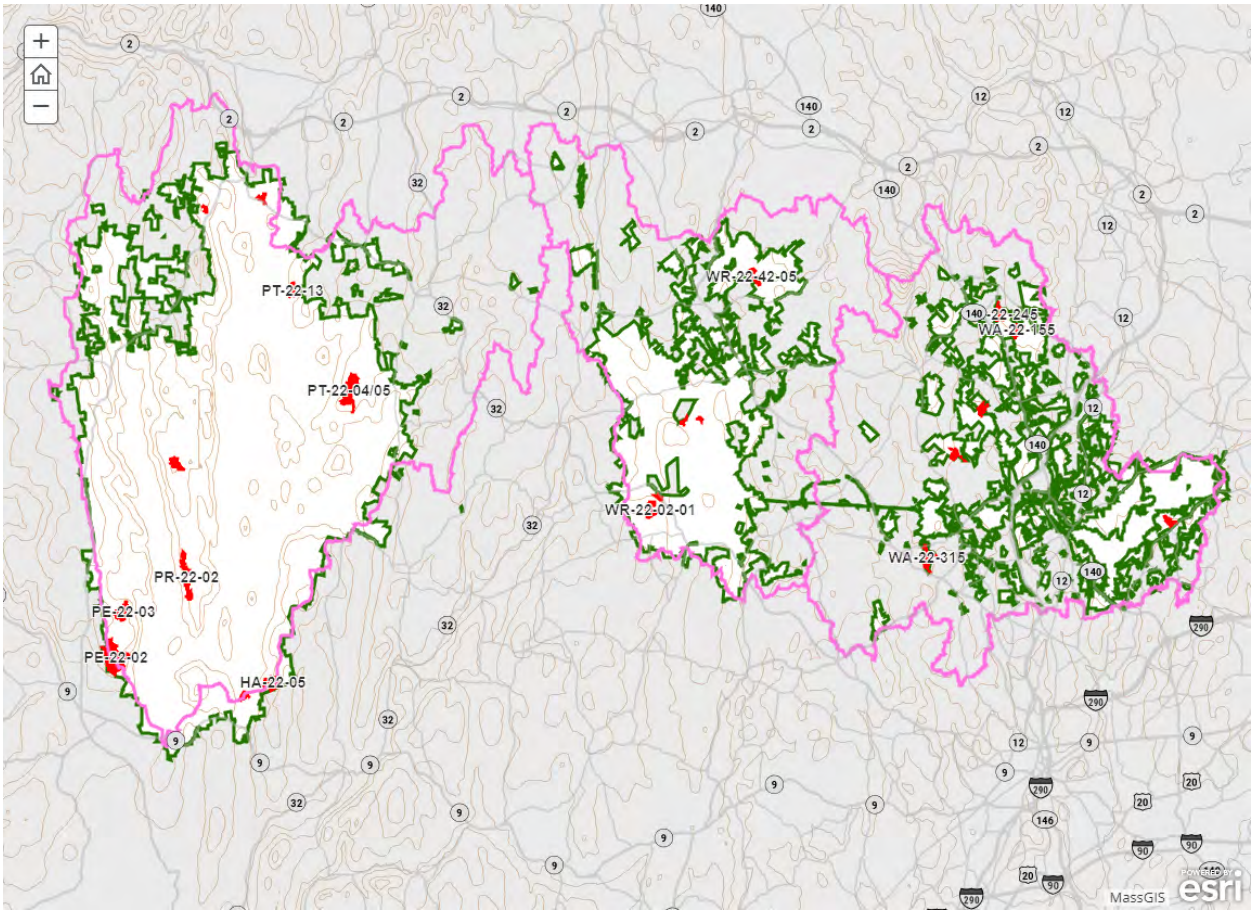
Department of Conservation and Recreation
Office of Public Outreach
251 Causeway Street
Boston, MA 02114

These proposals were presented at the Quabbin Watershed Advisory Committee meeting on June 28, 2021, and the Ware River Watershed Advisory on July 8, 2021. A link to this interactive web map application was also distributed to all advisory boards and committees, and letters were sent to individual Select Boards of affected towns.

Public Comments will be accepted until the close of business on Friday, August 6, 2021.

If you have any questions, please contact Natural Resources Specialist Brian Keevan at brian.keevan@mass.gov (preferred) or at (413) 213-7948.


DCR Division of Water Supply Protection Forest Management
Watch later
Share
Watch on YouTube


PT-22-13
PT-22-04/05
WR-22-42-05
WA-22-245
WA-22-155
WR-22-02-01
WA-22-315
PR-22-02
PE-22-03
PE-22-02
HA-22-05
MassGIS
esri

DWSP Forestry and Cultural Resources

WATERSHED PROTECTION FORESTRY

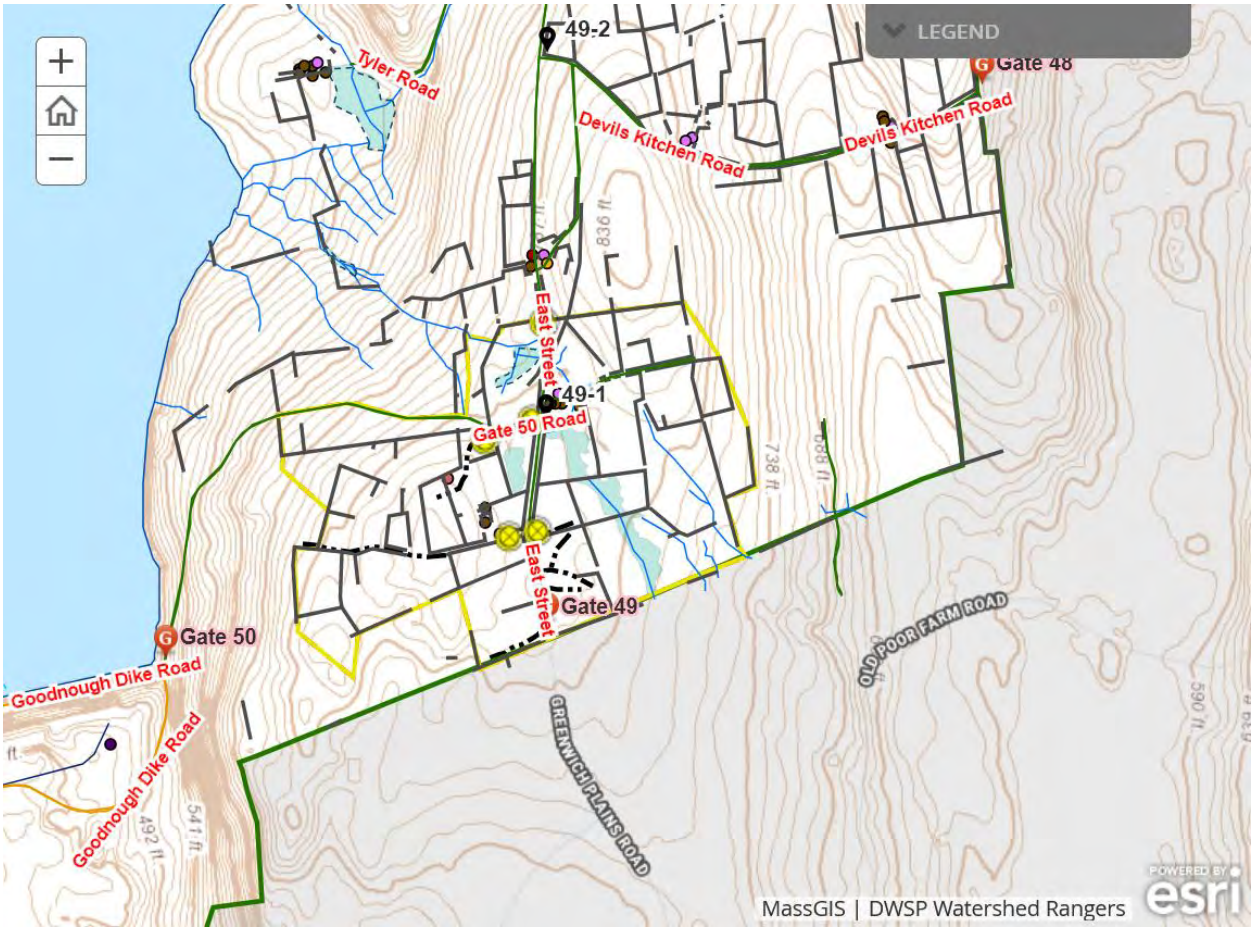
The Division of Water Supply Protection (DWSP) is mandated to protect drinking water resources for over three million Massachusetts residents. DWSP owns and manages over 100,000 acres of land within the Quabbin Reservoir, Ware River, Wachusett Reservoir, and Sudbury Reservoir watersheds. Forests on these lands serve as a living, protective filter, producing high quality water in our streams and reservoirs. DWSP is committed to maintaining a watershed protection forest cover on the vast majority of its lands, and has determined that the most resilient and protective forest is one that is vigorously growing and comprised of a broad diversity of tree species and ages. The Division's long-term objective is to steadily transition today's mostly even-aged forest into a forest with more balanced proportions of young, middle-aged, and older trees of a variety of native species. These conditions have been shown to promote and enhance native plant and wildlife biodiversity. DWSP's working hypothesis is that a diverse forest structure will also promote resiliency in the event of large and small scale natural disturbances such as increasingly severe weather events, disease outbreaks, and insect pest infestations.

For full details on DWSP watershed land management please see the:

2017 Land Management Plan (opens a pdf)

DWSP FORESTRY PLANNING AND REVIEW PROCESS

DWSP Foresters are responsible for the design, preparation, implementation, and oversight of forest management operations. Each year they prepare a number of timber harvest proposals which are reviewed for compliance with Land Management Plan goals and for protection of environmental resources by DWSP professionals in Natural Resources, Environmental Quality, and Watershed Management. Cultural resource review is completed by DCR's Archaeologist. Following this process, these proposals are made available for public comment as presented here.



Cultural Resource Protection and DWSP Forestry Activities

Cultural resource review has been a standard part of the internal review of DCR forestry activities for over two decades. In addition to overseeing historical preservation activities throughout the DCR Parks system, the DCR archaeologist reviews the areas we propose to harvest for proximity to known or potentially sensitive sites, both historic and pre-Contact.

Feedback is often fairly standard. If there are known to be significant historic or archaeological resources documented within the proposed project parcel, then the lot will have restrictions to be operated when the ground is dry, frozen, or can support harvesting equipment. A standing requirement is that any cultural resource features located before or during the forestry project will be protected according to guidelines set forth in the current DWSP's Land Management Program and indicated on harvest maps accordingly. And foresters are asked to flag, protect, photograph, and map any cultural features and contact DCR staff archaeologist if there are any questions or concerns.

In most cases on DWSP properties, the cultural resource sites are easily identified as recent historical activities associated with agricultural land clearing and farming by European colonists. Stone walls, cellar holes, foundations, and wells are routinely encountered by foresters as they walk DWSP's watershed forests. Some of these structures are well-documented, especially at Quabbin, while others would require research to determine original owner/builder, last known owner, etc. Systematic surveys were conducted of all the known historical sites at Quabbin by researchers in the 1990s, using property maps created when the lands were surveyed and taken for construction of the reservoir. Much of this information is available upon request at the Quabbin Visitor Center in Belchertown.


Arthur R. Davis New Salem 384

Protection of Sensitive Sites

These lands had been occupied for thousands of years before the influx of Europeans in the 17th century and the reworking of the landscape to suit their agricultural way of life. Plowed soils often revealed artifacts from pre-Contact land use, such as the tools and weapons collected by this enthusiast from pre-Quabbin Enfield.

DCR's archaeologist routinely consults Massachusetts Historical Commission records to determine proximity of proposed activities to known protected sites such as villages and burial sites. Models are also consulted that use ground conditions such as topography and distance to water sources to estimate the potential locations of other pre-Contact sites such as seasonally occupied camps.

In an effort to protect this information it will not be included in the public documentation for the forestry proposals. DWSP foresters abide by all recommendations pertaining to protection of historic and pre-Contact cultural resources.

Ongoing Field Mapping of Cultural Resources

Known and visible features and sites are mapped using GIS and are incorporated into editable digital field maps. Mapping apps for smartphones and tablets have revolutionized the ability for foresters to verify locations and add previously unmapped features right in the field. This technology aids immensely in planning harvesting operations.

At Ware River, Wachusett, and Sudbury no modern systematic surveys have been conducted, although the foresters routinely map stone walls and other features and do consult property sheets that show locations of extant homes and outbuildings at the time of land takings.

Most of what you will read in these individual lot proposals will be the foresters' assessments of visible cultural features in the area, and these are nearly always stone features related to colonial and post-colonial land use.

