Quabbin Harvest Proposal PE-19-15-01

Proposal Update, May 2024:

This forestry proposal was originally approved through the public process in 2018. 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 2018 in ArcGIS Online Story Map format.

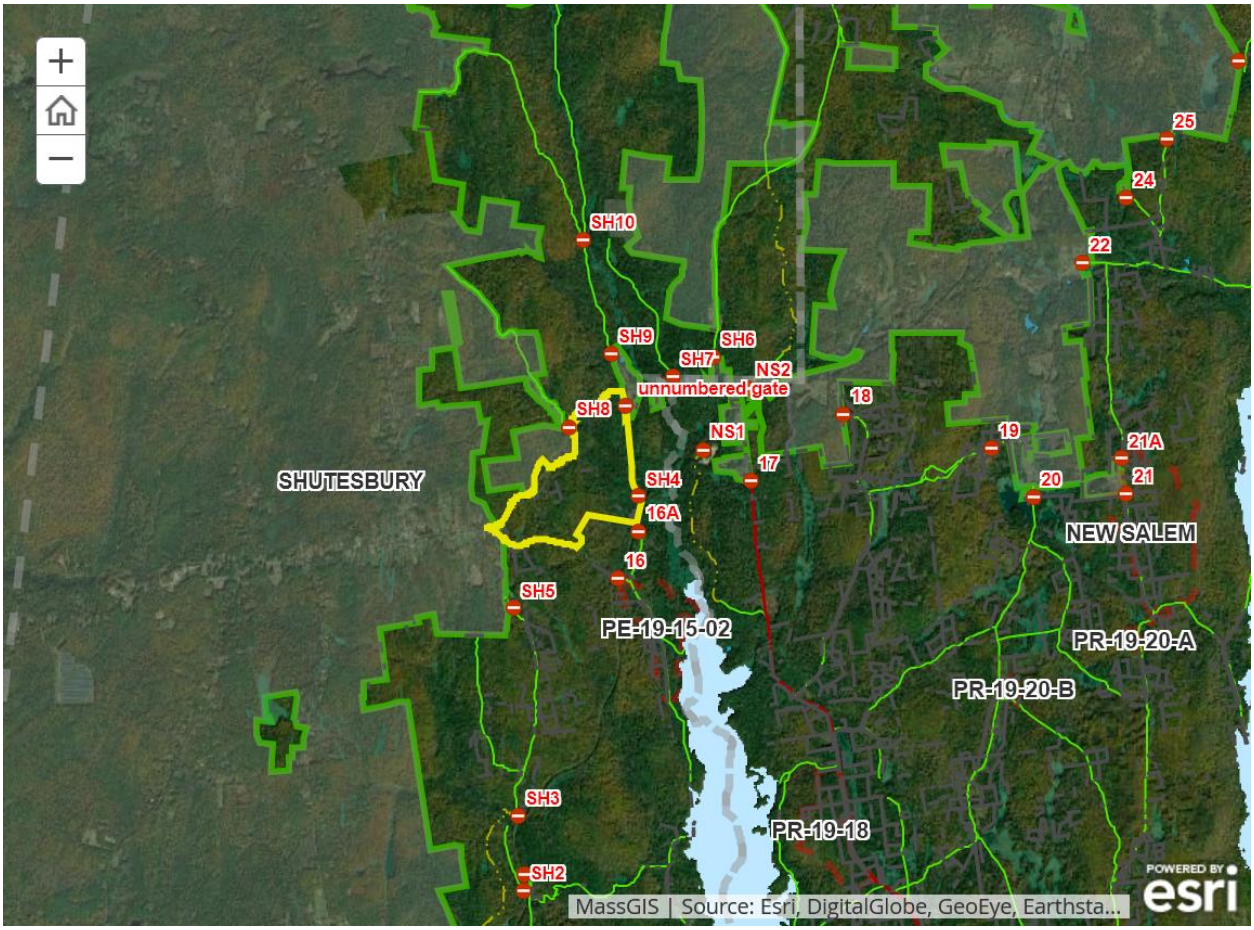
Proposal Goals

The exotic invasive insect hemlock woolly adelgid (*Adelges tsugae*) is well established in the Quabbin Reservation and is killing the eastern hemlock. As the hemlock dies often what is present in the understory is monoculture black birch or thick mountain laurel. To improve forest vigor and species diversity this proposal will treat areas of hemlock decline with poor advanced regeneration.

Proposal Location

Quabbin harvest proposal PE-19-15 is located between Prescott Rd, Cooleyville Rd, Cornwell Rd, and Daniel Shays Highway in the town of Shutesbury.

Total Acres: 213



General Description

	Overstory Type(s)	Acres
Dominant	White pine/hemlock	72
Secondary	White pine/oak	46
Other	White pine/hardwood	32

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

Secondary	Mountain laurel prevalent

Description of forest composition/condition:

