Quabbin Harvest Proposal PT-19-05&09

Proposal Goals

This area contains several species that have been or are expected to be damaged or killed by destructive insects and diseases. These including red pine (under attack by red pine scale), white pine (white pine weevil and needle cast fungi), and hemlock (hemlock woolly adelgid, hemlock elongate scale, and other insects). These unhealthy trees will be removed in patches to create growing space for younger, healthier trees of diverse species.

Proposal Location

This proposal is located ¼ mile inside Gate 39, on the southwest side of the powerline.

Total Acres: 139.3

Previously reviewed as PT-07-09C

General Description

	Overstory Type(s)	Acres
Dominant	White pine/hardwood	67.8
Secondary	Oak/hardwood	18.5
Other	Red Spruce	17.4

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

Description of forest composition/condition:

In addition to the types listed above, there are 14.6 acres of hemlock/hardwood, 3.3 acres of red pine, and 17.7 acres of beaver ponds, meadows, and wooded wetlands.

Oak is dominant in the triangle on the east side of the lot between Tamplin Road and Dugway Road (Compartment 5), with red, black and white sawtimber and poles. This area also contains a significant component of red pine, which is mixed in with the hardwoods. Also present are scattered red and sugar maple, white ash, black cherry, paper birch, beech and hickory, as well as hemlock and white pine.

A similar mix of hardwoods is present to the southwest along Dugway Road, but with a higher proportion of maples and other hardwoods as compared to oaks. Red pine is present but less more scattered, except in the 2.7 acre remnant of a red pine plantation.

Oak form and vigor is fair to good for red oak, fair to poor for white and black oak. There are many large, coarse hardwoods along the roads throughout this area. The maples are generally vigorous, but much of the red maple has poor form due to its derivation from stump sprouts, and borer injuries are common on sugar maple. The early successional species (white ash, black cherry, paper birch) are declining, except where there's ample light such as along roads. Beech is uncommon and typically infected with beech bark disease.

The red pine on this lot has some browning needles, probably due to red pine scale, but in most areas was still reasonably vigorous as of the stand exam in the December 2017.

White pine sawtimber is dominant along the power line, between Dugway Road and the northwestern beaver pond, as well as south of the access road between Tamplin and Dugway Roads. Form is variable, but much of it has large branches and/or weevil damage, and some individual trees are very coarse. White pine vigor is also variable, with crown classes ranging from emergent to suppressed.

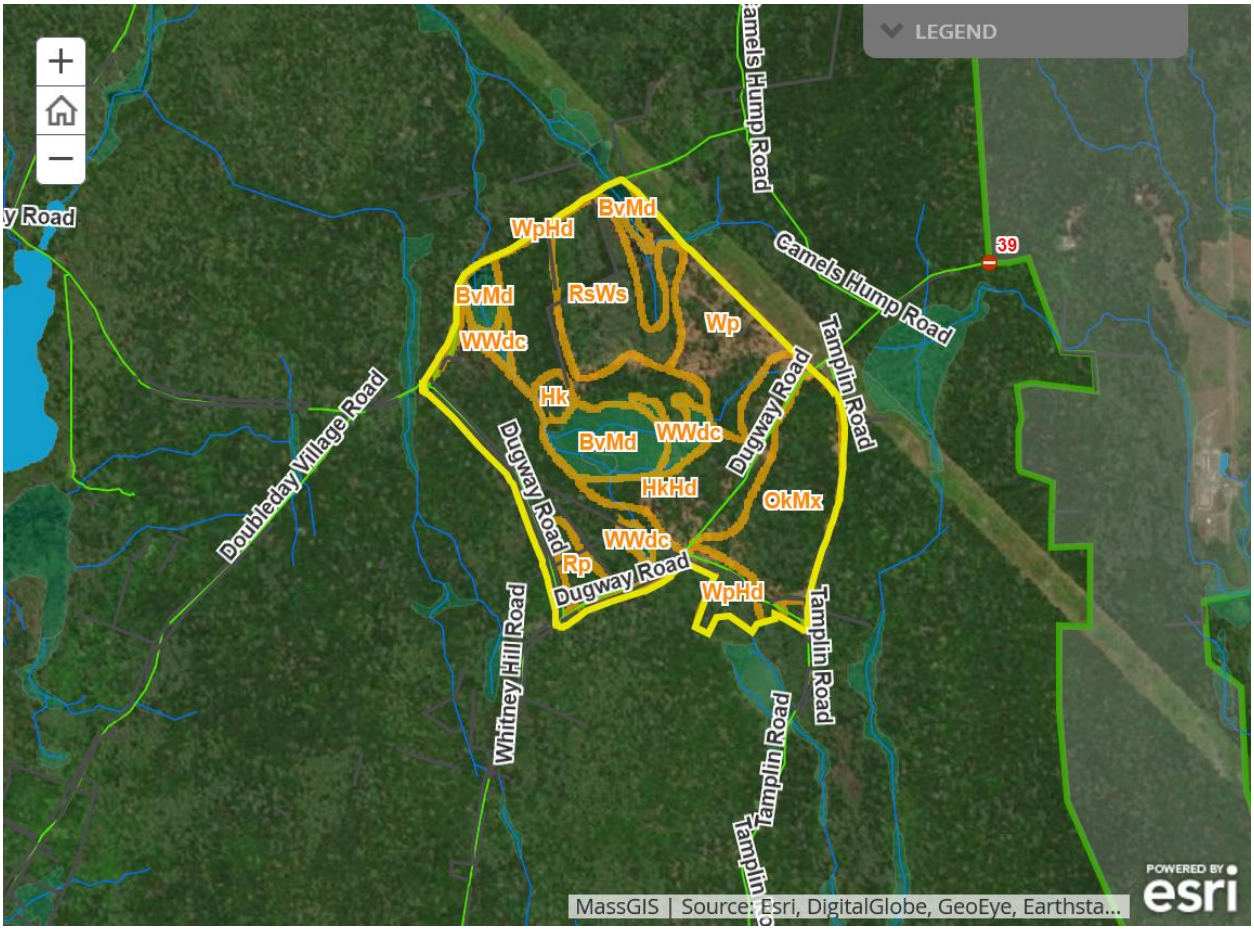
Spruce is mostly located at the western edge of the proposed area between the two beaver ponds, with a narrow band wrapping around to the northwest corner of the lot. Hemlock is most