Quabbin Harvest Proposal NS-22-17-YFFA

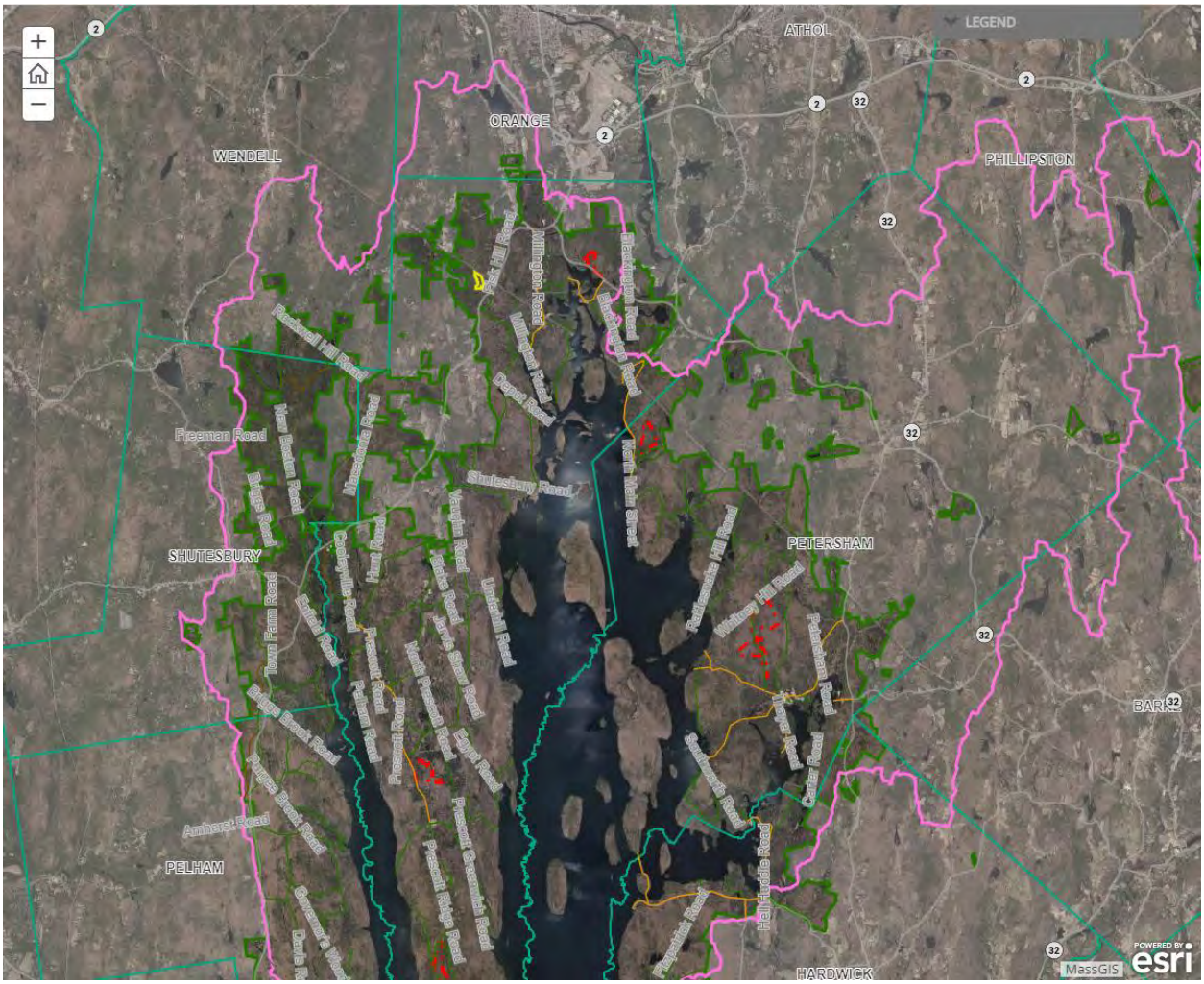
Proposal Goals

The main goal for this proposal is to initiate a large patch of young forest as part of a greater agency-wide effort to provide suitable, dependable local habitats for a suite of species impacted by regionally declining levels of shrubland and young forest.

Proposal Location

This lot is on the eastern slope of Fisk Hill in New Salem, in the southeast corner of the Young Forest Focus Area (YFFA) as shown in Figure 4-8 on page 123 of the DWSP 2017 Land Management Plan. This first entry is bordered to the north by the power line and to the west by the summit of Fisk Hill. The south and east borders of the lot are the edges of the YFFA.

Total Acres: 17



General Description

	Overstory Type(s)	Acres
Dominant	White pine - hemlock	11
Secondary	Oak - hardwoods	6
Other		

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

Description of forest composition/condition:

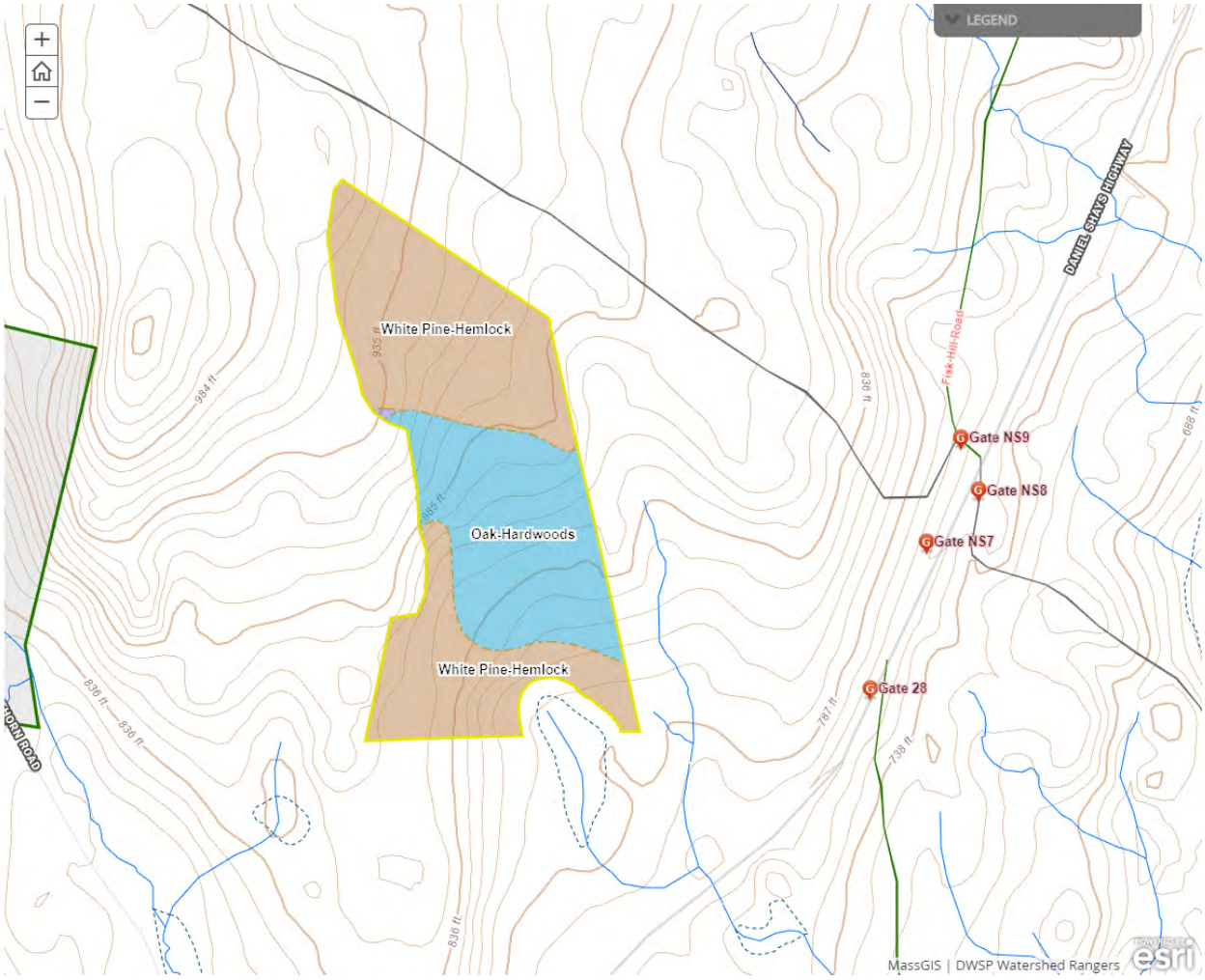
This area has a two-aged structure, with an overstory of sawtimber-sized black, white and red oak and scattered white pine. Oak form is poor to fair across species and vigor is generally good. There are a few recently killed oak snags, but overall gypsy moth damage was light. White pine has good vigor 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. Notably, both hemlock and beech have widely variable form and vigor; it appears that some beech on this site are resistant to beech bark disease.

Hemlock, white pine, black birch and occasional oak saplings are present but patchy, 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.

Assessment of Terrestrial Invasive Species:

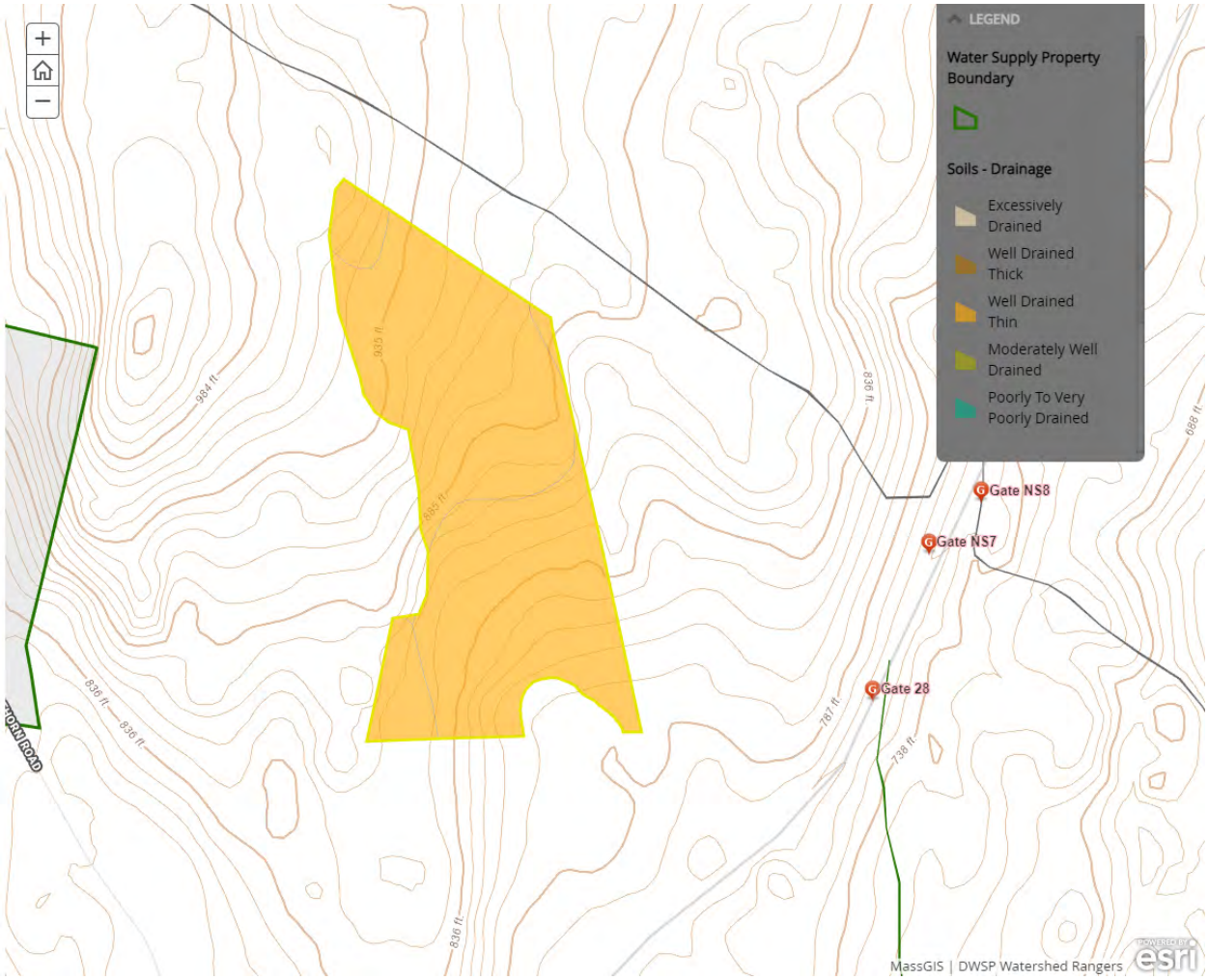
None noted.



Soils

Drainage Class	%
Excessively Drained	0
Well Drained Thin	100
Well Drained Thick	0
Moderately Well Drained	0
Poorly to Very Poorly Drained	0

The single soil type in the proposed area is Chatfield-Hollis complex, rocky, with slopes ranging from 3 to 25 percent. Harvesting on steep slopes will be avoided in order to minimize erosion.