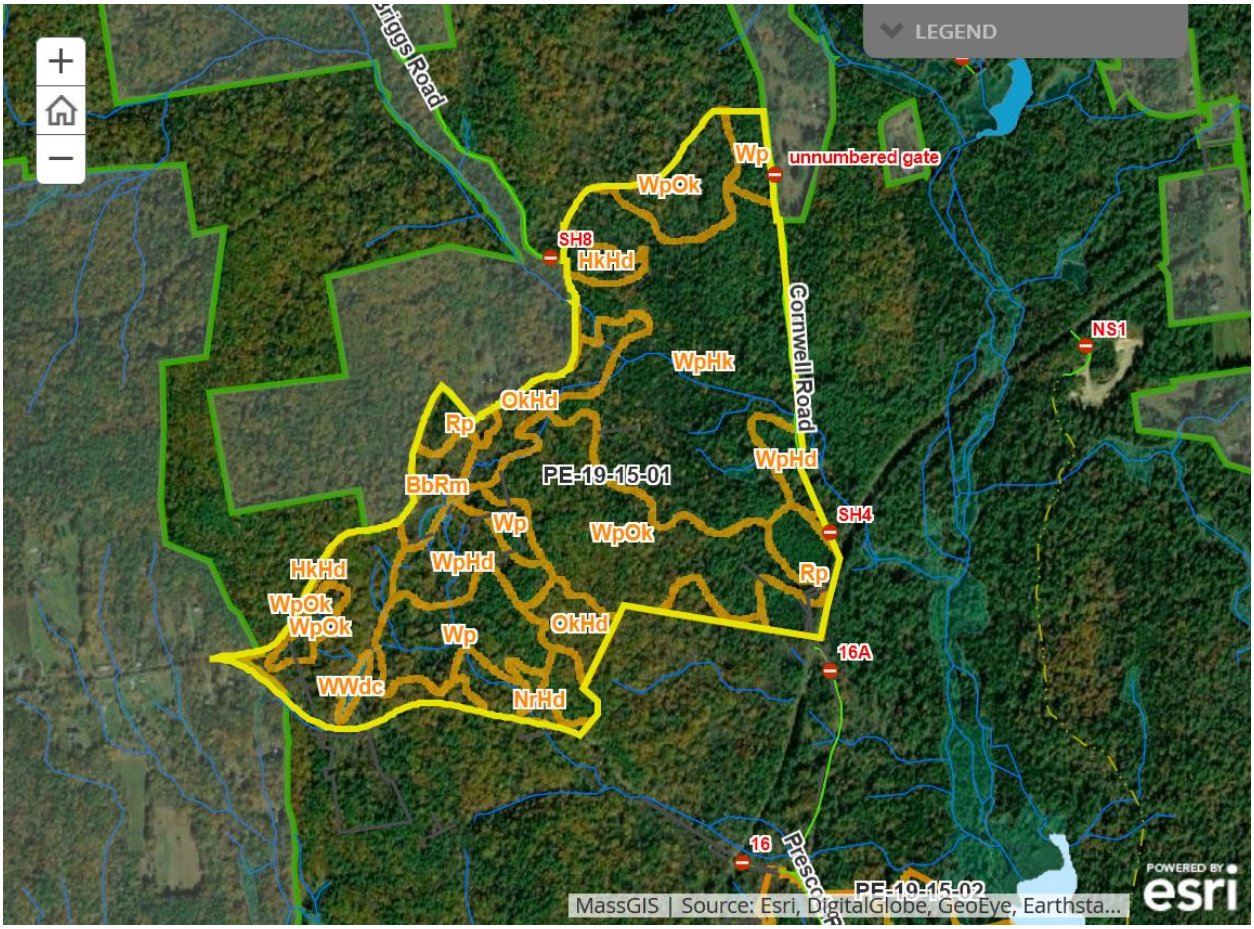
The proposed area is defined by two prominent features, a predominant slope to the southeast, and Camel Brook traveling through the northern section. Due to a combination of difficult terrain and topography leading to a 'flashy' hydrology, crossing Camel Brook will only be done at the existing road. Therefore Camel Brook can be used to divide the proposal.

North of Camel Brook, at the bottom of the slope, the terrain is hummocky with white pine/hemlock forest and patches of isolated and connected wetlands. Past harvest of this area consists of a shelterwood prep cut in 1963 (Lot 0007, 84 ac.) a red oak salvage/thinning completed in 1983 (lot 0374, 10 ac.), and a firewood and red oak salvage completed in 1984/85 (lots 0381, 12 ac. & 0382, 20 ac.) Lots 0381 & 0382 are collocated with 0007 in the northeastern corner of the proposed area in the slope bottom next to Cornwell Rd, and lot 0374 is located in the northern tip were the slope levels off approaching the intersection of Cooleyville Rd. and Cornwell Rd. The wetness of the slope bottom is noted in an extension granted to lots 0381 & 0382 due to extensive fall/winter flooding. The white pine/hemlock cover continues upslope to the west, with a greater hardwood component on the slope north. The hemlock displays unhealthy crowns throughout and there are many pockets of dead or near dead hemlock. Under the dying hemlock black birch and mountain laurel are the dominant understory. White pine form is moderate to good quality and pockets of sapling size pine regeneration are throughout the area. Stocking ranges from ~80-130 ft² BA/ ac with the lower stocking a result of dead hemlock. Hardwood species reflect transition hardwood forest with red oak, yellow birch, and red maple the dominant overstory hardwoods.

The forest composition immediately around Camel Brook and associated input streams is white pine hemlock to hemlock. Hemlock health here is similarly poor, though fewer patches of already dead hemlock were observed. Stocking ranges from ~ 80 - 130 ft² BA / acre and black birch is the dominant species in the regeneration.

South of Camel Brook along Cornwell Rd. and Rte. 202 pole sized white pine regeneration is thick after a 2002 red pine removal (Lot 2002, 22 ac) . Upslope of the red pine harvest forest cover transitions to white pine oak/mixed hardwood and then to dominantly white pine where the slope plateaus between Cooleyville Rd and Prescott Rd. Between the top of the slope and the perennial stream there is white pine dominant cover with ~ 110 ft² BA / ac of good quality 20+" saw logs, this area was last treated with a white pine thinning in 1973 (lot 0087, 28 ac) at the top and edge of the slope and in 1983 with an oak salvage (lot 0390, 33 ac.) between Prescott and Cooleyville Rds. Past the perennial stream the cover is more mixed white/pine hardwood cover

and currently contains a lot of firewood size hardwoods. The small section north of Cooleyville Rd was part of the 2002 red pine removal and is now a mixed hardwood stand.