prevalent between the white pine and the oak- hardwoods areas, both east and west of the beaver meadow. Most of the hemlock has poor vigor as evidenced by this crowns, probably due to hemlock woolly adelgid and/or hemlock elongate scale.

The most common species of regeneration in this area are white pine and black birch. Regeneration of other overstory species is present but uncommon. Some areas have almost no tree regeneration, especially where hemlock is dominant.

The understory contains chestnut sprouts, huckleberry, low bush blueberry, wintergreen, partridgeberry, clubmoss and a limited amount of hay scented fern. On lower, wetter soils there is striped maple, wood fern, cinnamon fern and gold thread.

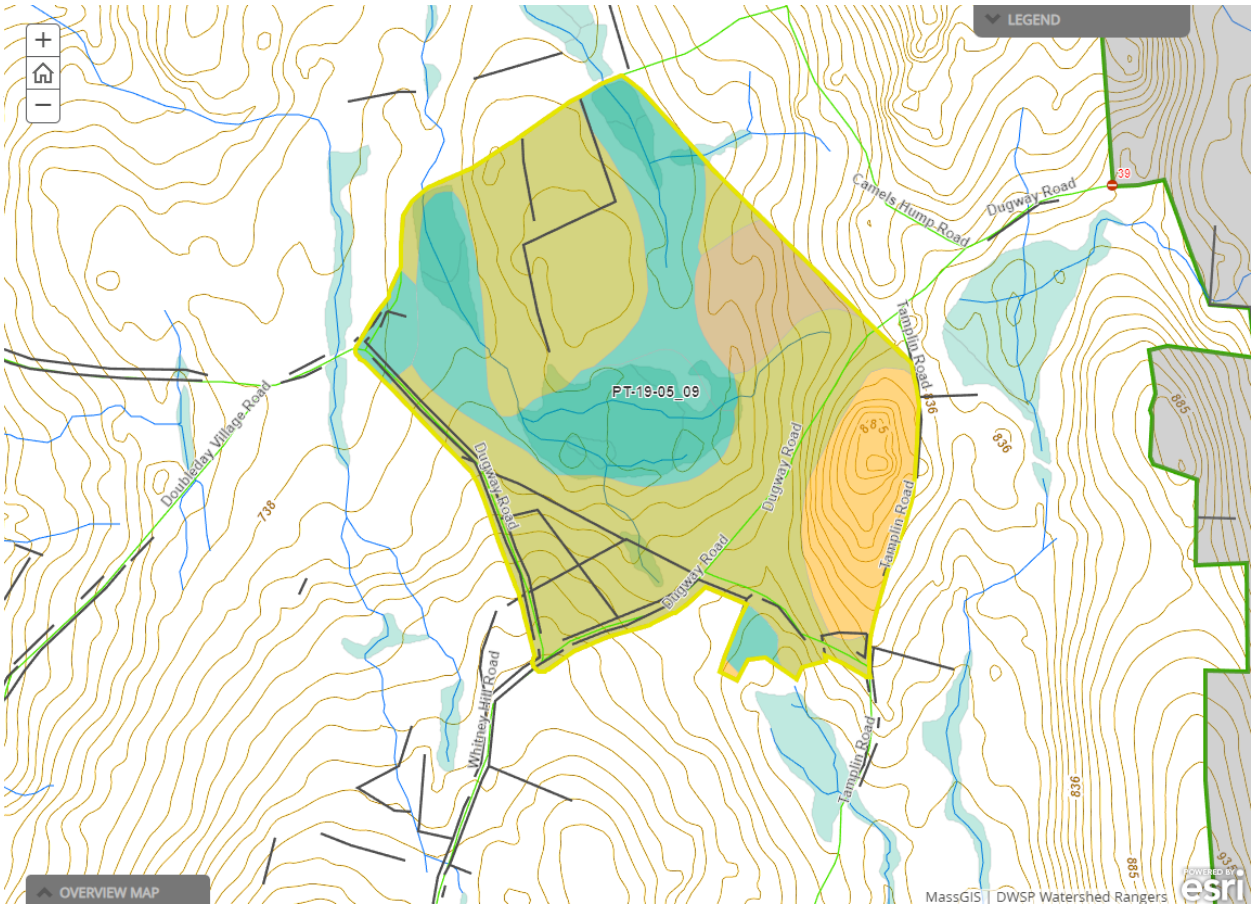
Past harvests include 23 acres of selection in the easternmost oak-hardwoods section in 2002, 7 acres of shelterwood establishment in the southernmost tip, focusing on red pine, completed in 2001 (Lot #853); a 4 acres of salvage clearcutting between the beaver ponds in 1996 (Salvage Sale 40); and a 19 acre shelterwood prep cut in the southeast and northwest completed in 1991 (Lot #583). Roughly 50 upland acres have received no treatment while under DWSP ownership.



Soils

Drainage Class	%
Excessively Drained	0
Well Drained Thin	17
Well Drained Thick	54
Moderately Well Drained	0
Poorly to Very Poorly Drained	9

The upland soil types are Charlton-Chatfield-Hollis association, very rocky, and Charlton-Chatfield and Montauk-Scituate-Canton associations, both extremely stony. The wetland soil types are Bucksport and Wonsqueak mucks and Ridgebury-Whitman association. The latter encompass the beaver ponds and wetlands, where there will be no harvesting.