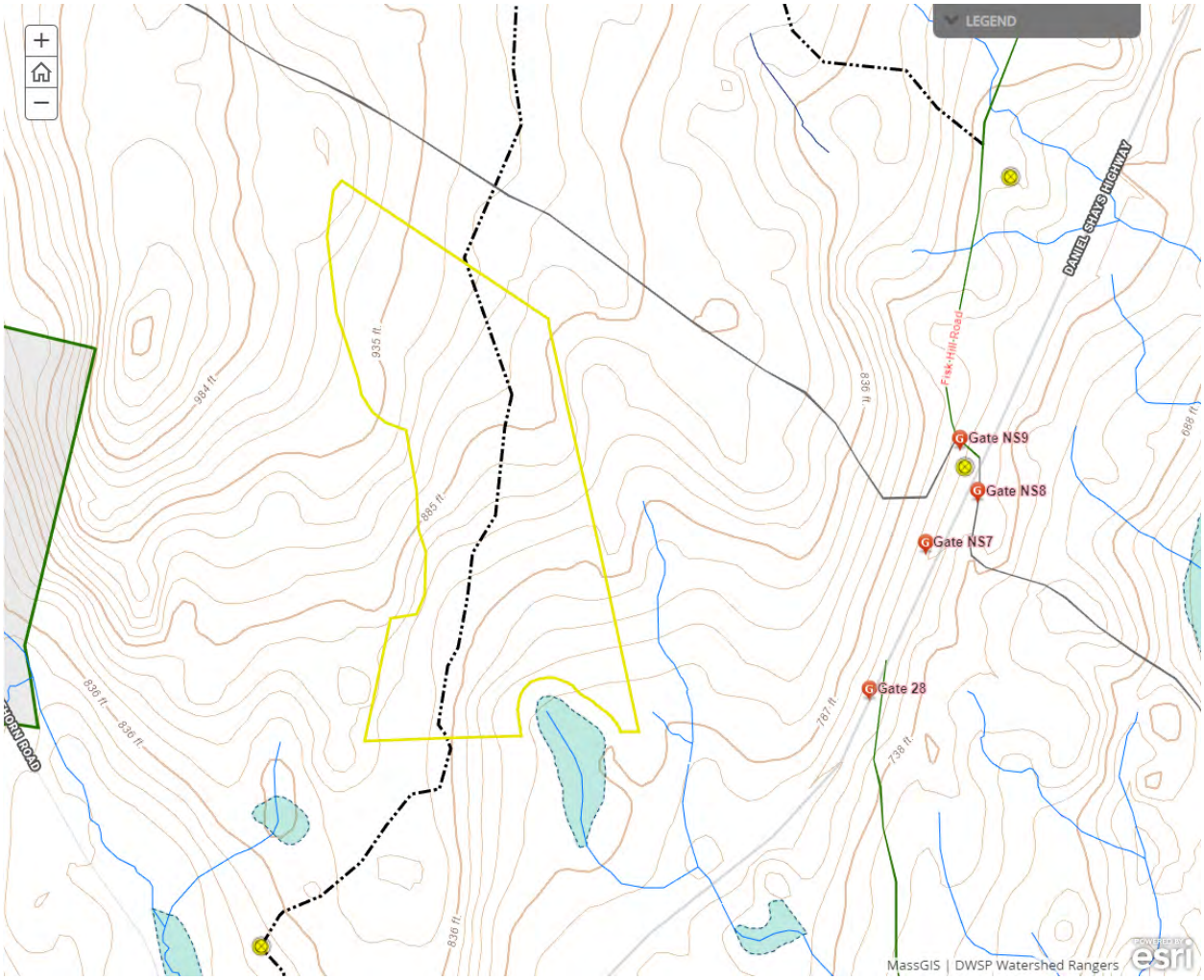


Wetlands

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

There are no wetland resource areas within or adjacent to the cutting area. Streams and wetlands near the harvest will be protected by filter strips.

Outside the harvest area, Fisk Hill Road has three existing culvert crossings on intermittent streams, which may need to be crossed by log trucks or other vehicles. Quabbin potential vernal pool #783, near Moosehorn Road, is well outside of the harvest area and will not be impacted by skid roads.



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:

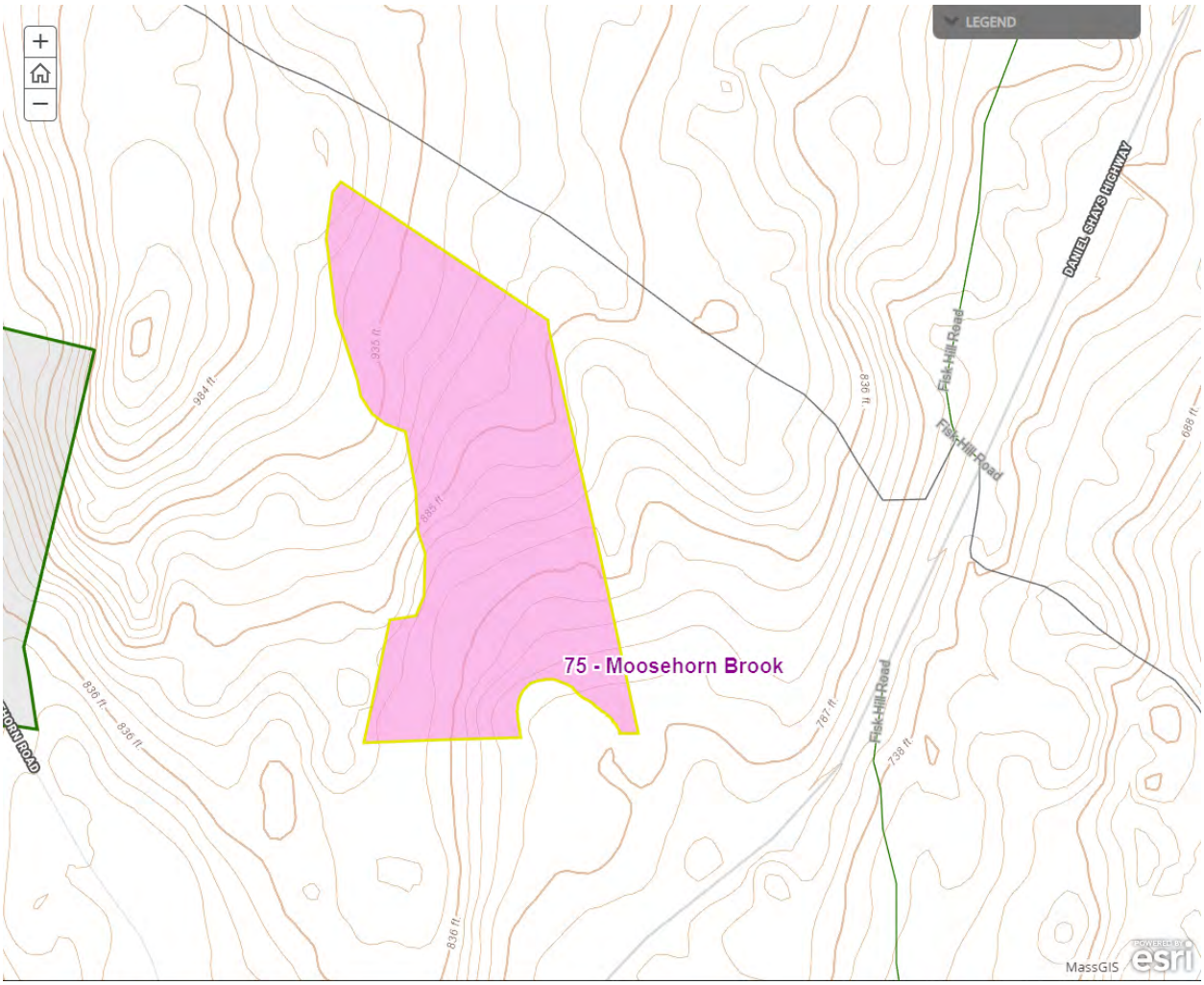
This area was designated as a Young Forest Focus Area in the DWSP 2017 Land Management Plan (pp. 120-123). This first entry will create early successional habitat adjacent to the power line, with the intention of expanding on existing habitat.

Eleven to fourteen (11-14) acres of the proposal area will be clearcut with minimal reserves. (Note: 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.

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
75 (Moosehorn Brook)	1094	21	253	17

Proposed harvesting will not exceed the 25% threshold.



Harvesting Limitations

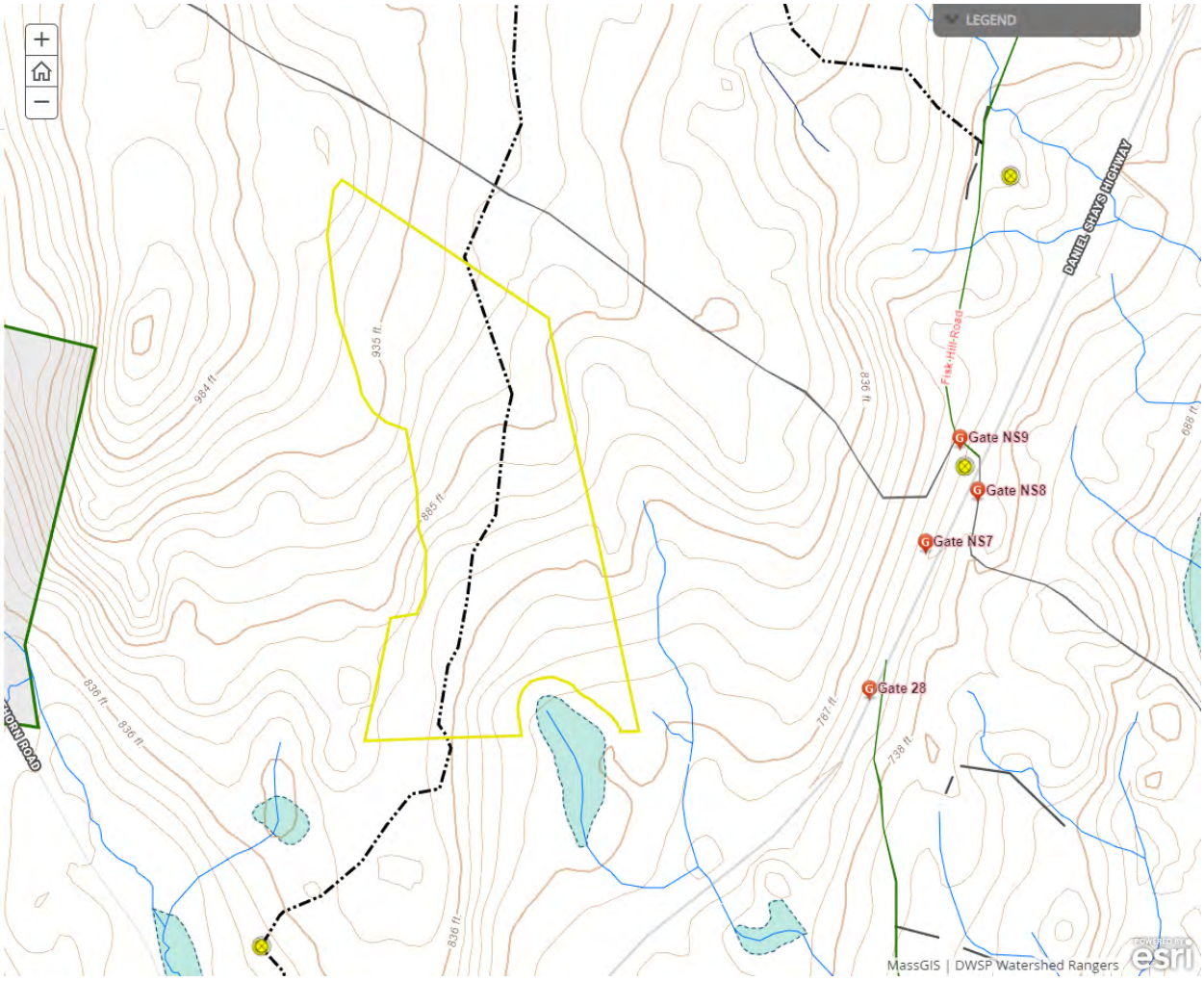
Forwarder required: **No**

Feller/processor required: **No**

Steep slopes present: **Yes**

Comments on harvesting limitations:

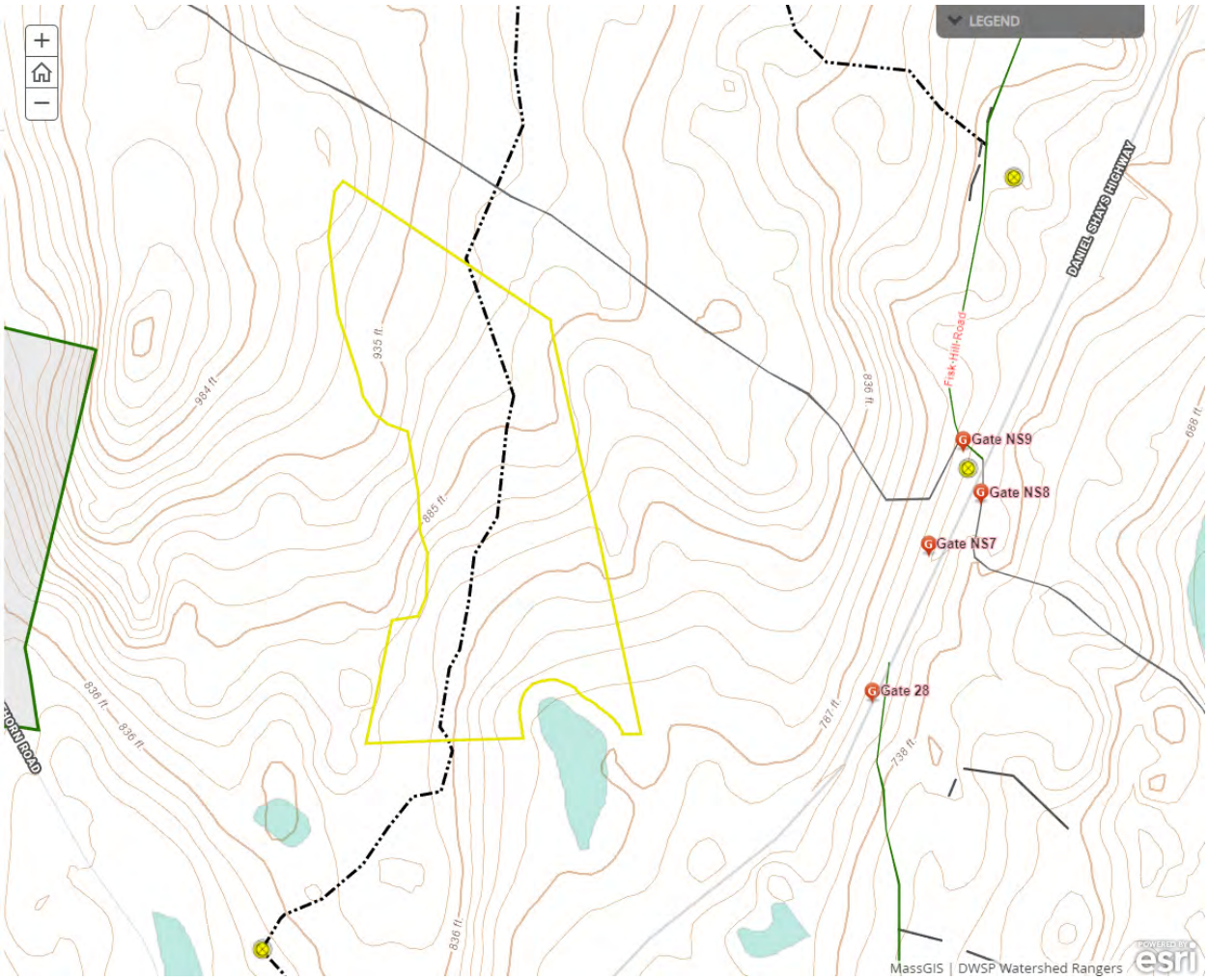
The main skid road(s) will traverse steep slopes between the harvest area and the landing. There will be no steep slopes (>20%) within the harvest area.



