Wachusett Harvest Proposal WA-20-113

Proposal Update, May 2024:

This forestry proposal was originally approved through the public process in 2019. 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 2019 in ArcGIS Online Story Map format.

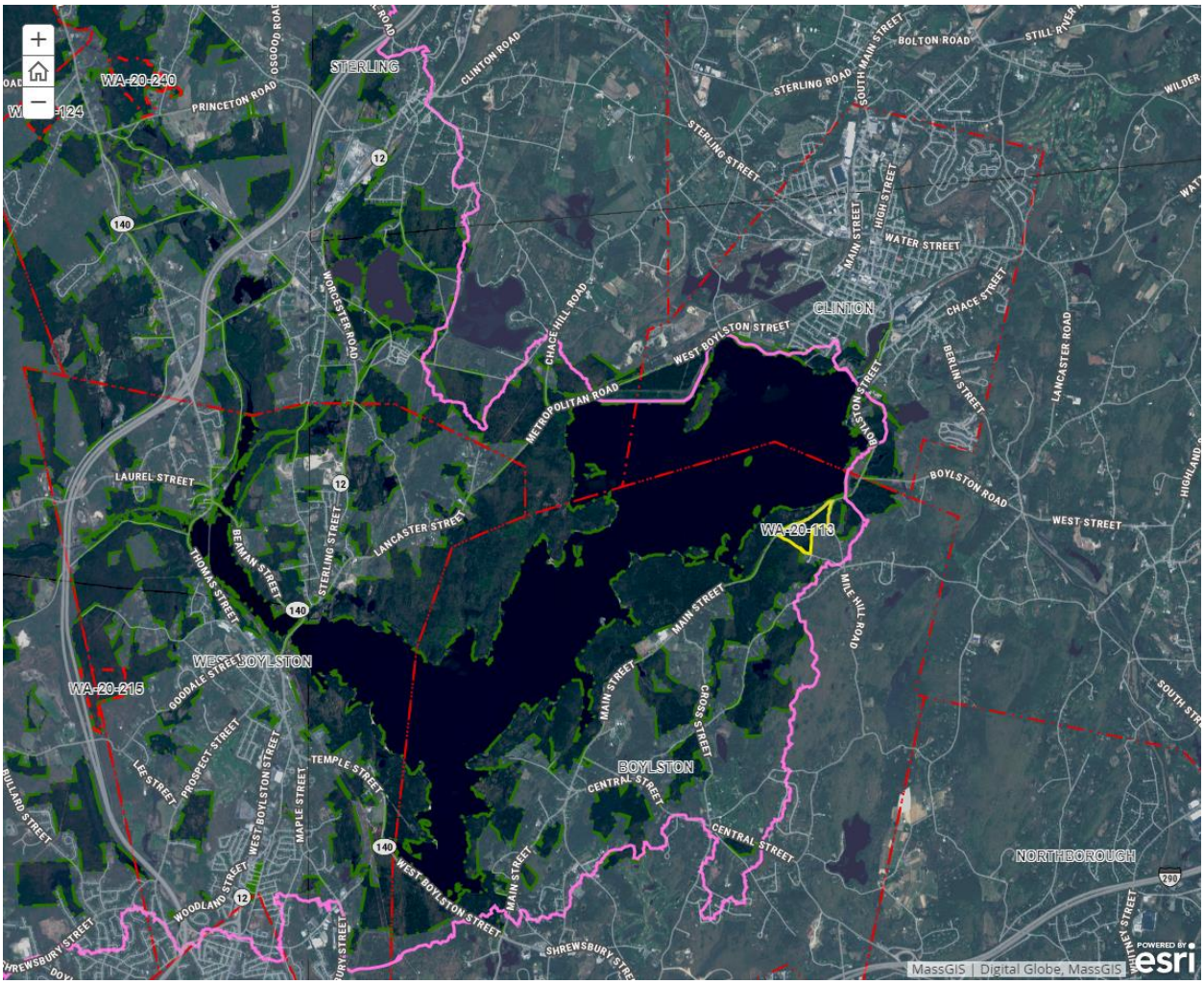
Proposal Goals

The primary goal is to promote a resilient, diverse forest through the creation of canopy openings that allow young forest to develop, release established healthy young trees, and remove groups of poor quality trees.

Proposal Location

The north side of Working Unit #113 is bound by Route 70, the east side by Mile Hill Road, the southeast side by interior boundary line which has been blazed and tagged, and the southwest side is bound by the old stretch of Duffy Road inside Gate B8.

Total Acres: 43



General Description

	Overstory Type(s)	Acres
Dominant	Oak, mixed - dry site	25
Secondary	White pine	12
Secondary	Mixed hardwoods	6

	Understory Type(s)

Dominant	Tree seedlings/saplings dominate site
Secondary	Mesic site - witch hazel, highbush blueberry

Description of forest composition/condition:

All of this working unit is original watershed property that was taken in 1897 prior to construction of the Wachusett Dam. The portion farthest east, adjacent to Mile Hill Road was planted to white pine in 1920. The section adjacent to that on the west extending just to the east of the the Gate B11 road was described as, "Pasture with birch sprouts planted fall 1903 Pines 10x10 with hickory nuts and pulled maple for filler. Thinned Nov.-Dec. 1907.". A block furthest south on the slope near Gate B10 was planted to white pine in 1915. The rest of the area was "Cleared under Contract Prior to 1927" and then planted to white pine in 1928. There is very little pine left in this 1928 area today. It is primarily red oak, white oak and hickory with scattered beech. Some of the red oak are quite large. Given that these oaks age to about 1915, what appears to have happened is that the trees that were "Cleared under Contract" were oaks that resprouted following the clearing and overwhelmed the planted white pines.