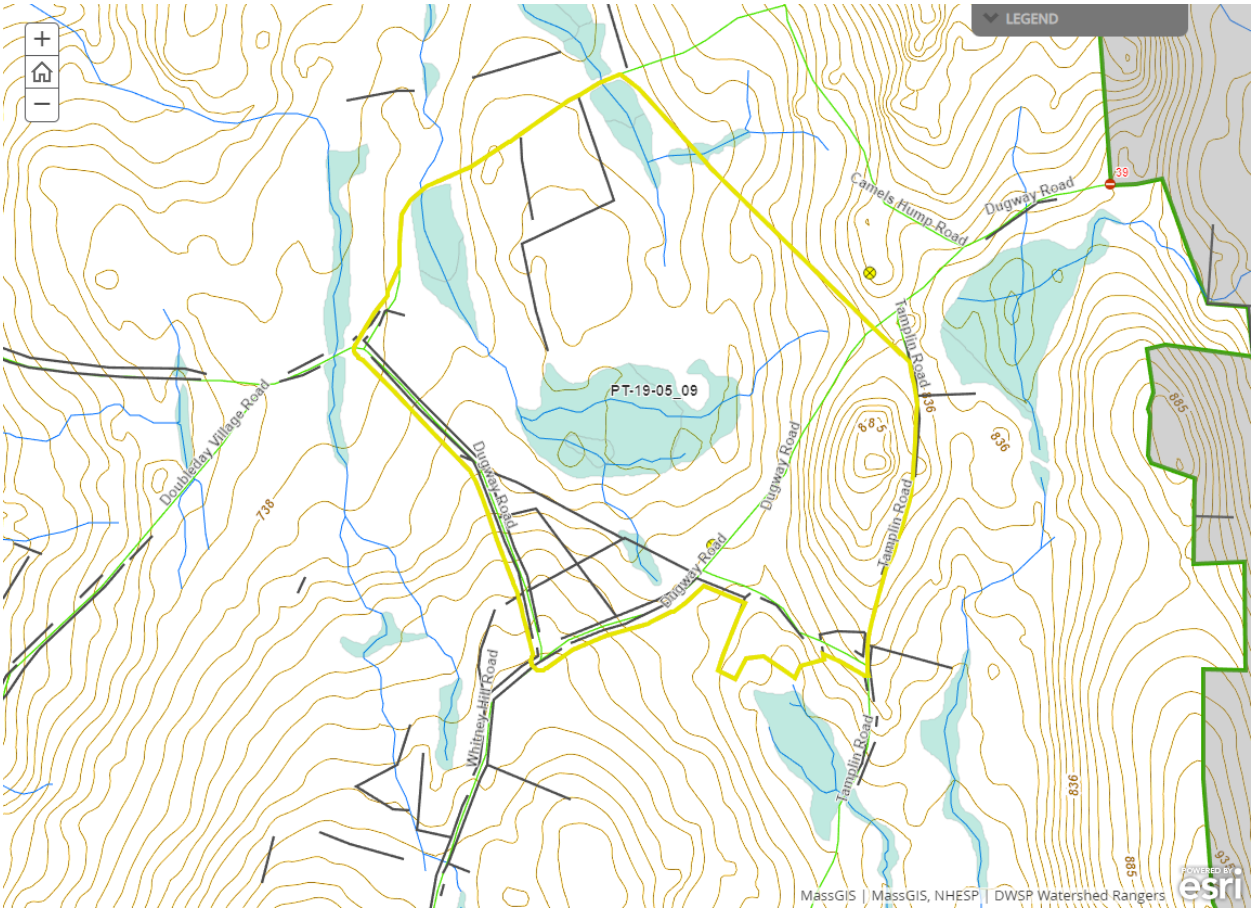


Wetlands

- Wetlands present? - **Yes**
- Streams present? - **Yes**
- 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? - **Yes**
- Is logging in wetlands planned? - **No**

Further comments on wetlands:

There are two beaver ponds along the northwest border of the lot. These have both flooded the adjacent seasonal access road, making it impassable in two locations at either end. A 8.4 acre wet meadow in the center of the lot, which was created by past beaver activity, drains in two directions to the two active beaver ponds. It will be necessary to cross one of these intermittent streams to get to the area between the two ponds and the meadow, if any harvesting is done in that area. There are smaller wooded wetlands to the south and east of the meadow, on both the north and south sides of Dugway Road. These are also connected by intermittent streams, one of which may need to be crossed.