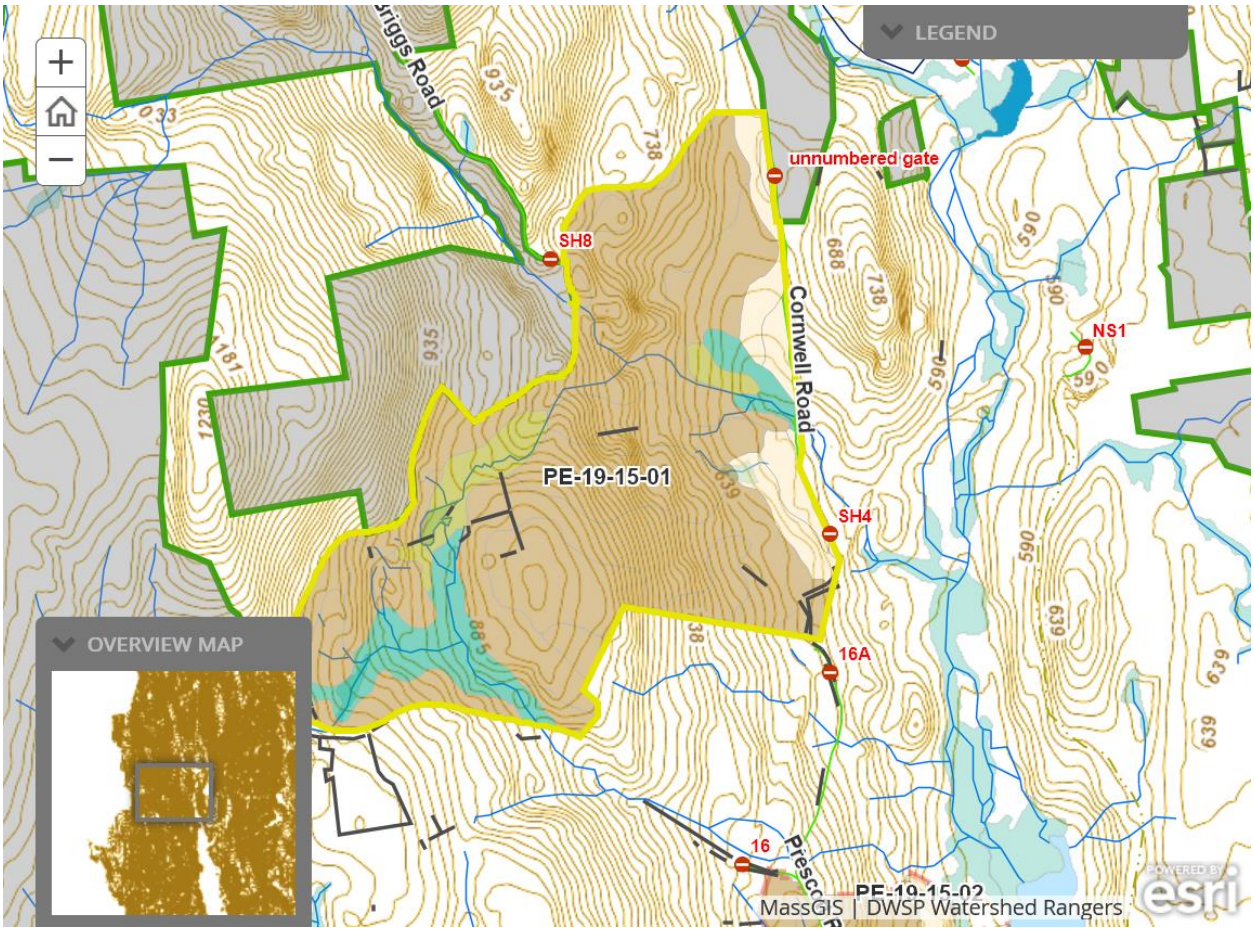


Soils

Drainage Class	%
Excessively Drained	4
Well Drained Thin	55

Well Drained Thick	27
Moderately Well Drained	14
Poorly to Very Poorly Drained	0

Soils are primarily Montauk, Canton, and Scituate fine sandy loam and classified as very stony. The lot slopes west to east and is mostly well drained. The only areas of poor drainage are near the Camel Brook bridge, centered around Gate 16 Brook and a feeder intermediate stream at the south end of the lot.

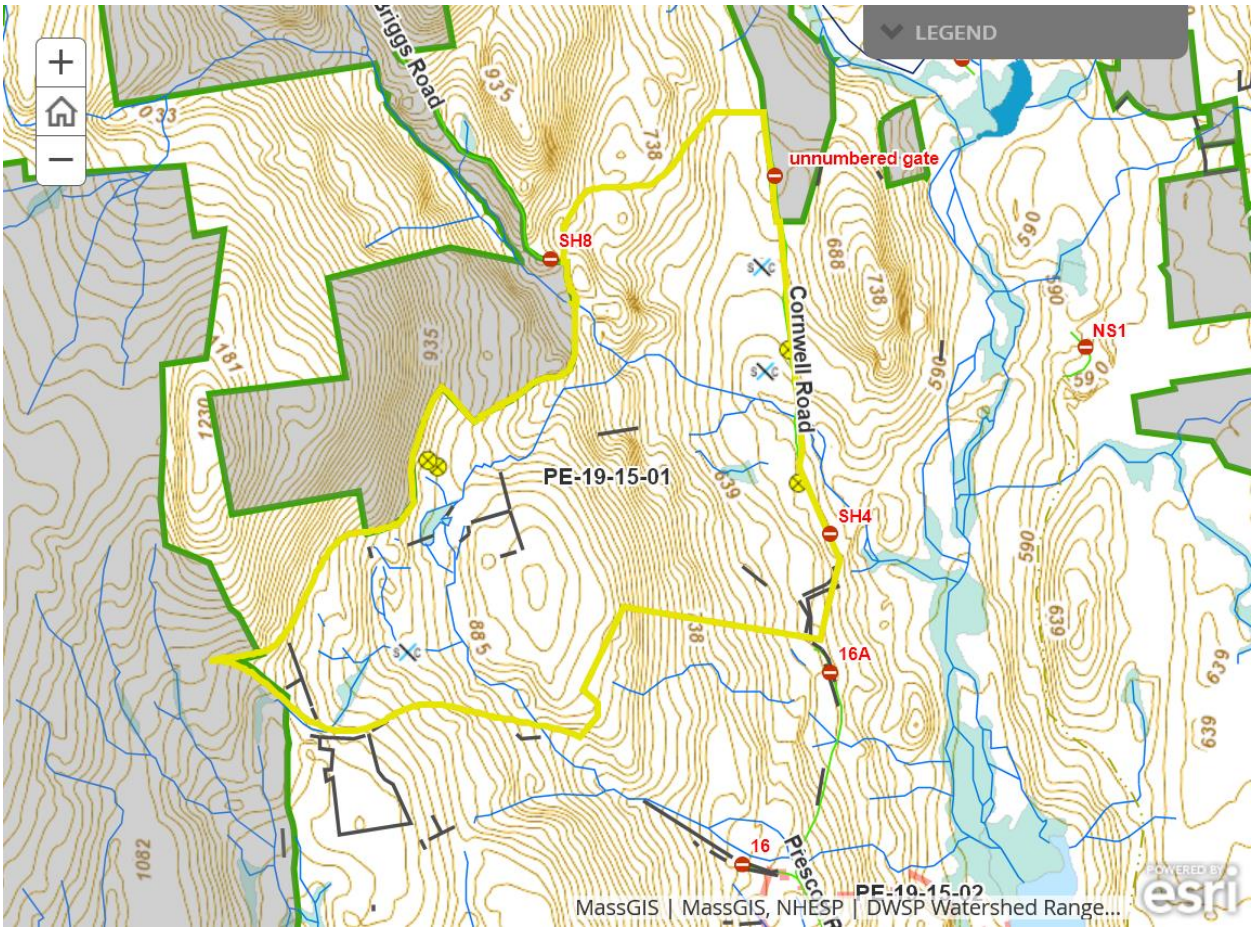


Wetlands

- 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**
- Is logging in wetlands planned? - **No**

Wetlands are primarily in the northeast end of the lot above Camel Brook. The cover is mostly hemlock with some white pine on the rises. No logging is planned in the wetlands, but crossings remain a possibility for gaining access to wood upland and to the west of the wetland to Cornwell Rd. Two DCR Quabbin potential vernal pools are present on private property across Cooleyville Rd.