Cultural Resources

Comments on Cultural Resources:

None known. Loggers will be instructed to protect and report cultural features if they find them.



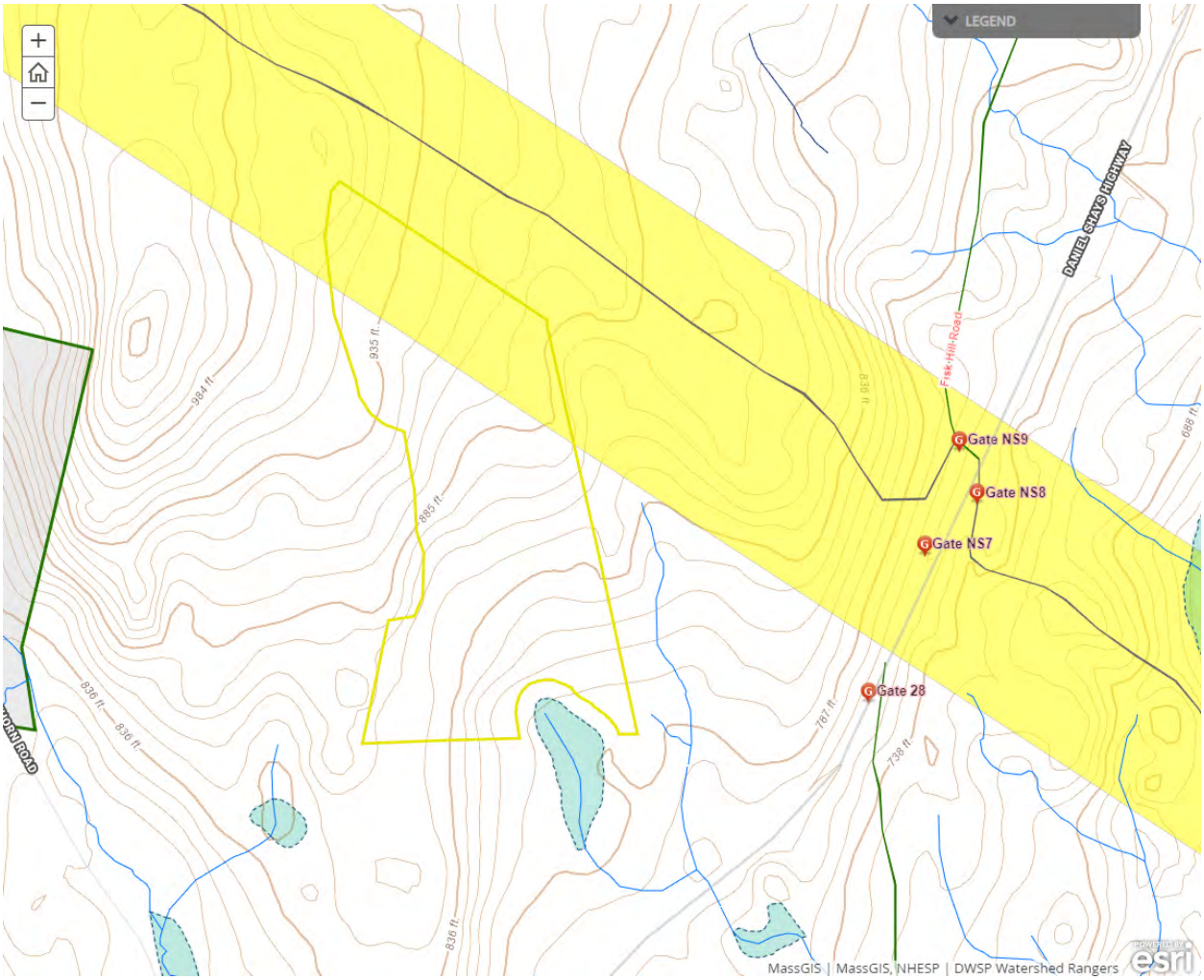
Wildlife Resources & Rare and Endangered Species

General Wildlife Comments:

The purpose of this harvest is to create early successional habitat for wildlife.

Comments on Rare Species/Habitats:

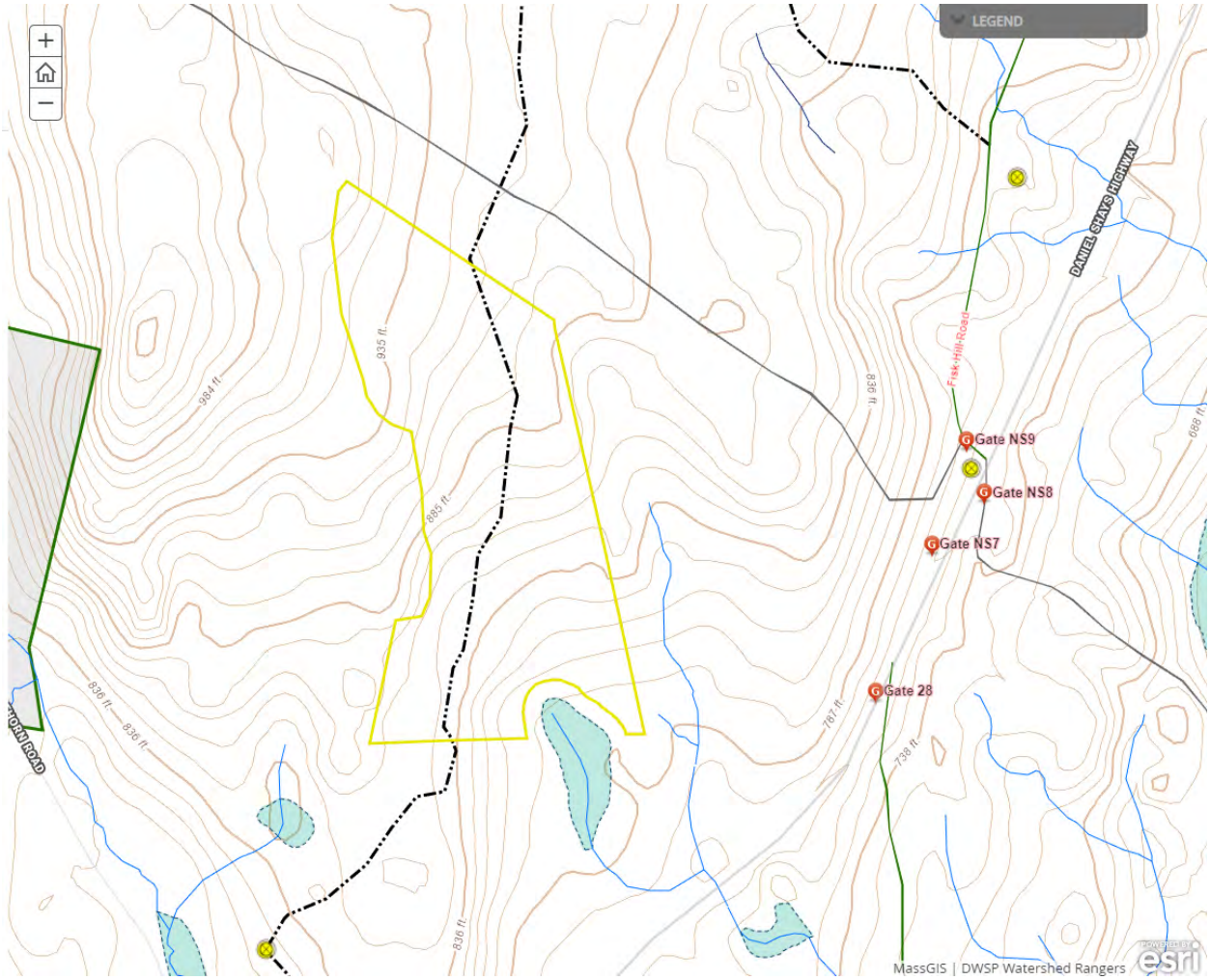
NHESP has determined that certain state-listed sensitive species or habitats may exist within the lot proposal area. To protect them from any necessary disturbance, detailed information regarding affected species and their locations is not included in this report. DWSP will coordinate with NHESP and follow recommendations to protect these species during the proposed activity.



Environmental Quality Engineering

Comments on EQ Issues:

There are no perennial streams within the proposed area. Intermittent stream crossings outside the proposal area are culverted under Fisk Hill Road.