An MDC harvest took place in 1993, intended to encourage the establishment of regeneration.The understory today is primarily witchhazel with red maple and black birch saplings with much less oak regeneration. Evidence of a high deer population can be seen in the large numbers of maple-leaved viburnum, all of which are less than knee high. On the plus side, the viburnum is still there, evidence that deer numbers haven’t been so high for long enough to have killed it all off.

The area in the south that was planted to pine in 1915 is still dominated by white pine along with black oak and red oak in the overstory. The understory is also primarily red maple and black birch saplings along with much shorter white pines. Being higher and drier than the area to the north, there is very little witchhazel.

The area east of the Gate B11 road is primarily white pine in the overstory along with black oak and red oak with white pine and witchhazel in the undestory.

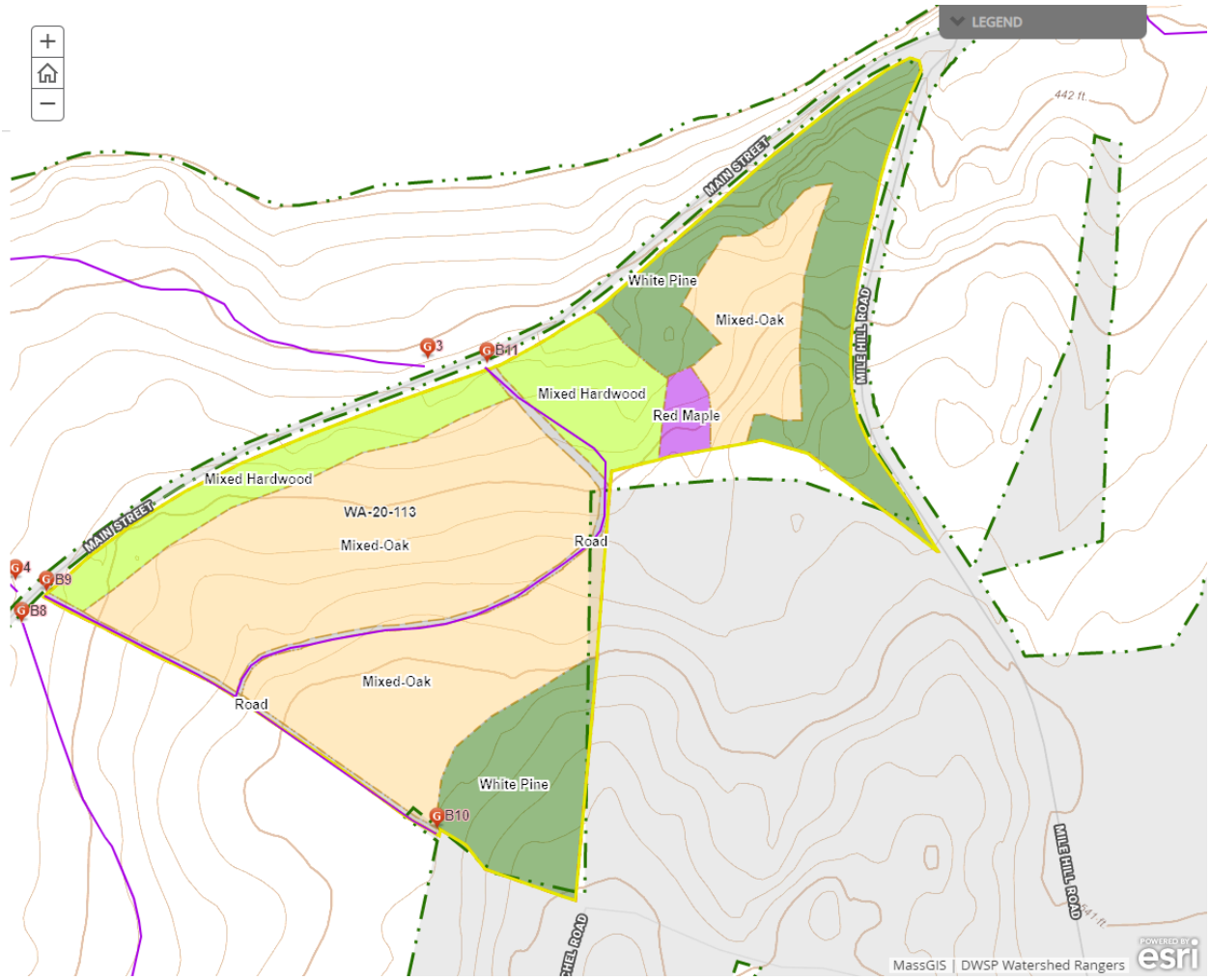
A harvest in 1999 removed the 100' wide strip of white pine along Rt. 70 that was planted following the hurricane of 1938 and a block of pine just inside Gate B11. These areas are very

well regenerated to a dense and diverse mix of hardwood species…a happy result of a presumably lower deer population at the time.