Silviculture

Acres in Intermediate cuts: **20**

Acres in prep/establishment cuts: **10**

Acres in Regeneration cuts: **40**

Average regen opening size: **1**

Maximum regen opening size: **2**

Description of advance regeneration in proposal area:

In the northern hemlock and white pine stands regeneration is low density and primarily small hemlock and black birch. Moving west up the slope regeneration begins to include more northern hardwood species and some striped maple. The areas of best regeneration are in a mixed hardwood stand near the western landing on Cooleyville Rd which was cleared in 1983, and dense white pine regeneration near the main landing on Cornwell Rd cut in 1986 and revisited in 2002. There are several areas, especially near the top of the slope in the southwestern areas where mountain laurel is impeding good regeneration.

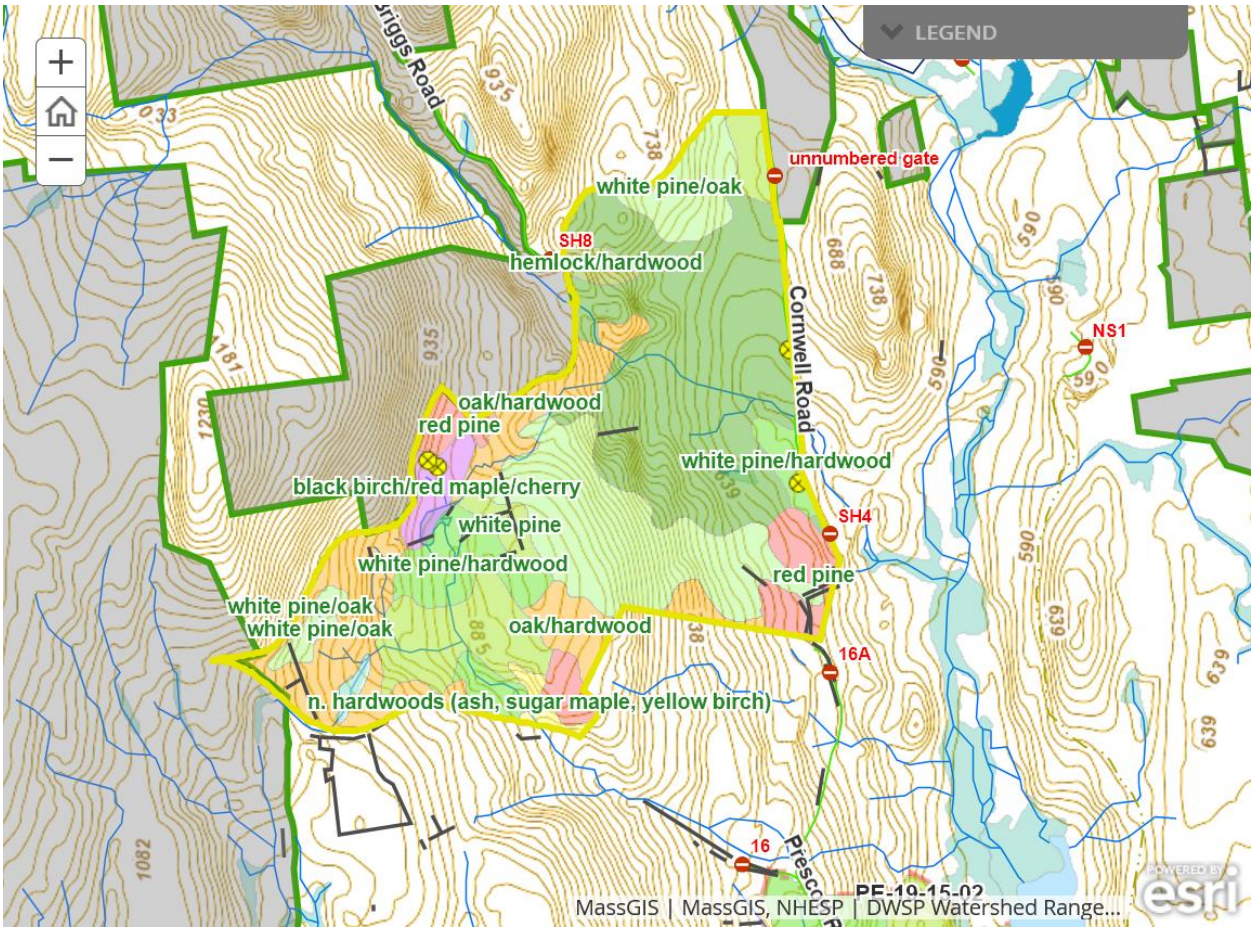
General comments on silviculture proposed:

North of Camel Brook at the bottom of the slope thinning to small openings (.25 - 1 ac) will be created targeting the poorest health hemlock and poor form white pine where operability allows. Retention will be prioritized by species diversity and health/form. Dryer terrain moving up the hill may allow for larger regeneration openings collocated with intermittent oak and northern hardwood species to promote regeneration with more diversity than is currently growing.

Silviculture around Camel Brook will be predominantly thinning as filter strips and terrain limit operability.

South of Camel Brook, in the northern portion of this section where hemlock is thickest, dying hemlock will be targeted with larger openings (1-2 ac.). These larger openings will encourage shade intolerant species to establish and compete with the existing black birch regeneration and attempt to prevent black birch monoculture stands from establishing as the hemlock dies. The middle slopes will be treated with variable sized regeneration openings (0.5-2 ac.) and adjacent thinning to increase age diversity. In the south western section near the Cooleyville Rd landing in the sections with the best white pine in the proposed area, shelterwood prep cuts will be used to encourage regeneration while maintaining a multi aged structure. In the sections between the perennial stream and Cooleyville Rd that are heavy to firewood sized hardwoods, thinning will be applied to release the healthiest/best formed individuals for further growth.