Silviculture

Acres in Intermediate cuts: **30**

Acres in prep/establishment cuts: 0

Acres in Regeneration cuts: **30**

Average regen opening size: **1**

Maximum regen opening size: **3**

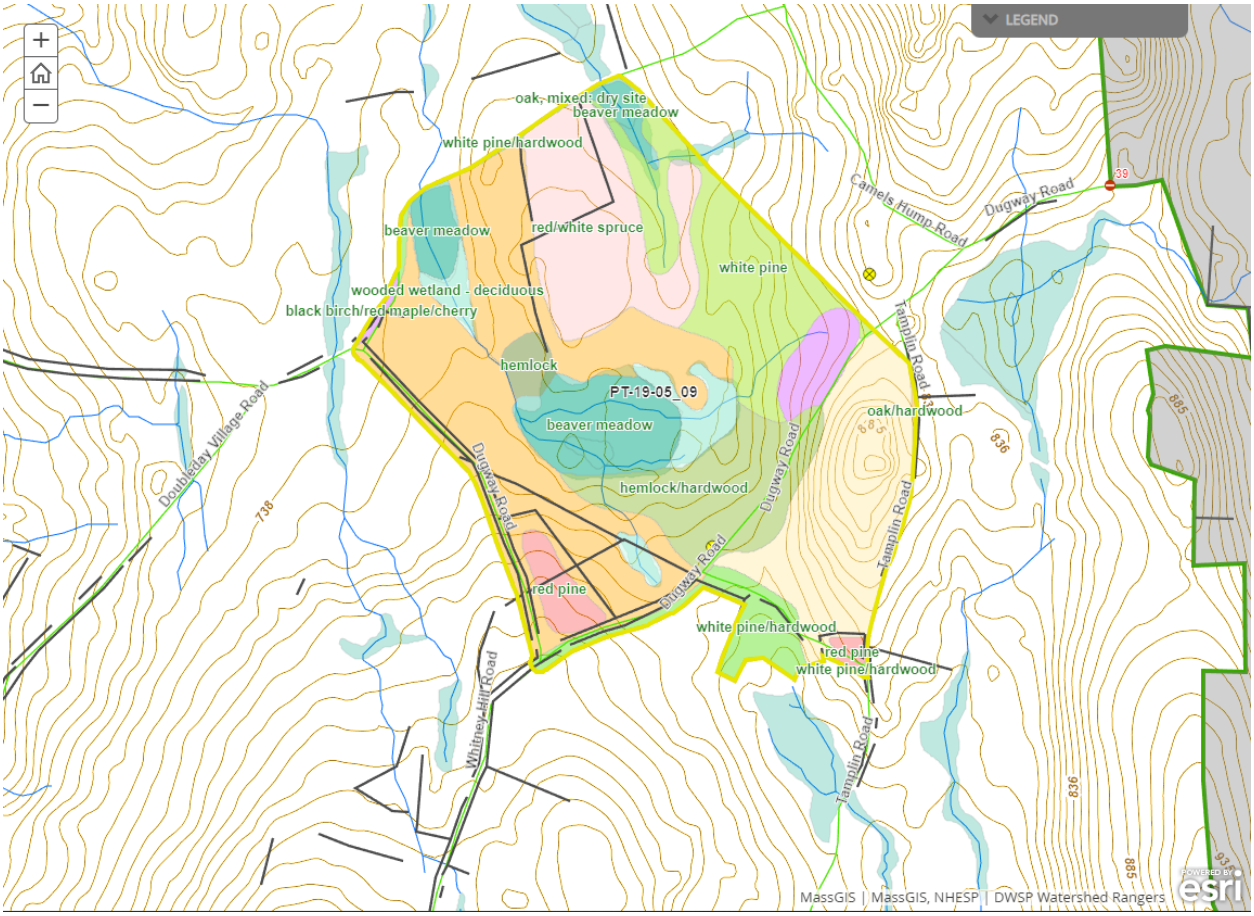
Description of advance regeneration in proposal area:

Black birch regeneration is present in dense patches in old skid roads and small gaps from past harvests, especially between Tamplin and Dugway Roads. Also present in this area but much less common are scattered oak and maple seedlings and saplings, and small patches of beech root sprouts. White pine seedlings are scattered unevenly throughout the area along the power line. Some areas have almost no regeneration, especially where hemlock is dominant.

General comments on silviculture proposed:

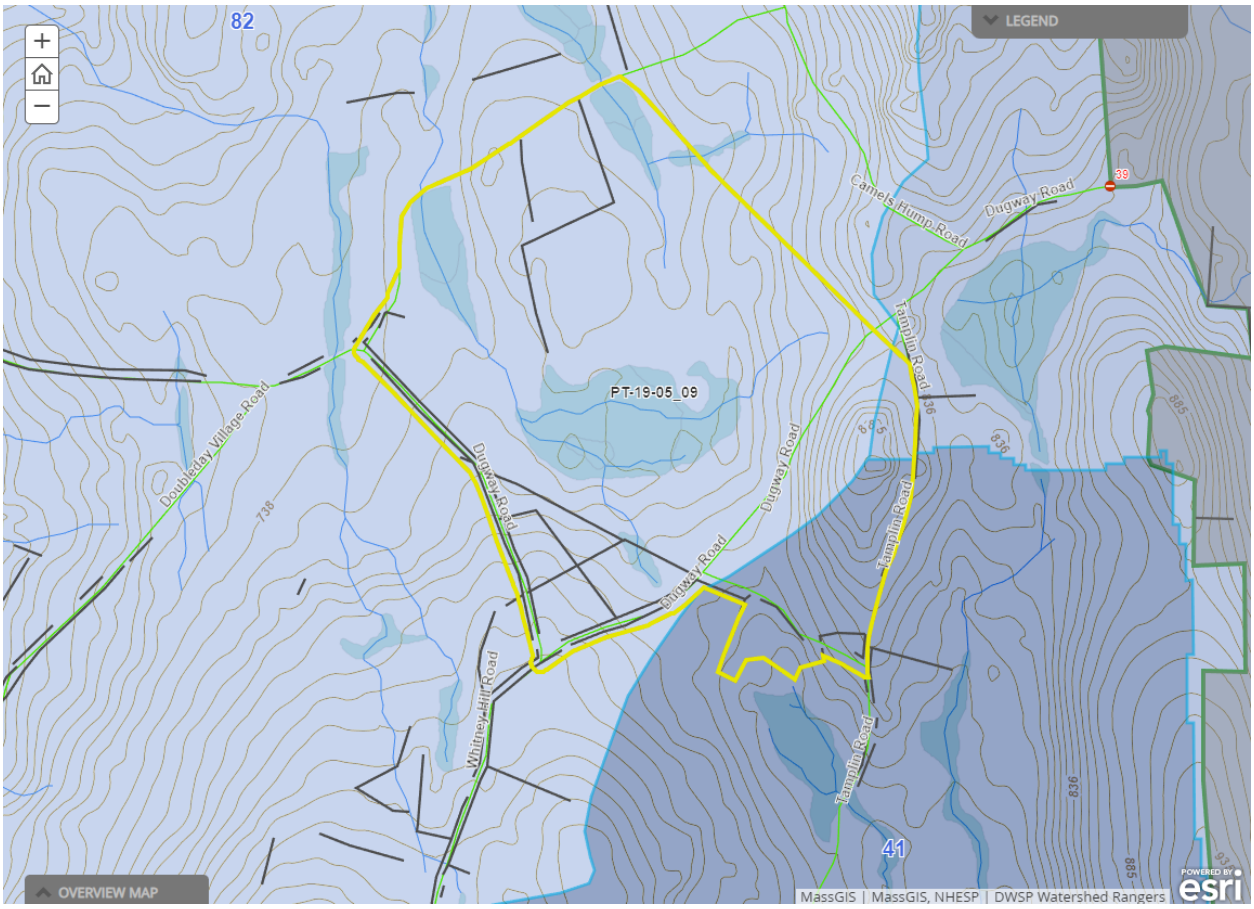
Small group/patch selection, with openings ranging widely in size, including a few over 2 acres in red pine and old field white pine. Openings will be irregular in shape, and will be located where there are clusters of trees that are diseased, declining, or have poor stem structure, and where there is advance regeneration of high quality (healthy, well formed, and suited to the site) that needs to be released. Five to ten square feet per acre of basal area of sawlog- and pole-sized trees will be retained in openings equal to ½ acre. Openings will not be in the areas with well formed, vigorous, oak stems.