Forest Access Engineering

Gravel needed: Yes

Landing work needed: Yes

Culverts needed: No

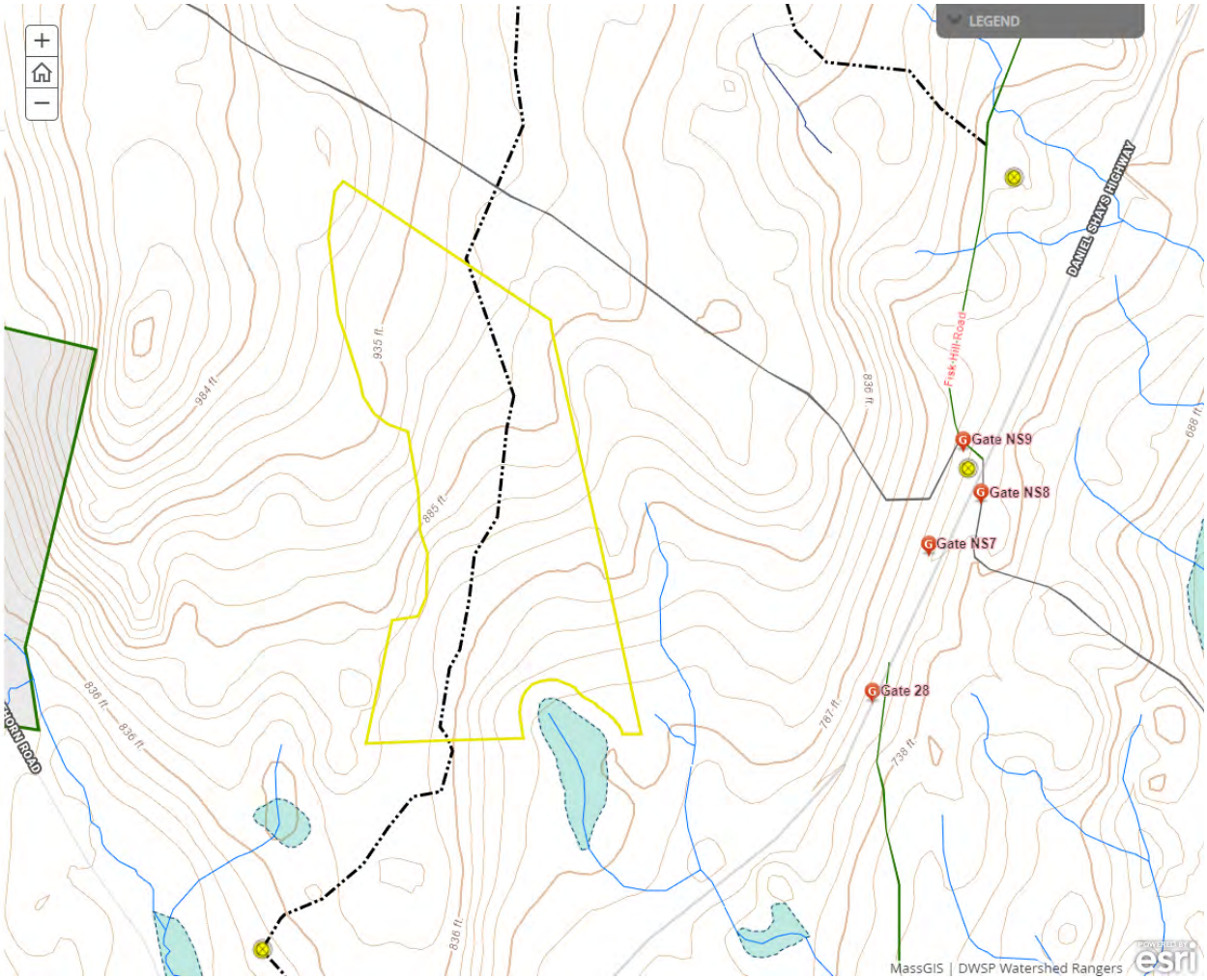
Work needed on permanent bridges: No

Beaver issue: No

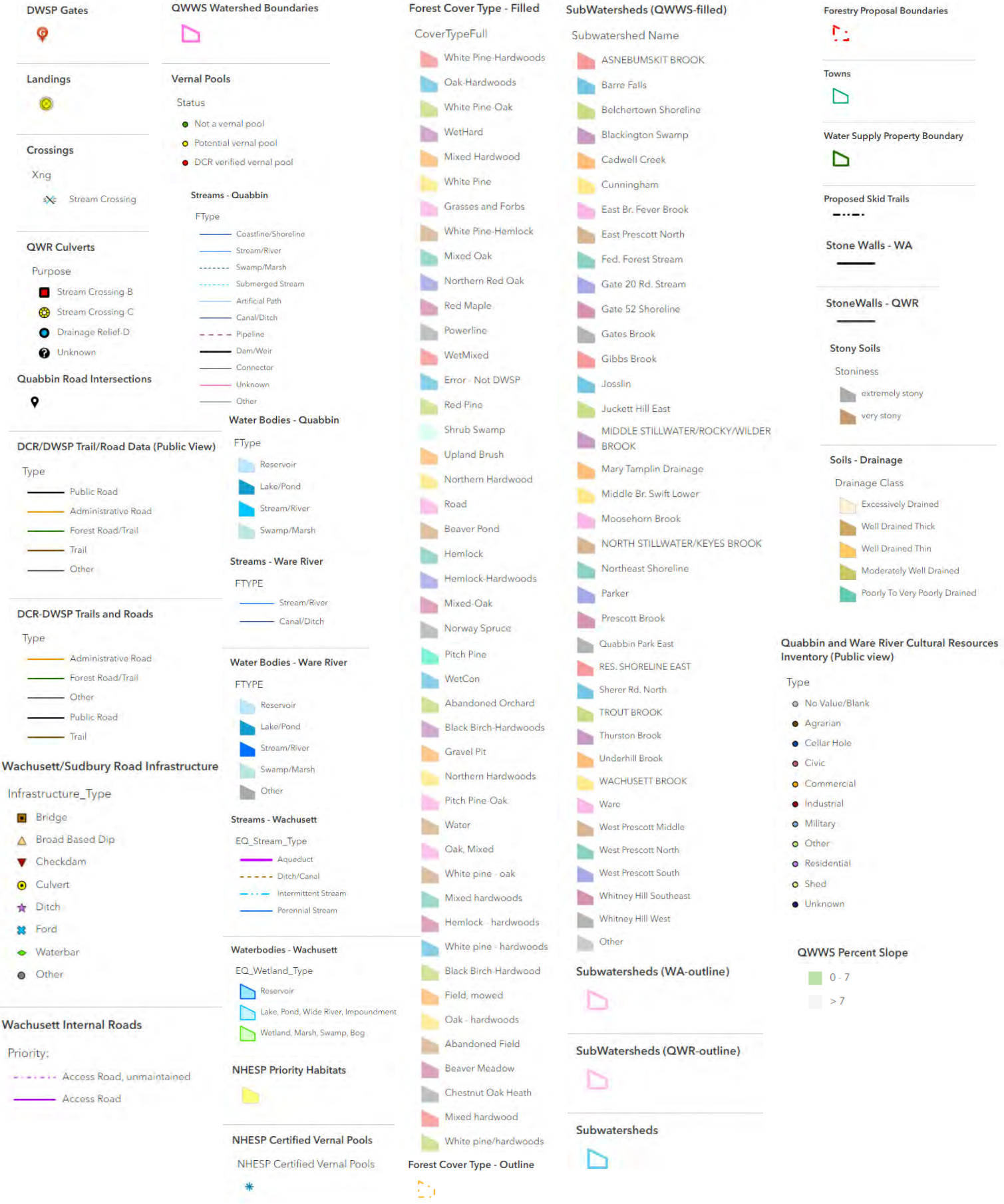
Further comment on access needs:

Gravel and other landing/access work may be needed at Gate NS9 or on Fisk Hill Road.

Possible landing sites include: just outside or inside Gate NS9; a few hundred feet north of Gate NS9 on Fisk Hill Road; and (less likely) on the north side of Moosehorn Road at the intersection with Route 202. Access to the cut area from Gate NS9/Fisk Hill Road could be via the existing power access road (avoiding or improving the deteriorating part of the road at the base of the slope), and/or via skid roads established for Lot 3102.



DWSP FY 2022 Forestry Proposals – Master Legend for story maps



Quabbin Harvest Proposal NS-22-24-BFA2

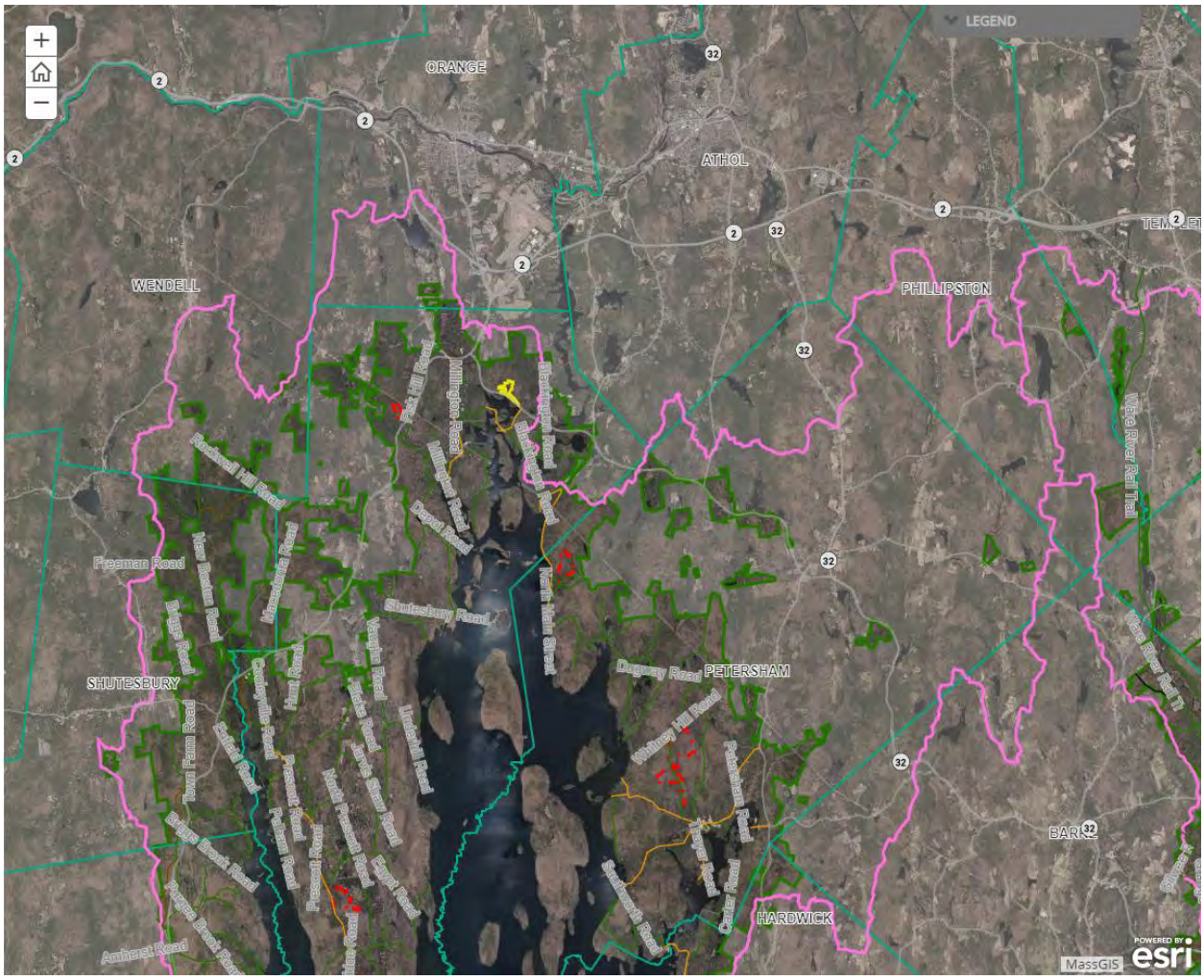
Proposal Goals

The main goal for this proposal is to expand the pitch pine - oak barren restoration by extending the area restored in 2019 east to the base of Gays Hill in New Salem.

Proposal Location

The core of this proposal is bounded by Blackington Swamp to the north, the base of Gays Hill to the east, Route 122 to the south, and the prior Barrens Focus Area (BFA) harvest to the west (Lot 3159, completed in 2019). This section also includes about 1.5 acres of white pine located north and northeast of the old gravel pit, which was within the footprint of the prior BFA harvest but was not cut due to the focus for that entry on removing red pine plantations. An additional 200 foot wide strip extends east along Route 122 to a perennial stream, and west to the access road to the old gravel pit.

Total Acres: 22



General Description

	Overstory Type(s)	Acres
Dominant	White pine - oak	13
Secondary	White Pine	5
Other	Oak, mixed	4

	Understory Type(s)
Dominant	Tree seedlings/saplings dominate site
Secondary	Dry site - blueberry/huckleberry

Description of forest composition/condition:

Mixed red, white and pitch pine dominate the core harvest area, sometimes in nearly equal proportions, with mixed oaks as primary associates. Species diversity is especially high near Route 122, where Hemlock and red maple become more common, along with occasional paper birch, black birch, black cherry, hickory, white ash, beech and poplar.

The red pine is mature sawtimber with good form, as is typical for this species. It was planted within the existing stand as reclamation after a wildfire burned through this area in the mid-1900s, and hence is mixed with other species. Red pine scale is in the early stages of infestation, as evidenced by browning needles in the lower crowns, particularly along the highway. This invasive insect can be expected to spread throughout the site in the near term, causing cause 100% mortality of red pine within a few years.

White pine has generally good form and vigor, and is present in all size classes, from seedlings to large sawtimber. Pockets of sapling- and pole-sized white pine attest to prior openings, caused by past harvests, the aforementioned wildfire, and/or other natural disturbances. Along Route 122 the white pine is often emergent, towering above other species.

The pitch pine is mostly pole- to small sawtimber-sized with fair to good form and vigor. It's common in the core of the harvest area, sometimes comprising almost half of the overall basal area, but uncommon along Route 122, dropping out completely as one approaches the stream on the easternmost border or the proposal.

The oak species mix is extremely diverse, including red, black, scarlet, white and chestnut oaks. Red and black oak are most common in the core of the harvest area; white oak becomes more common near the highway. Chestnut oaks are rare within the harvest area but a significant presence on the nearby slopes of Gays Hill. Oaks of all species are mostly pole-sized, with a few larger trees near the highway. Oak form ranges from poor to average; vigor is generally good, despite a small amount of gypsy moth related mortality.

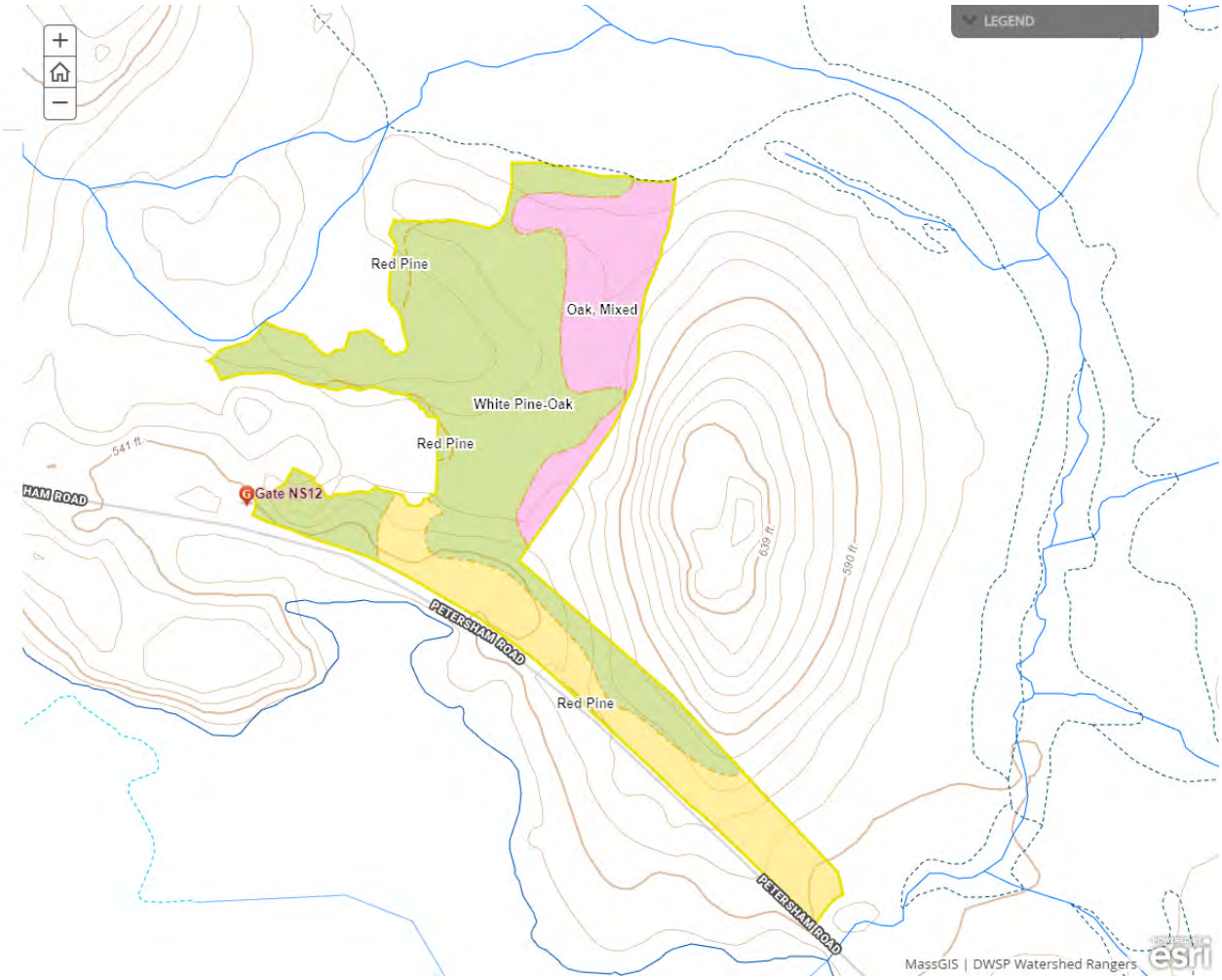
Most of the understory is dominated by white pine seedlings and saplings. Oak seedlings are also common in areas with more sunlight, such as along Route 122. Blueberry is dominant near Blackington Swamp, interspersed with scattered young pines. Wintergreen, partridgeberry and

club moss are present throughout the proposal area. Hay scented fern is present but not dominant.