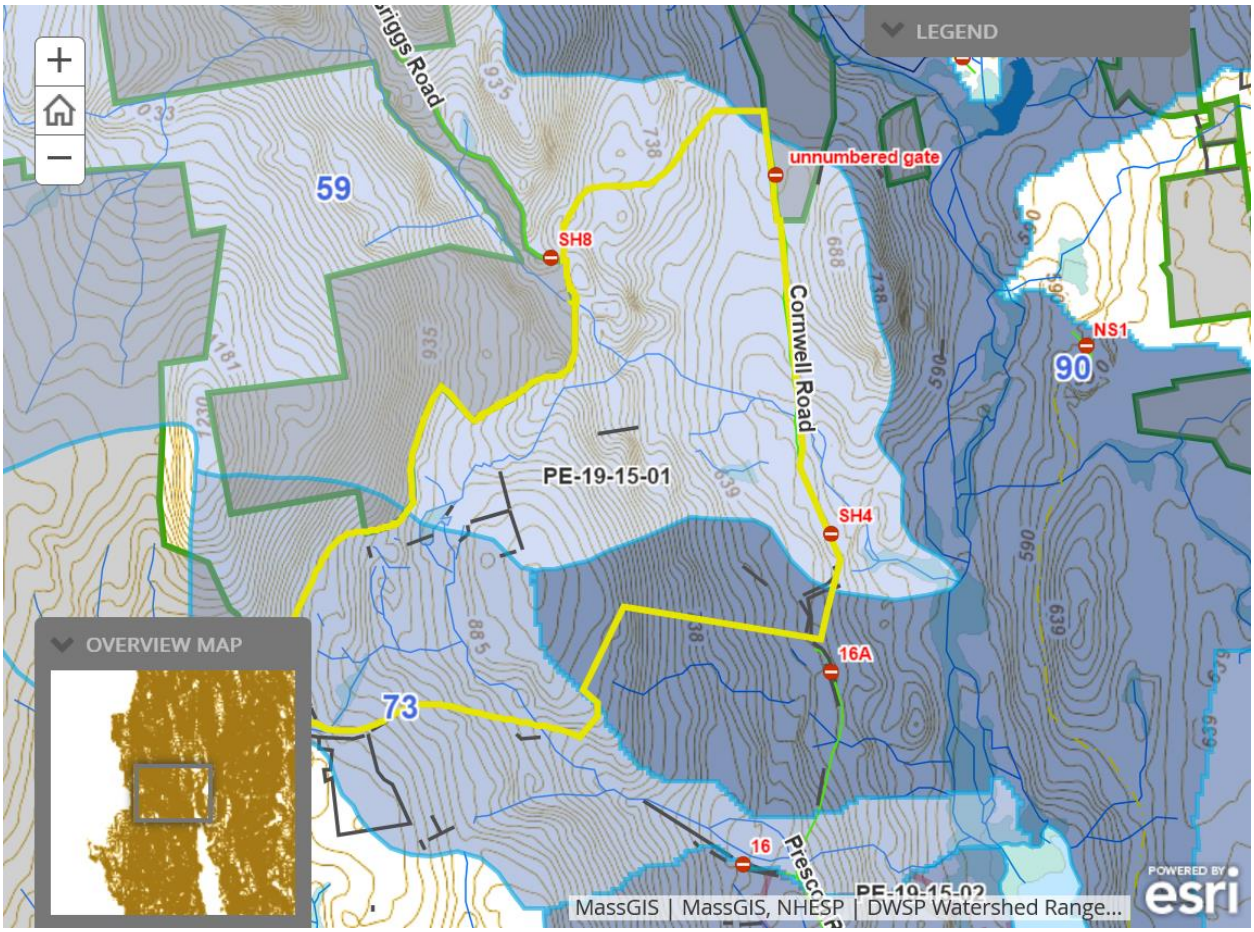
Areas of remnant red pine north of the Cornwell Rd Bridge and in the area of DCR DWSP property west of Cooleyville Rd. will be selectively cut, or included in small openings for removal before scale infestation.



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
59	724	0	181	120
73	175	0	44	58
90	658	0	165	30

In subwatershed 73 where the area included in the proposal exceeds the DCR owned acres remaining for regeneration, the actual treated acreage will be closer to 20 total acres of combined regeneration/shelterwood/intermediate thinning treatment. The full area was included to prevent isolating a stand between Shutesbury Rd., Cooleyville Rd., and treated acreage which would have made future treatment more difficult.