Intermediate cutting will focus on removal of red pine where it is scattered among other species, and possibly in spruce if needed to improve vigor. Virtually all living red pine will be removed, unless it's inaccessible, such as due to terrain or filter strips. For all other species, the healthiest trees will be retained.



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
82	1945	24.6	1364.7	121
41	745.9	5.7	180.8	63.2
40	285.6	0	71.4	2.4



Harvesting Limitations

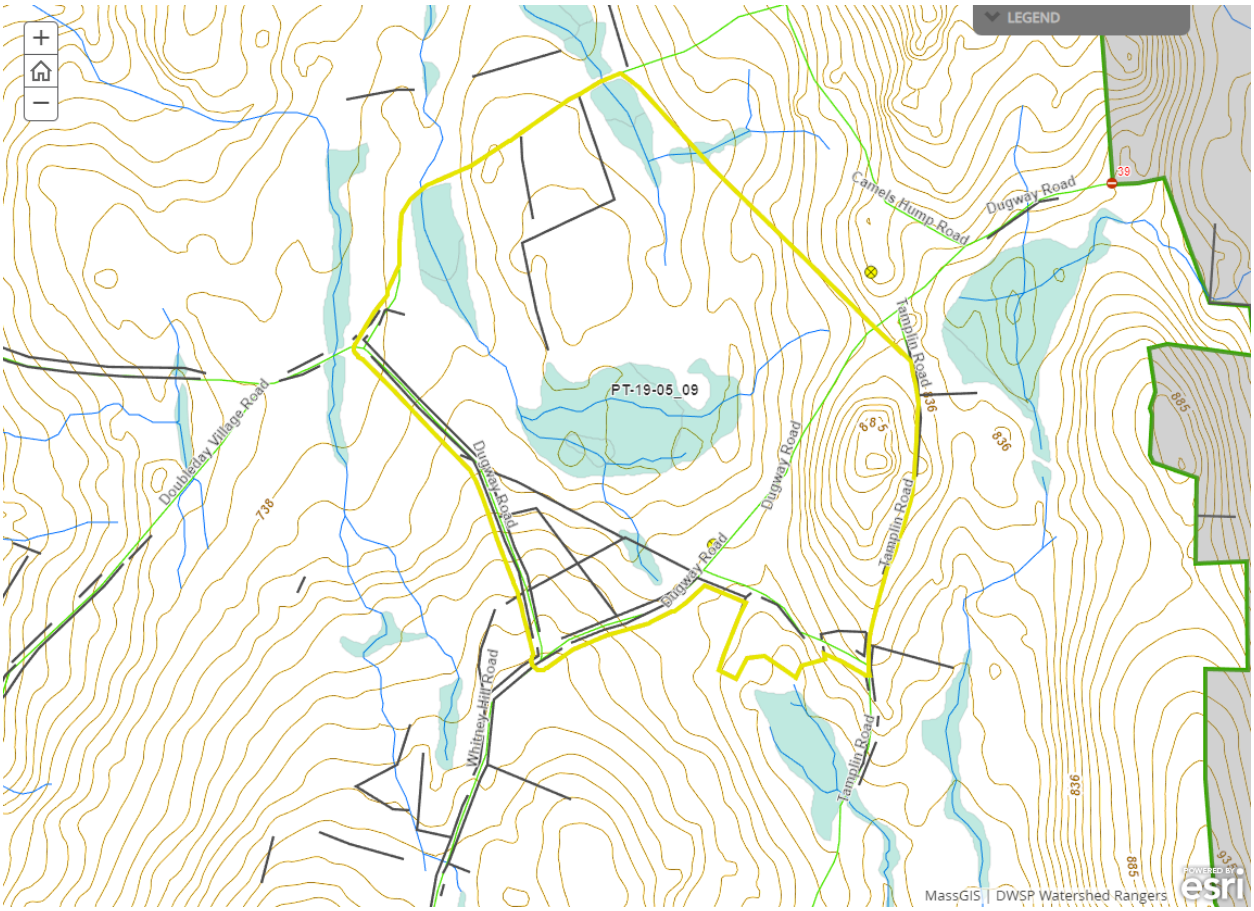
Forwarder required: **No**

Feller/processor required: **No**

Steep slopes present: **No**

Comments on harvesting limitations:

No harvesting limitations are proposed.