Past harvests include the first Barrens Focus Area entry, Lot 3159, which was completed in 2019 and focused on removal of red pine plantations totaling 14.4 acres. Prior to that, single tree selection harvests were completed in 2001 (Lot 3004, 6.8 acres overlapping the west central part of this proposal), 1998 (Lot 773, 9.2 acres along Route 122), and 1994 (Lot 663, 5.9 acres covering the same area as Lot 3004). About 13 acres of the proposal area have never been harvested by DCR.

Assessment of Terrestrial Invasive Species:

A small amount of asiatic bittersweet was found near Route 122. Ideally, this should be treated before the harvest to prevent spread.

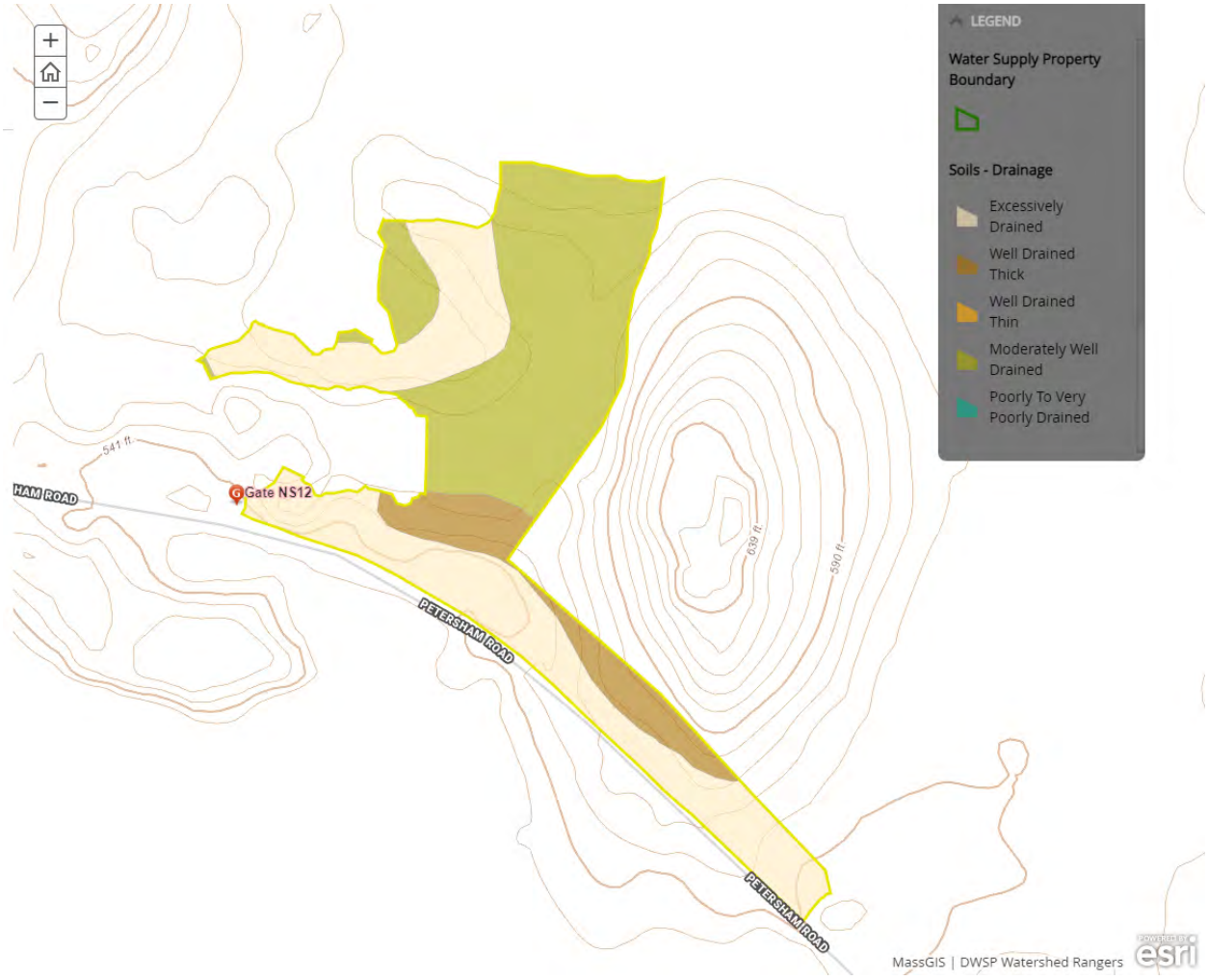


Soils

Drainage Class	%
Excessively Drained	44
Well Drained Thin	0
Well Drained Thick	11
Moderately Well Drained	45
Poorly to Very Poorly Drained	0

Soil types: Hinckley sandy loam and Windsor loamy sand, both 8 to 15 percent slopes and excessively drained; Canton fine sandy loam, 8 to 15 percent slopes, very stony, well drained thick; Deerfield loamy sand and Sudbury sandy loam, both 0 to 3% slope and moderately well drained.

Sudbury sandy loam has a high wind throw risk, due to low soil cohesion and a high water table (~20 cm). This soil type also underlies the northern and central portions of the previous BFA entry, where a few retained pines uprooted in high winds. This is not a problem for barrens habitat per se, but could make future habitat maintenance more difficult.

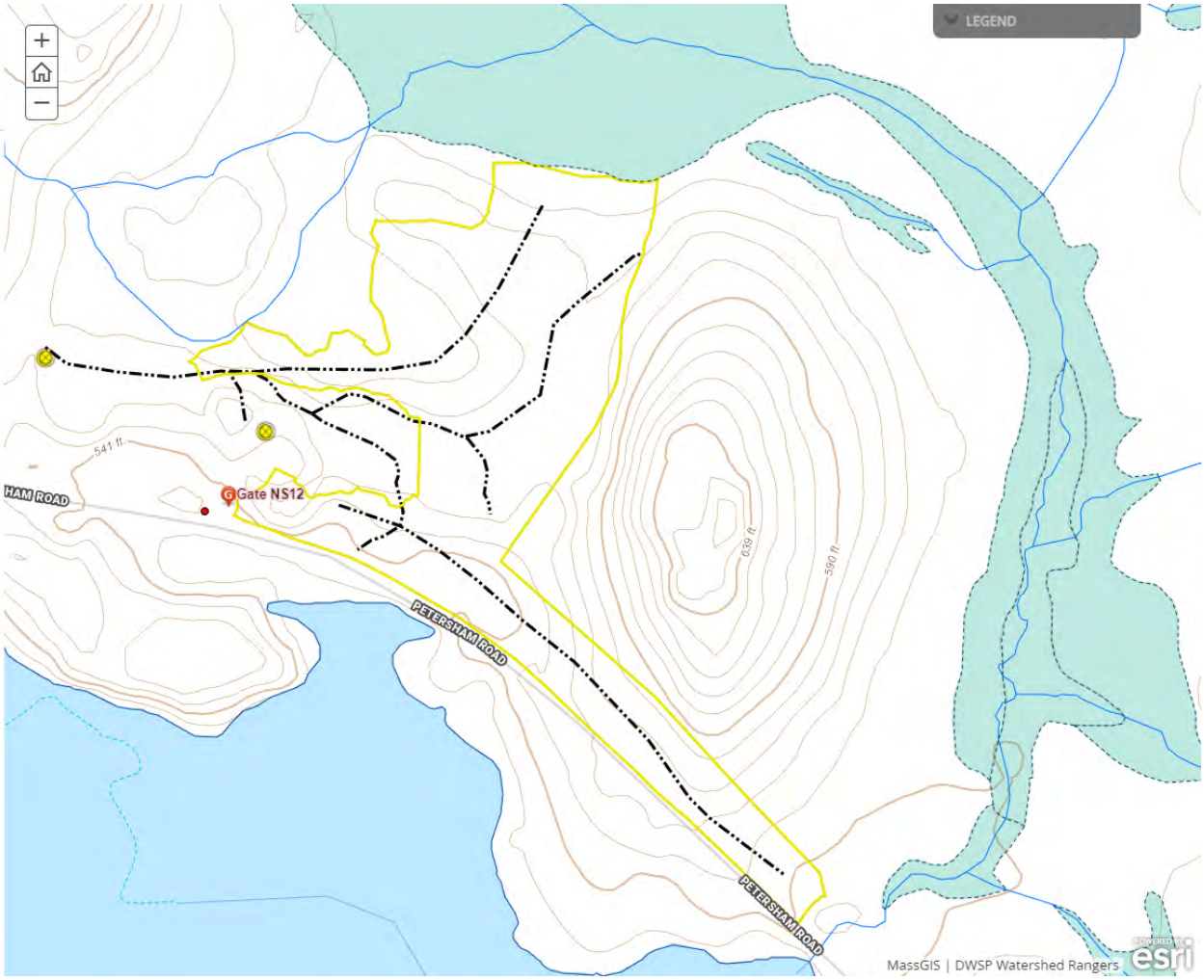


Wetlands

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

This area is very dry, which is one of the reasons it is suitable for barrens restoration. Wetland features outside the perimeter of the proposal include Blackington Swamp to the north; a perennial stream and associated wetlands draining from Blackington Swamp to the east; and to the southwest, a verified vernal pool on the far side of the access road to the old gravel pit. All of

these have been excluded from the harvest area. The 0.4 acres in the southwest corner of the proposal area that are within 200 feet of the vernal pool will be protected according to the policy set out in the DWSP 2017 Land Management Plan.



Silviculture

Acres in Intermediate cuts: **7**

Acres in prep/establishment cuts: 1**0**

Acres in Regeneration cuts: **5**

Average regen opening size: **2**

Maximum regen opening size: **2**

Description of advance regeneration in proposal area:

White pine seedlings and saplings dominate most of the understory. Regeneration near the highway is more diverse, with white pine, hemlock, red maple, black birch and mixed oak seedlings and saplings.

General comments on silviculture proposed:

Silvicultural treatment #1: barrens restoration
Location: central and northern portions of the proposal area
Size: 15 acres

This is the second step in the process of barrens restoration, as described on pages 11-127 of the 2017 DCR-DWSP Land Management Plan. It builds on the red pine plantation removal that took place in the first step, completed in 2019 (Lot 3159), expanding that area to the east.

As in the first entry, healthy pitch pine and oaks of all species will be retained, while red pine, white pine, and hardwoods other than oak will be removed. Basal area retention will be much higher than in the first entry, however, because of the higher stocking of pitch pine. Where they compete with one another, pitch pine will be prioritized over oak. Total basal area will be reduced to 80 ft2/acre or less.

Within the same area, openings up to two acres may be created in places where there are few or no oaks or pitch pine, and/or where all of the oaks and pitch pine have poor health, low vigor, or unstable structure.

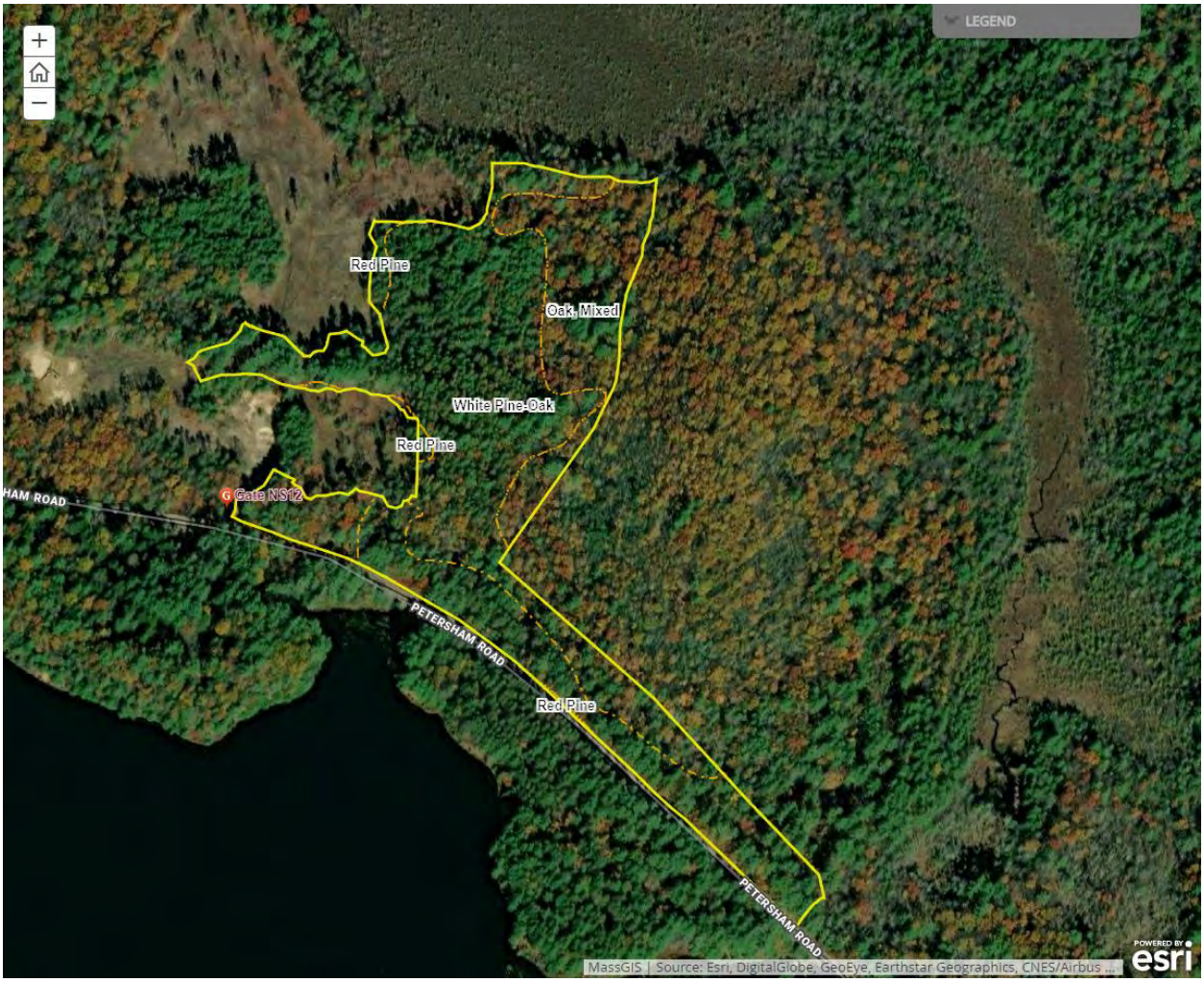
Blueberries are common in the northern portion of the proposal area and will be protected as much as possible as an important element of barrens habitat.