Harvesting Limitations

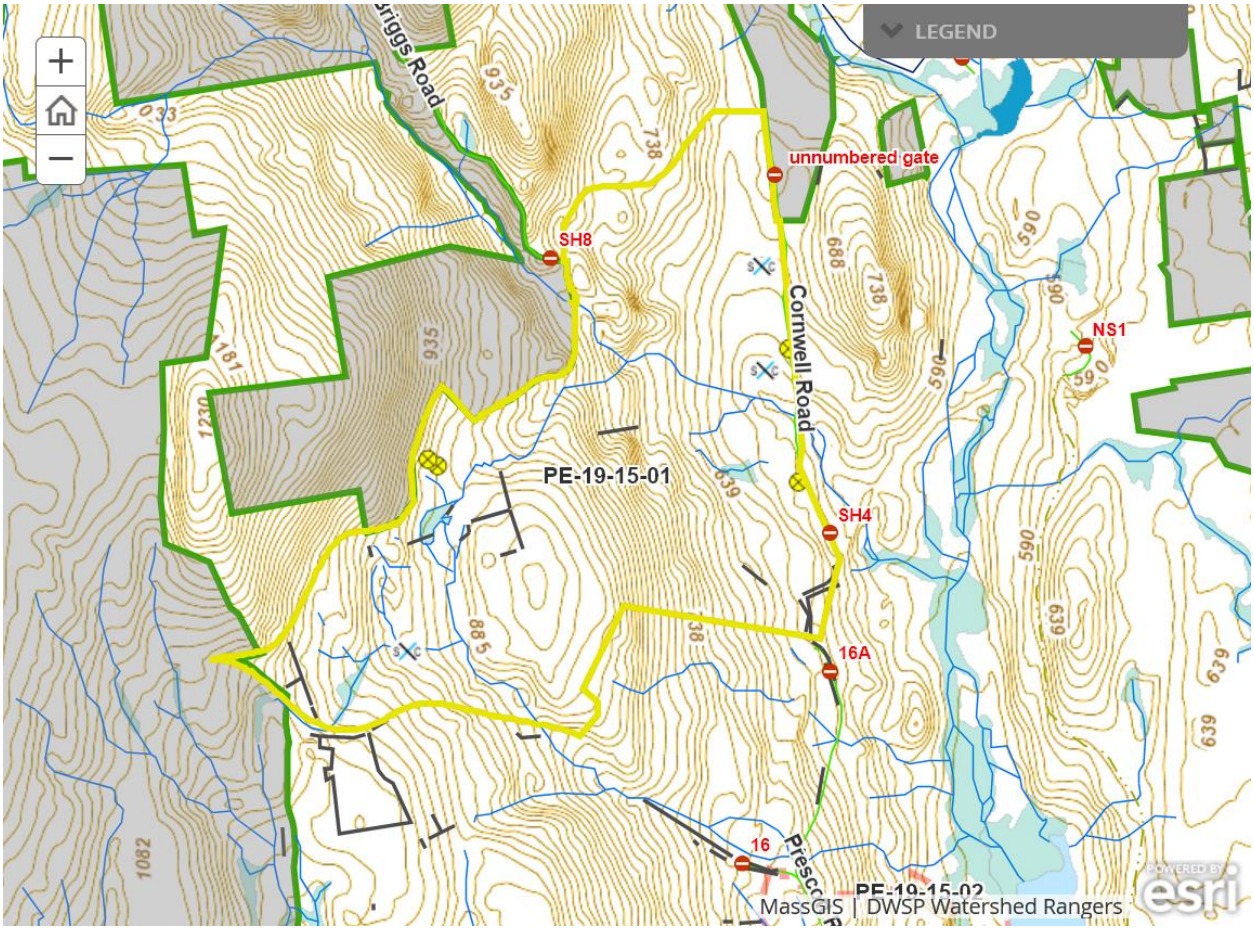
Forwarder required: **Yes**

Feller/processor required: **No**

Steep slopes present: **No**

Comments on harvesting limitations:

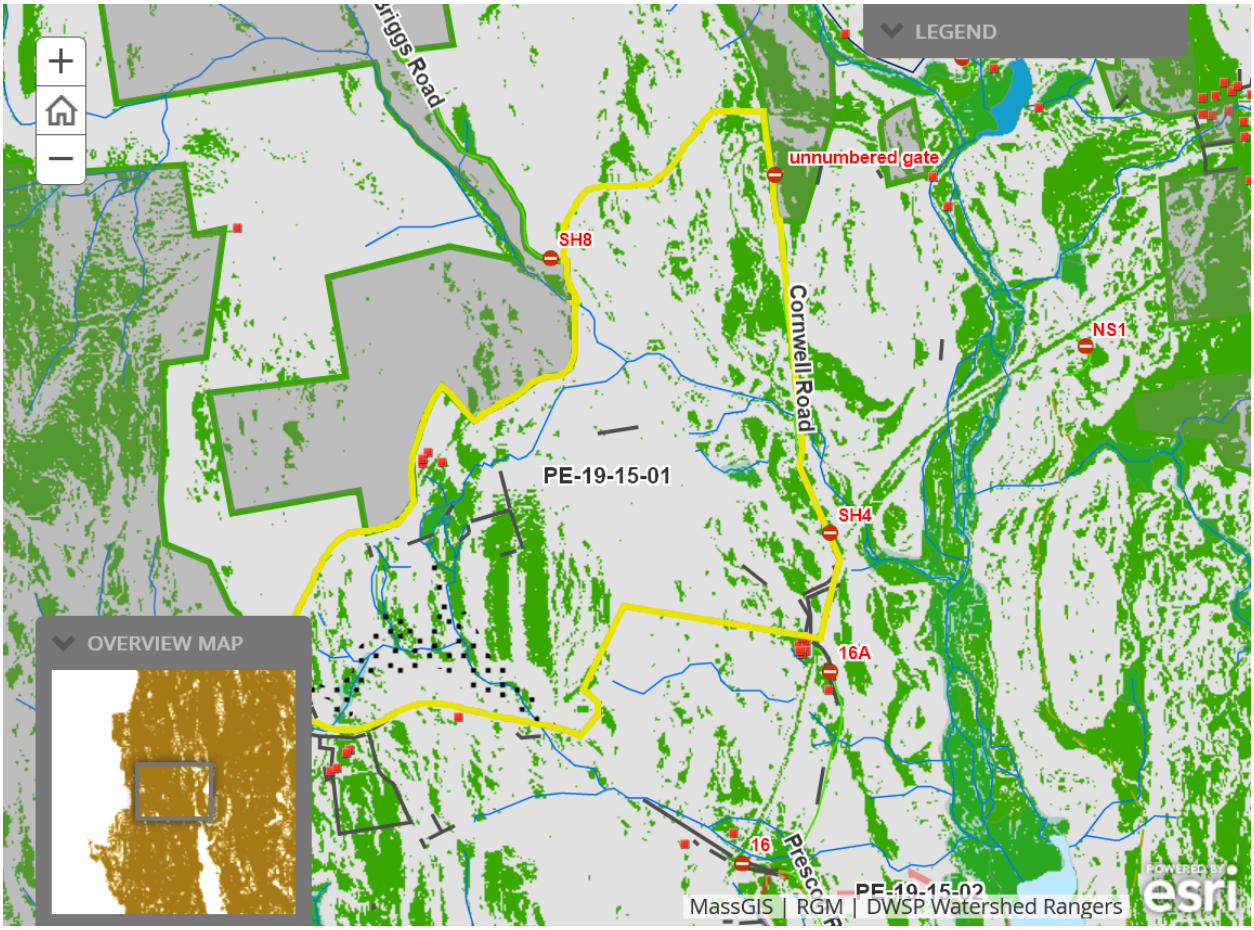
Wood harvested in the northern section will be forwarded across the bridge over Camel Brook on Cornwell Rd.



Cultural Resources

Comments on Cultural Resources:

The proposed area includes foundations for the residence, barn, and outbuilding for Daniel Murowsky (15.02). Stone walls are present near 202 and on the top of the slope near Cooleyville Rd. Existing barways will be used where feasible and harvest layout will protect walls as much as possible. If applicable DWSP will follow any additional recommendations from DCR's Archeologist regarding protection of sensitive sites.