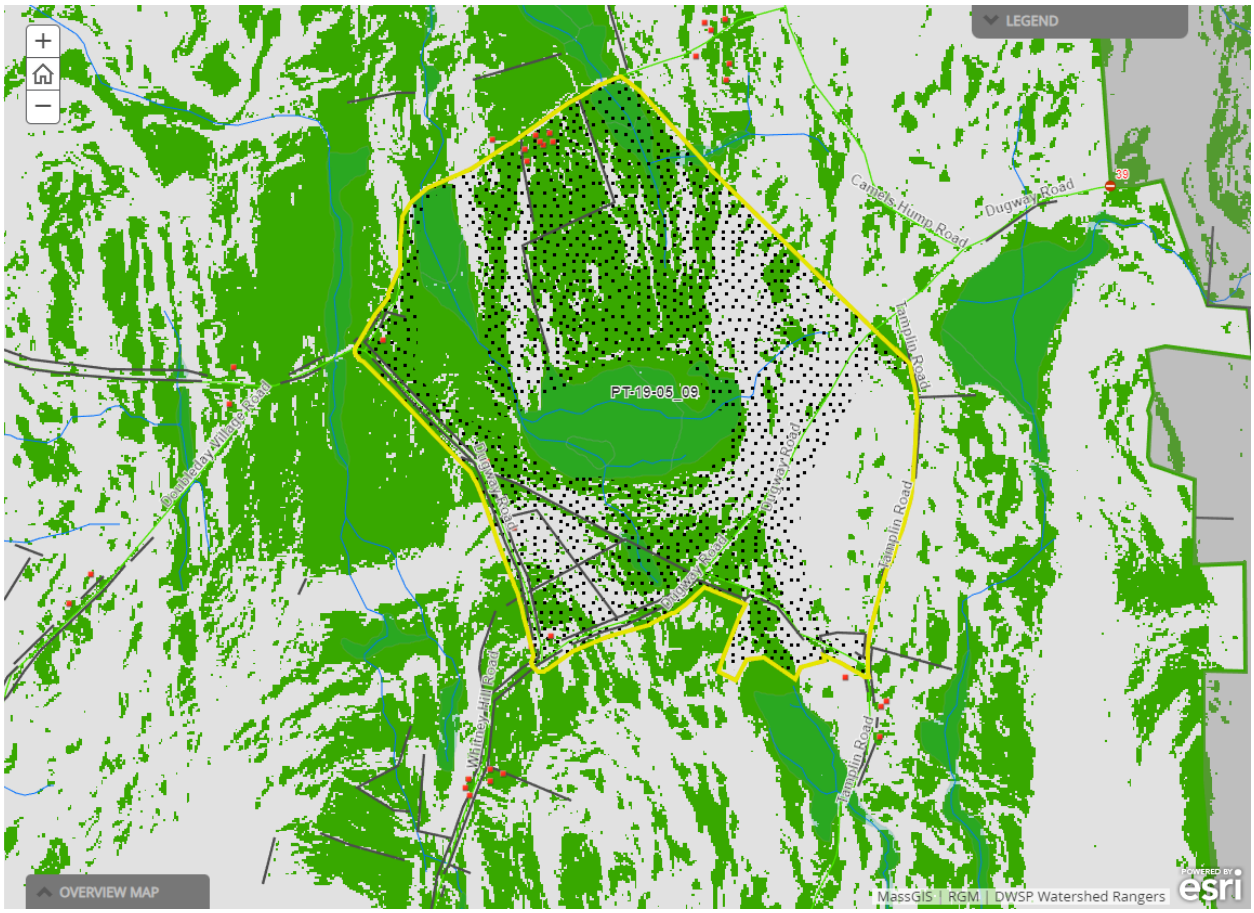


Cultural Resources

Comments on Cultural Resources:

There are numerous stone walls in this area, particularly in and around the red pine plantation in the southern corner of the lot. There are several cellar holes and an old school site along Dugway Road, and along the unnamed access road between the two beaver ponds.

Existing barways will be used where feasible and harvest layout will protect walls as much as possible. Wells and foundations will be flagged and avoided. If applicable DWSP will follow any additional recommendations from DCR's Archaeologist regarding protection of sensitive sites.



Wildlife Resources & Rare and Endangered Species

Comments on Unique or Unusual Sites or Habitat:

The 17 acre spruce stand offers thermal cover for wildlife, which is much needed as the hemlock in the are gradually dies or loses density due to hemlock woolly adelgid, hemlock elongate scale, and other pests.