For the purposes of this proposal the areas with retained pitch pine and oaks are referred to as prep/establishment cuts, because post-harvest stocking levels will be similar to that of a shelterwood prep cut, and openings are referred to as regeneration cuts. However, this barrens

restoration treatment would be more accurately described as being for habitat rather than regeneration, and having variable retention ranging from 0 to 80 ft2/acre. The overall result will be a savannah-like forest with spacious, somewhat patchy stocking of pitch pine and oak, contiguous with the openings already created by red pine plantation removal.

Silvicultural treatment #2: sanitation/improvement
Location: a strip up to 200 feet wide on the north side of Route 122
Size: 7 acres

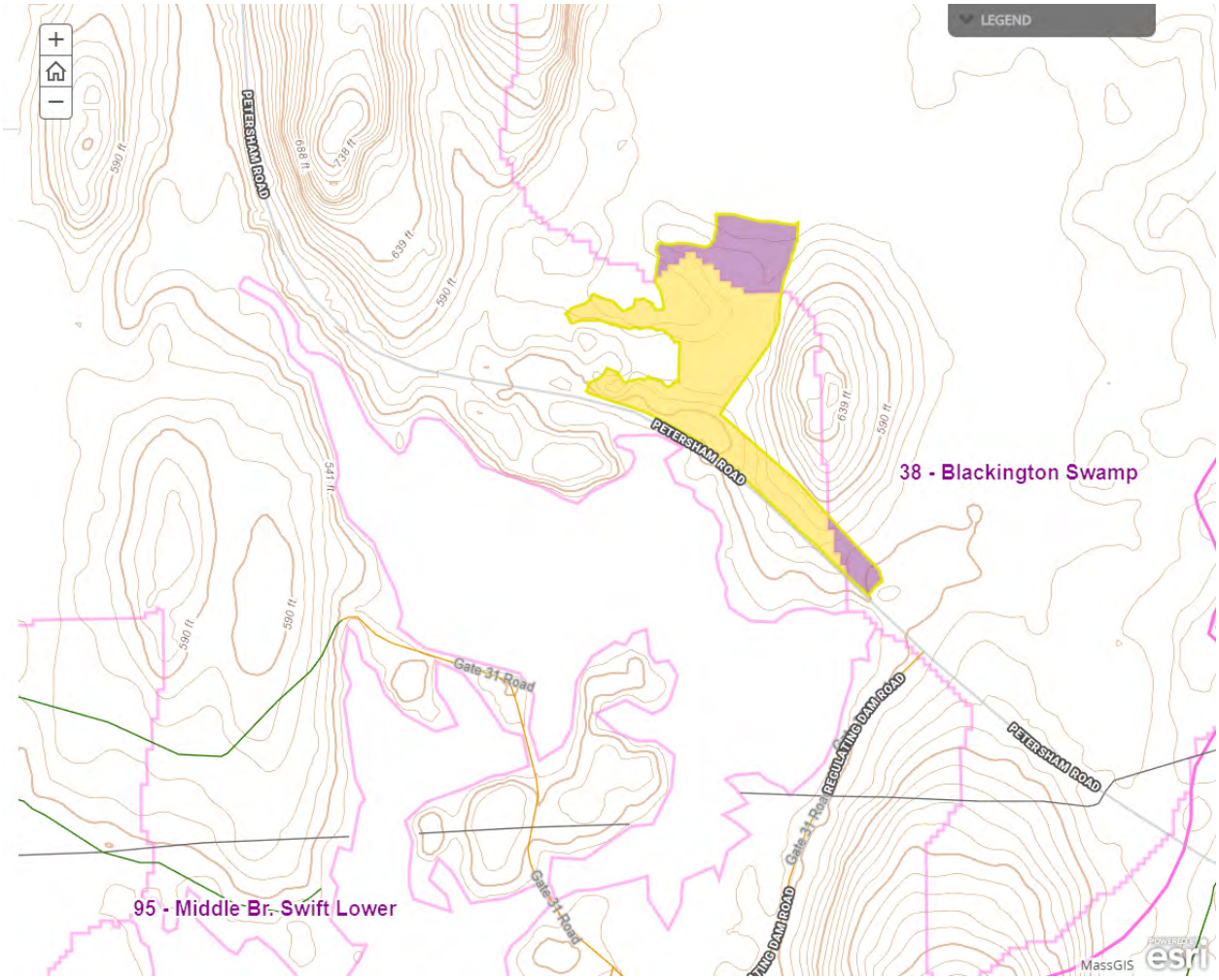
The primary objective in this area will be improving stand health and vigor by removing red pine before it dies due to red pine scale. Unhealthy and poorly formed white pine and hardwoods will also be cut. Stand diversity will be maintained by retaining healthy trees of all species other than red pine. This harvest will meet, and in most places exceed the roadside buffer requirement of retaining at least 50% of well distributed basal area.



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
95 (Middle Branch Swift)	1177	30	264	17
38 (Blackington Swamp)	447	28	83	6

Proposed harvesting will not exceed the 25% threshold.



Harvesting Limitations

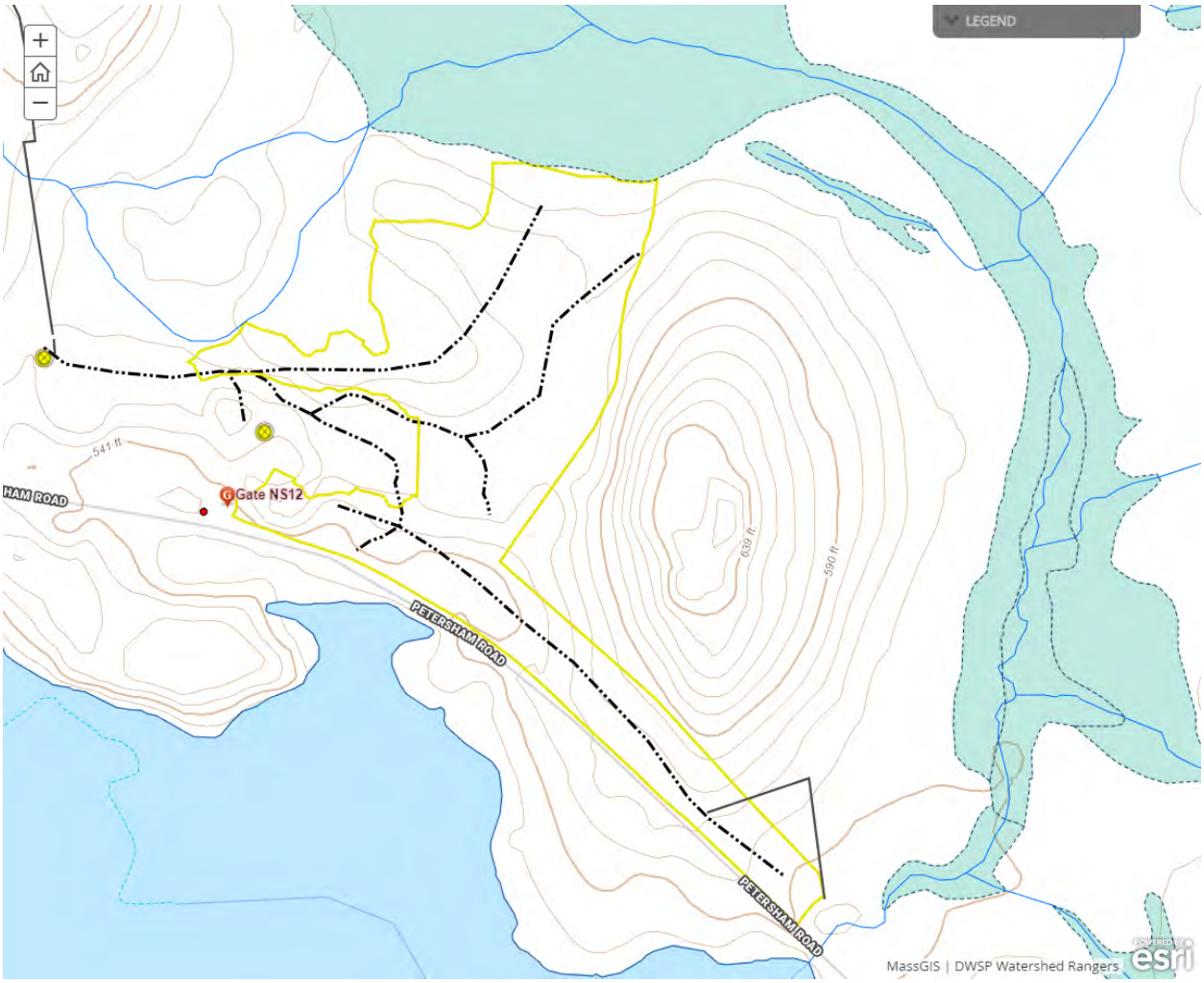
Forwarder required: **No**

Feller/processor required: **No**

Steep slopes present: **No**

Comments on harvesting limitations:

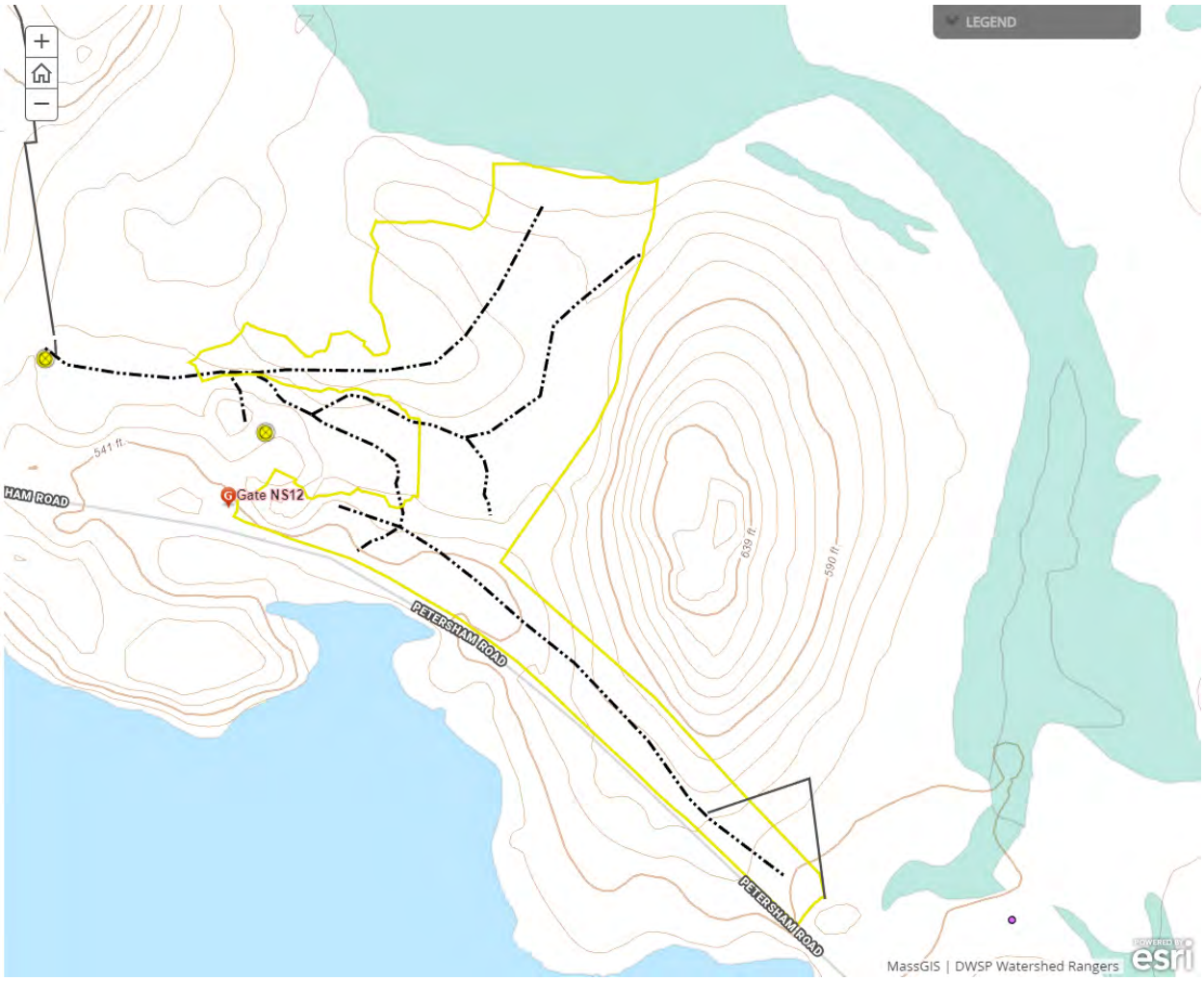
None.