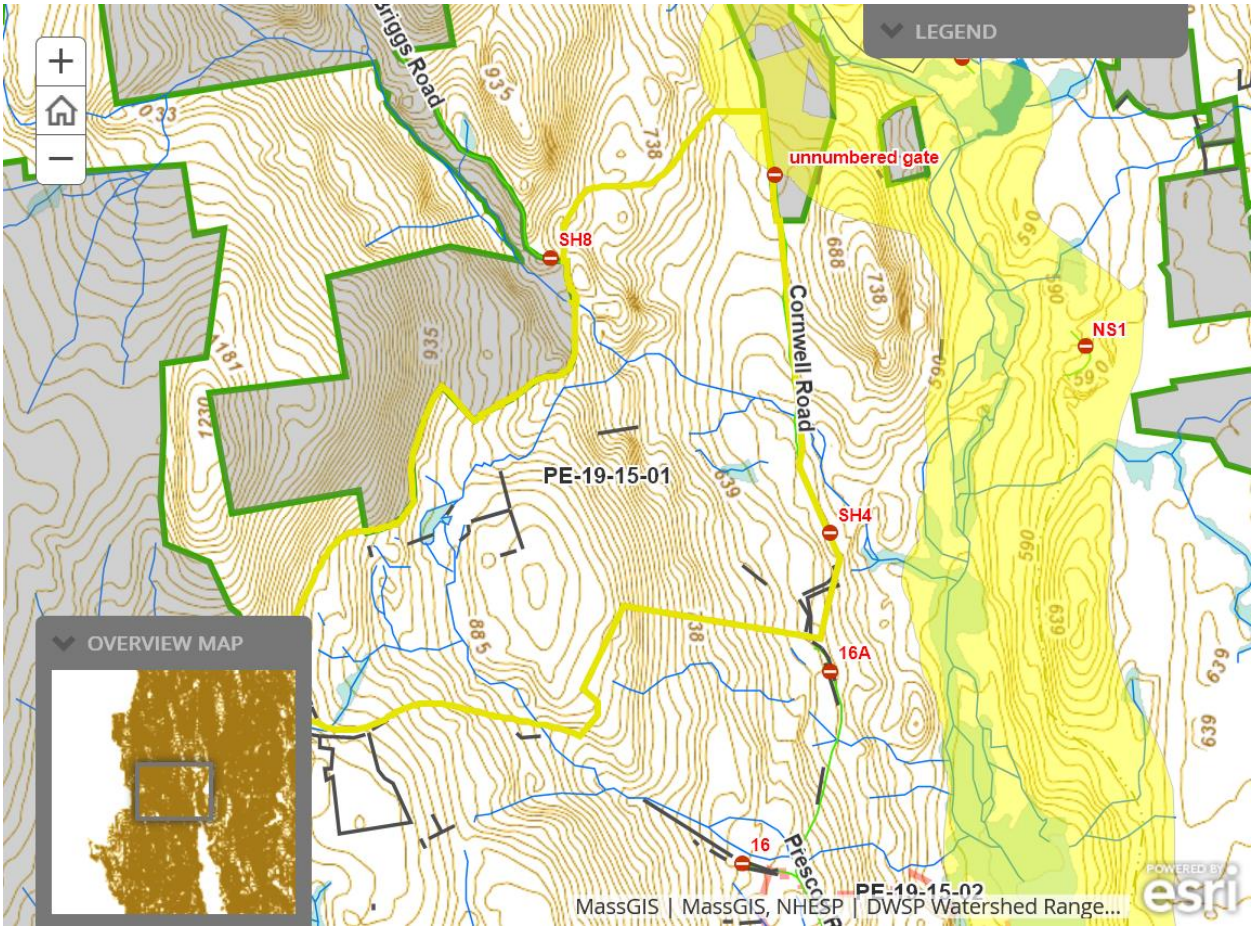


Wildlife Resources & Rare and Endangered Species

General wildlife comments:
There is considerable deer and moose sign within the proposed area.

Comments on Rare Species/Habitats:

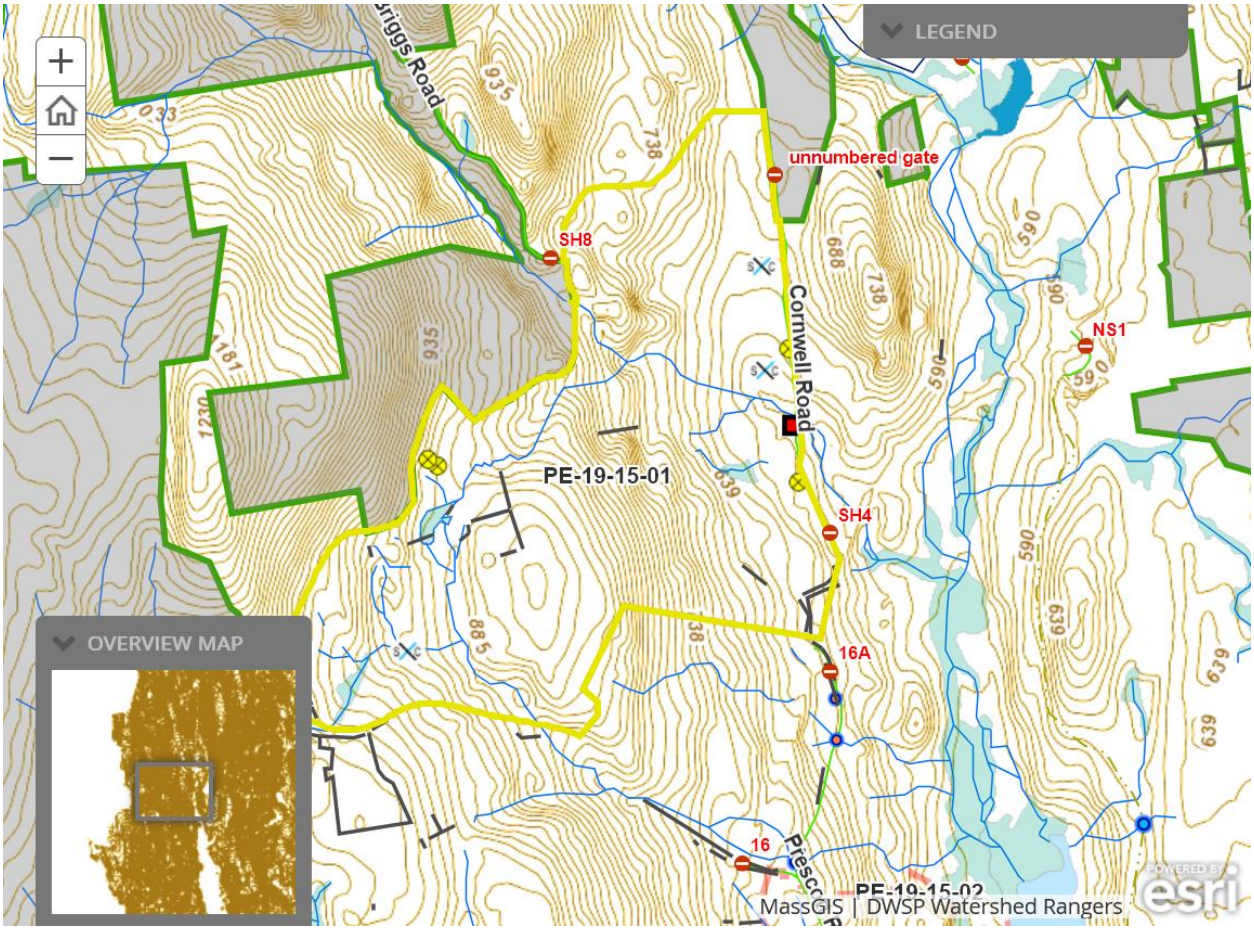
Cavity trees and potential/existing nest trees will be retained if possible. NHESP has determined that certain state-listed sensitive species or habitats may exist within the northern section of the lot proposal area. To protect them from unnecessary disturbance, detailed information regarding affected 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 harvest. Two DCR Quabbin Potential vernal pools are present on private property across Cooleyville Rd.