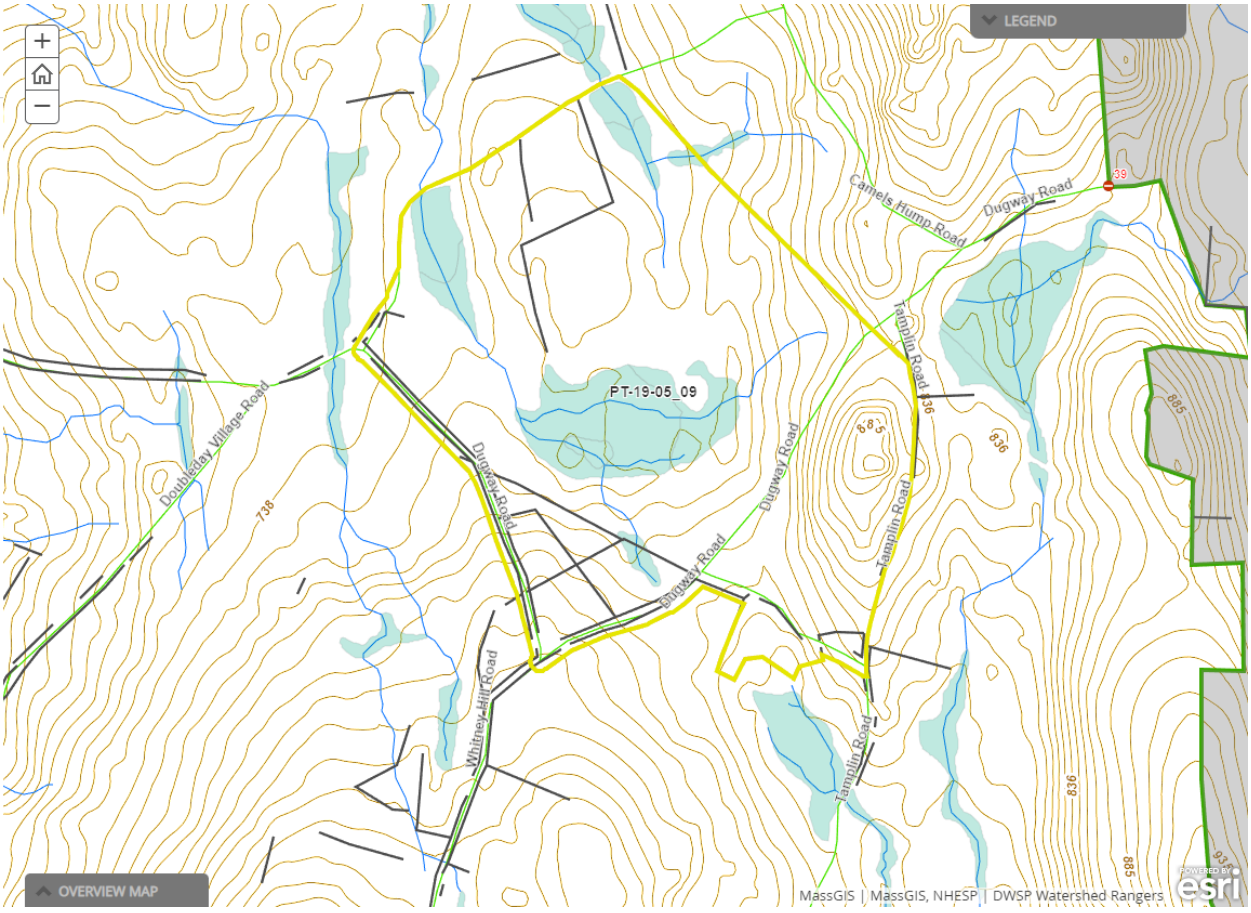
General Wildlife Comments:

Deer and moose pellets and browse were observed, especially in low lying hardwood stands.

Comments on Rare Species/Habitats:

Cavity trees and potential/existing nest trees will be retained if possible. There are not any NHESP state-listed sensitive species or habitats within the lot proposal area. If any new

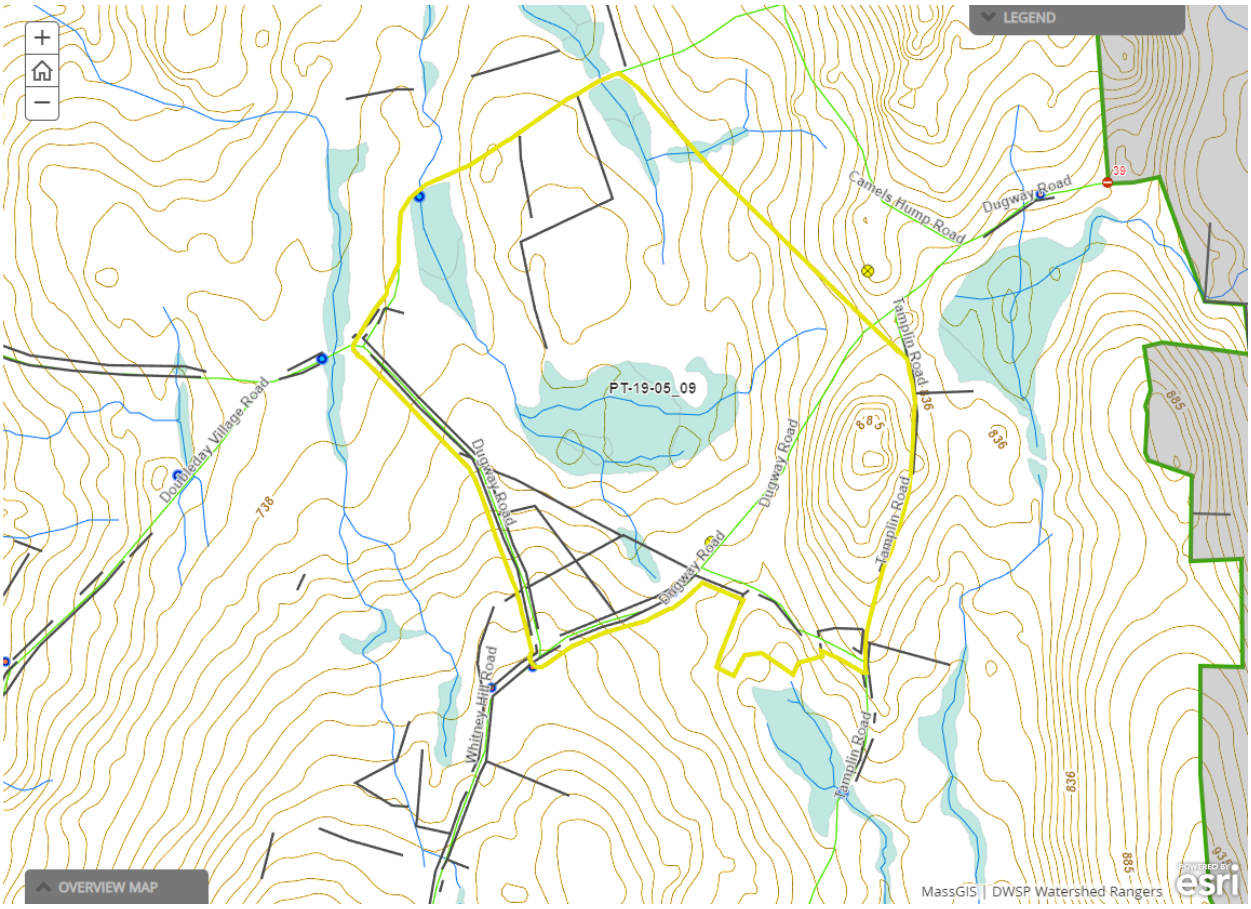
information regarding sensitive species or habitats in the area is found DWSP will coordinate with NHESP and follow recommendations to protect these species during the proposed harvest.