Cultural Resources

Comments on Cultural Resources:

There are two cellar holes and a short, V-shaped section of stone wall at the far east end of the proposal area. These will be flagged, protected, and avoided as much as possible, as will any other cultural features that are found in the course of the harvest. The terrain may necessitate crossing the stone wall; if so, this will be done where the wall is already falling down.



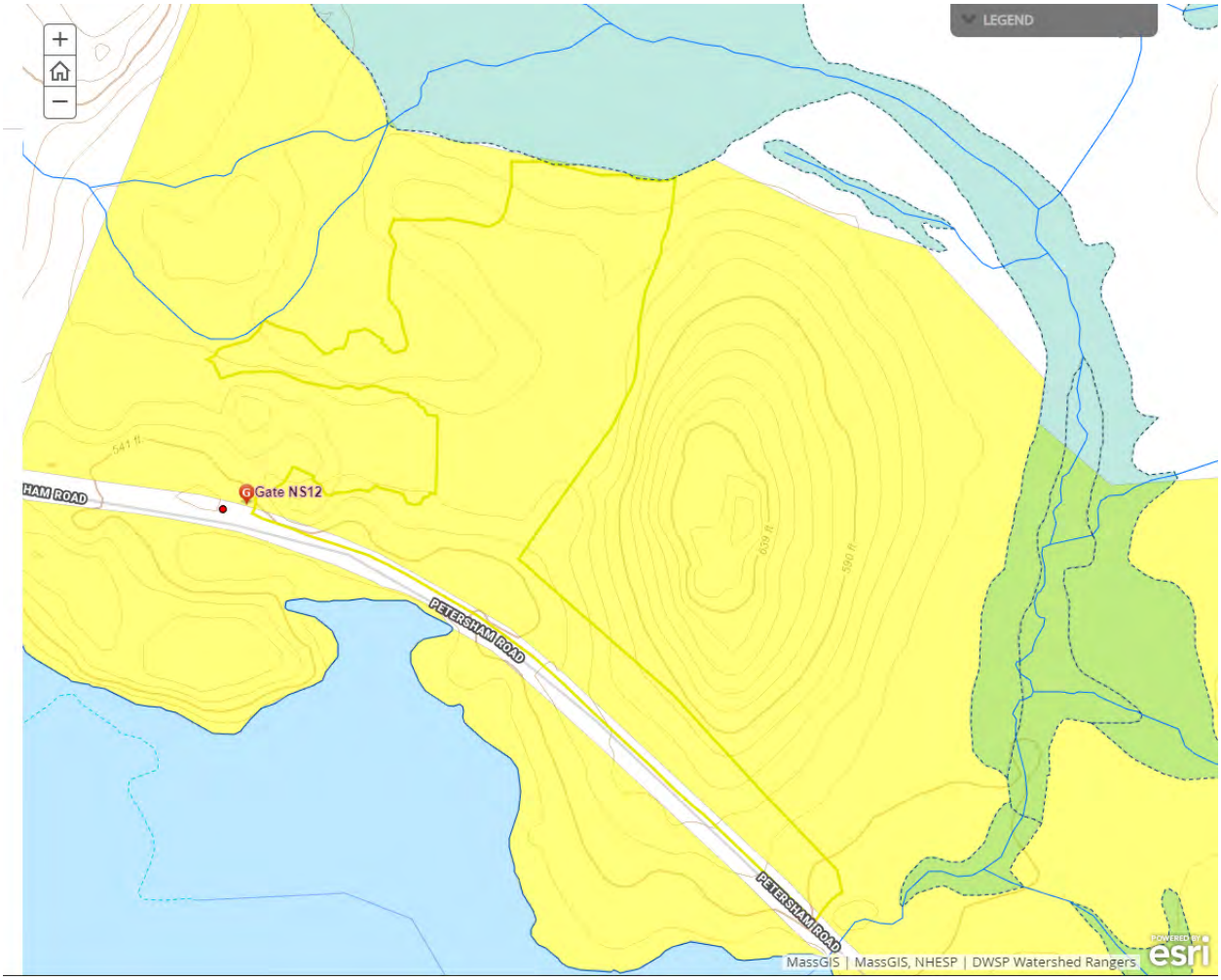
Wildlife Resources & Rare and Endangered Species

General Wildlife Comments:

The purpose of this harvest is to create barrens habitat for wildlife. Wildlife habitat features that are consistent with barrens will be protected wherever possible, including large diameter living trees, snags and logs, and current and potential nest trees and den trees.

Comments on Rare Species/Habitats:

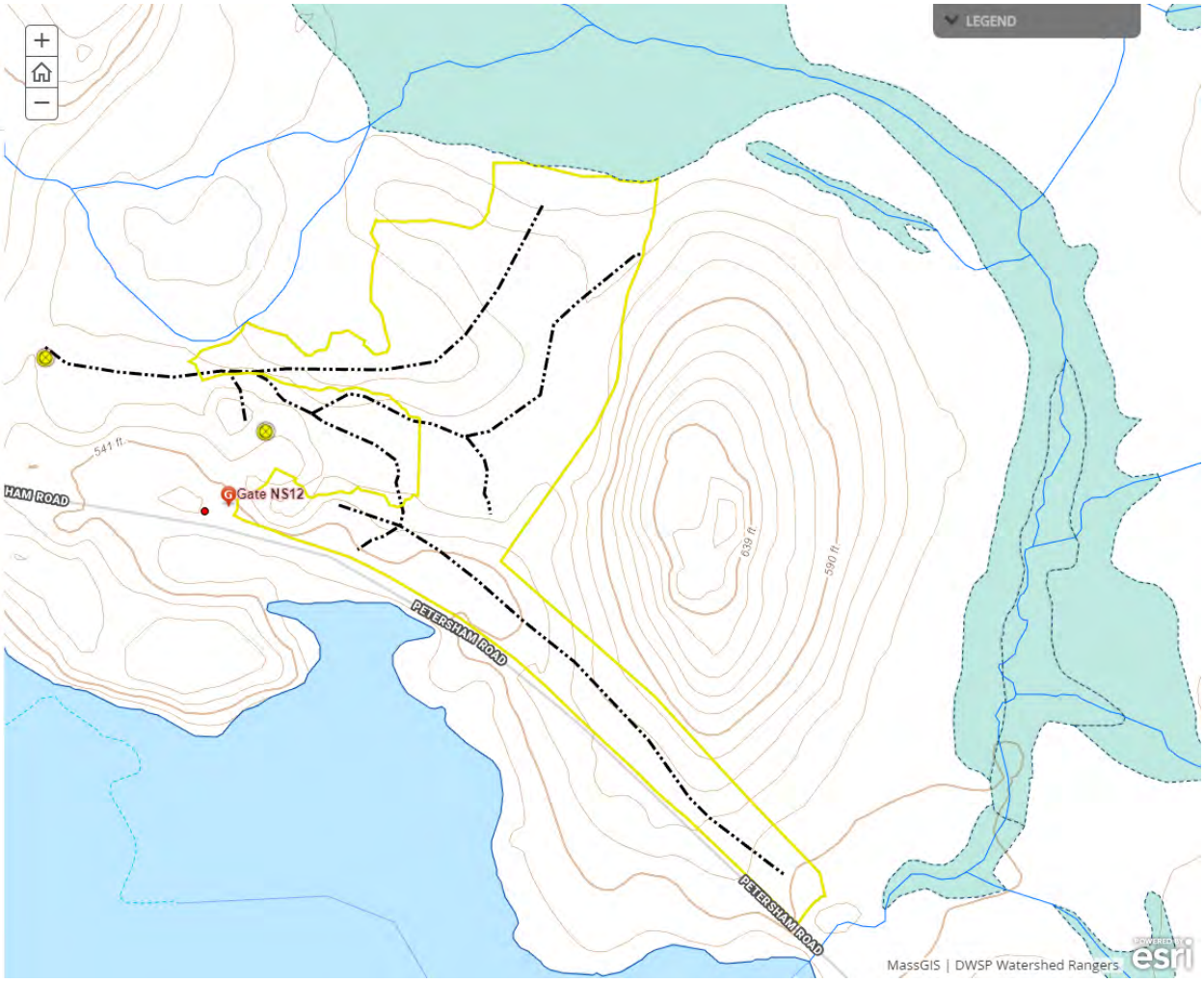
NHESP has determined that certain state-listed sensitive species or habitats may exist within the lot proposal area. To protect them from any necessary disturbance, detailed information regarding affected species and their locations is not included in this report. DWSP will coordinate with NHESP and follow recommendations to protect these species during the proposed activity.



Environmental Quality Engineering

Comments on EQ Issues:

There are no perennial streams on this lot.



Forest Access Engineering

Gravel needed: No

Landing work needed: No

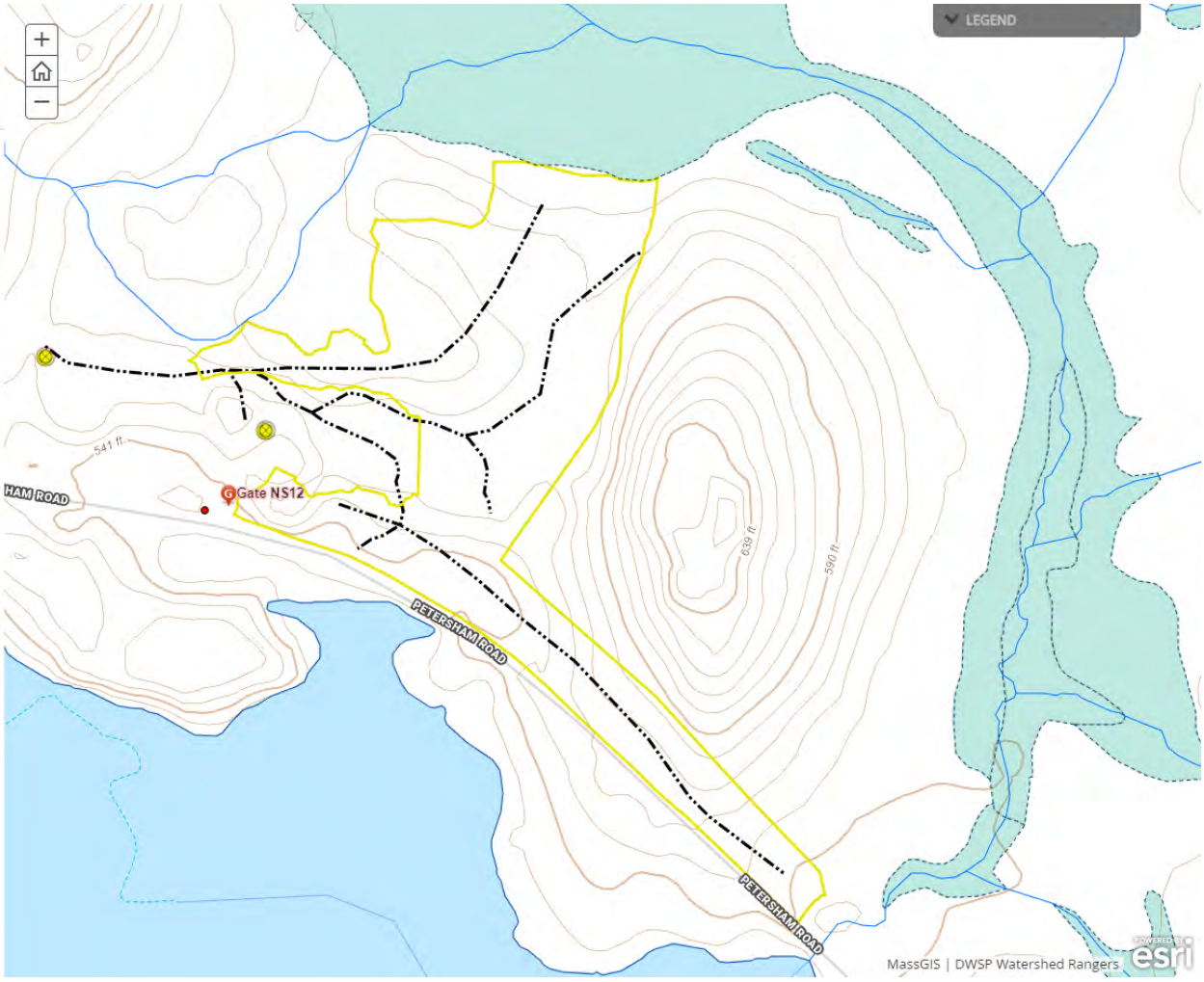
Culverts needed: No

Work needed on permanent bridges: No

Beaver issue: No

Further comment on access needs:

Most likely the landing will be in either the old or the new gravel pit, in which case little or no work or gravel will be needed.



DWSP FY 2022 Forestry Proposals – Master Legend for story maps