Environmental Quality Engineering

Comments on EQ Issues:

The proposed area contains sections north and south of Camel Brook. Equipment and wood harvested north of Camel Brook will be either landed north of or forwarded/short hauled across the Cornwell Road bridge. There will not be any temporary crossings established on Camel Brook. Crossing on Gate 16 Brook will be avoided unless there is not a suitable crossing of the intermittent stream west of the brook.



Forest Access Engineering

Gravel needed: No

Landing work needed: No

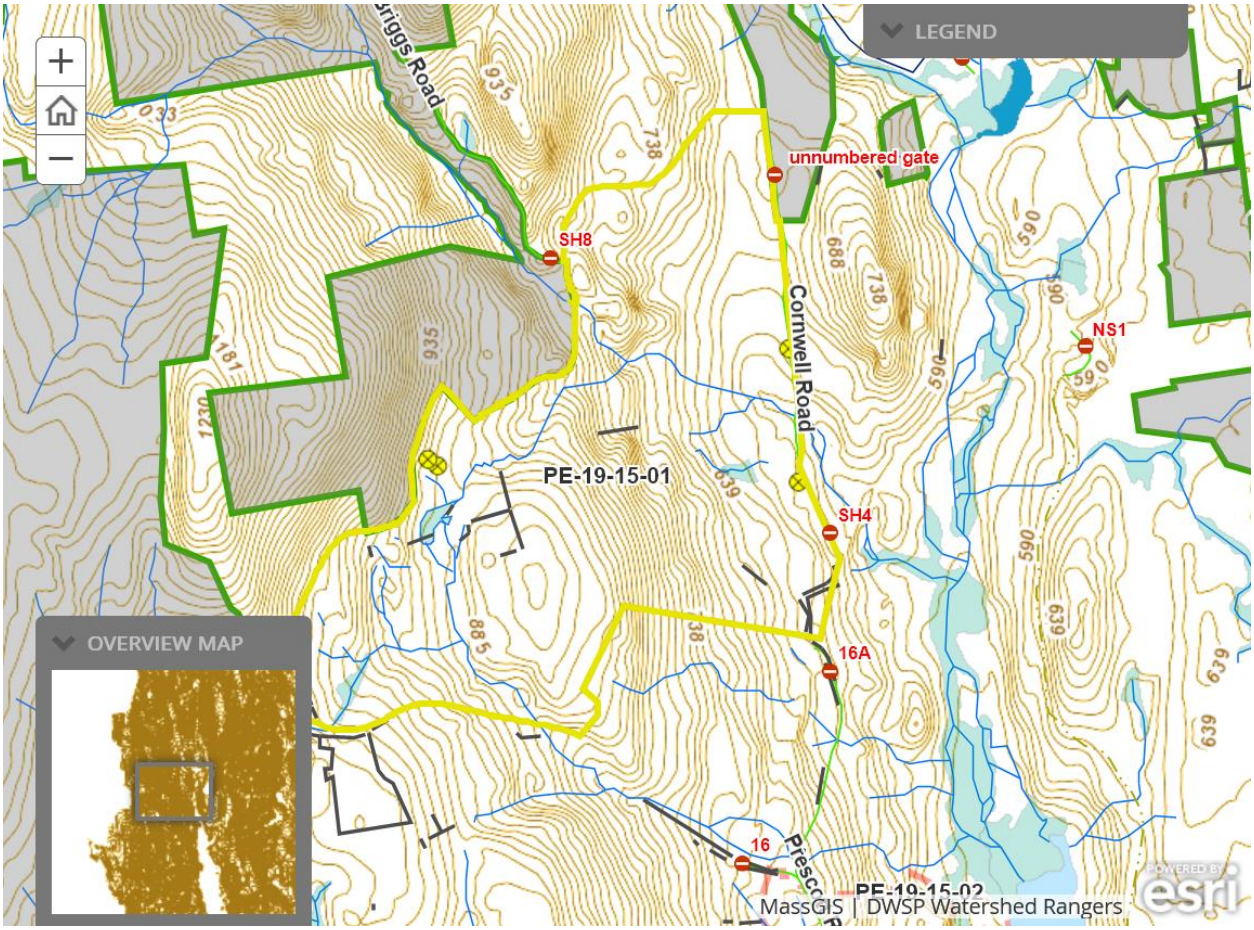
Culverts needed: No

Work needed on permanent bridges: Yes

Beaver issue: No

Further comment on access needs:

New material is needed for both approaches to the new bridge on Cornwell Rd.


LEGEND
OVERVIEW MAP
Briggs Road
unnumbered gate
SH8
Cornwell Road
NS1
PE-19-15-01
SH4
16A
16
PE-19-15-02
MassGIS | DWSP Watershed Rangers
esri

DWSP FY 2019 Quabbin and Ware River Forestry Proposals – Master Legend for story maps