Environmental Quality Engineering

Comments on EQ Issues:

There are no perennial stream crossings.



Forest Access Engineering

Gravel needed: Yes

Landing work needed: Yes

Culverts needed: No

Work needed on permanent bridges: No

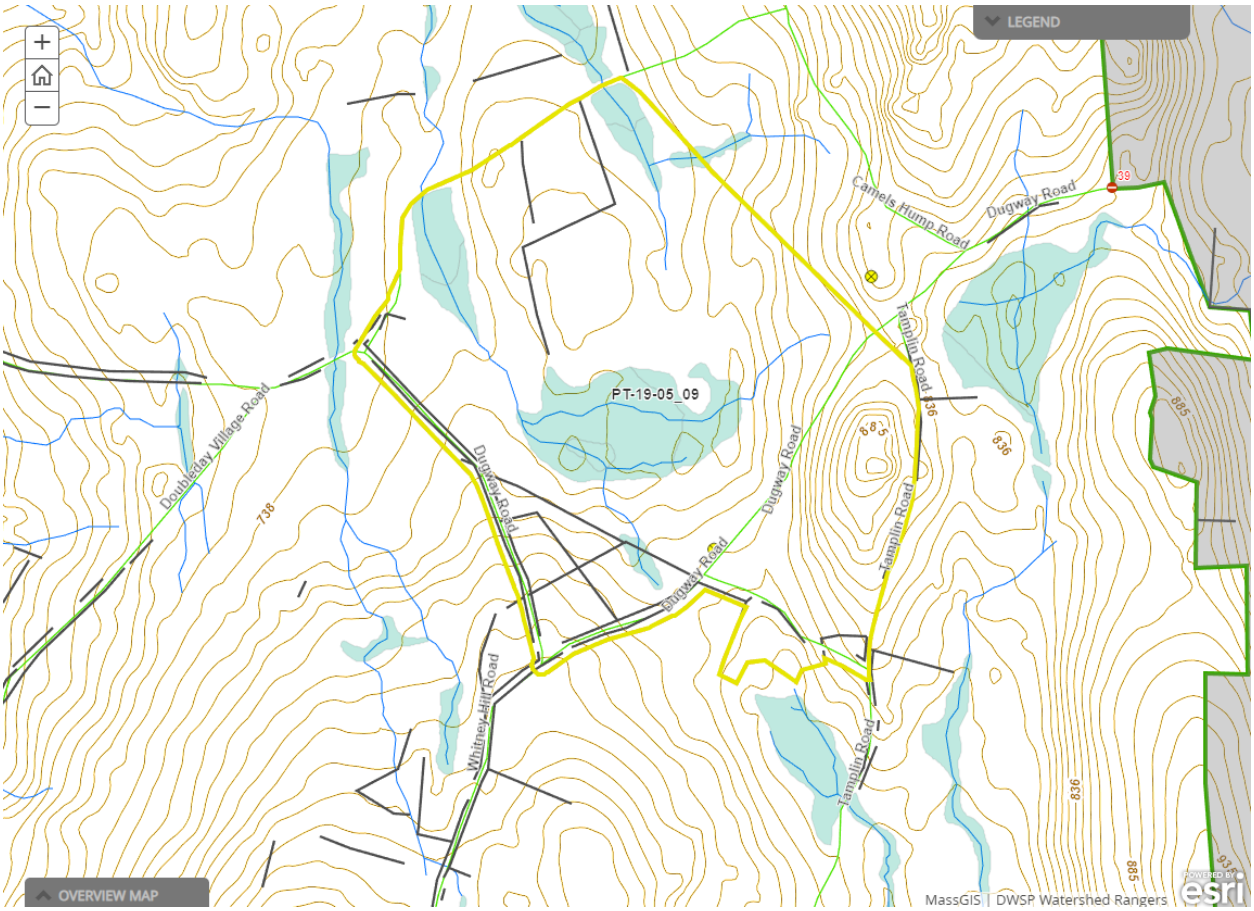
Beaver issue: Yes

Further comment on access needs:

Tractor trailer access needs to be improved by creating a suitable landing, preferably one large enough to accommodate a chipper to improve the merchantability of the coarse white pine on this lot. Dugway Road is also in need of repair immediately north (outside) of Gate 39, where

about 700 feet are badly rutted and eroded due to inadequate drainage control. This is a public way, but since it's beyond the last house, the road is not being maintained.

Beavers have flooded two spots on the access road along the west edge of this lot. This lot can proceed even if the beaver issue is not addressed.



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