The age structure of Working Unit #113 is as follows: 14%, 0-20 years old, 0% 21-80 years, 26%, 81-100 years and 60% > 100 years old.

Assessment of Terrestrial Invasive Species:

Sampling found invasive species present in 2 of the 94 plots taken. One of then had just a trace amount of buckthorn while the other had 51-75% coverage of Japanese knotweed. This plot is located in the far northern tip of this working unit at the very edge of the woods along Rt. 70 near the intersection with Mile Hill Road, and will likely not receive any disturbance from harvesting.
There was significant defoliation by the gypsy moth in 2018 and given the number of egg masses present, defoliation is expected to be significant in 2019 as well.

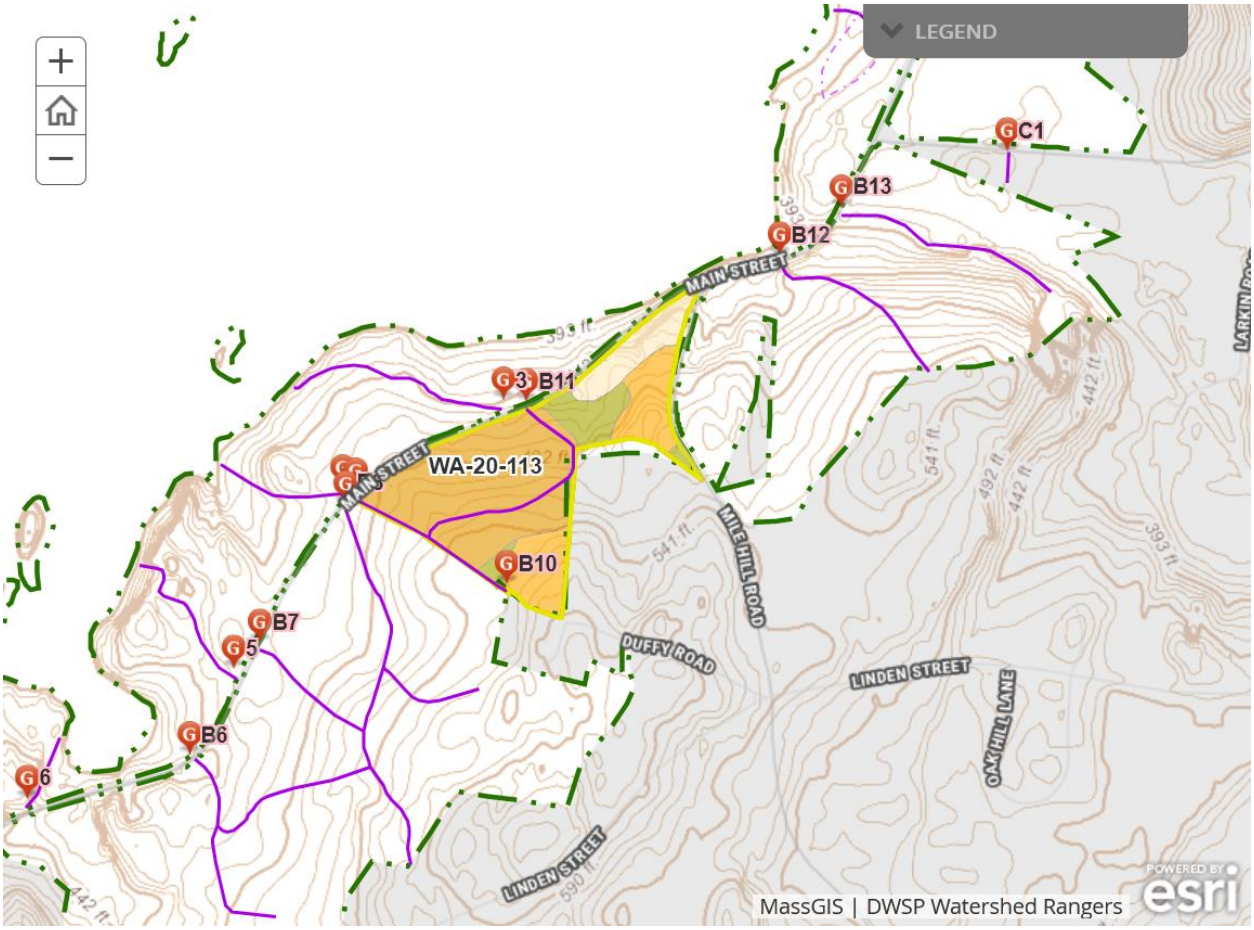


Soils

Drainage Class	%
Excessively Drained	12
Well Drained Thin	23
Well Drained Thick	54

Moderately Well Drained	11
Poorly to Very Poorly Drained	0

The well drained thick soil is the Paxton till and the thin soil is the Chatfield-Hollis-Rock outcrop complex.

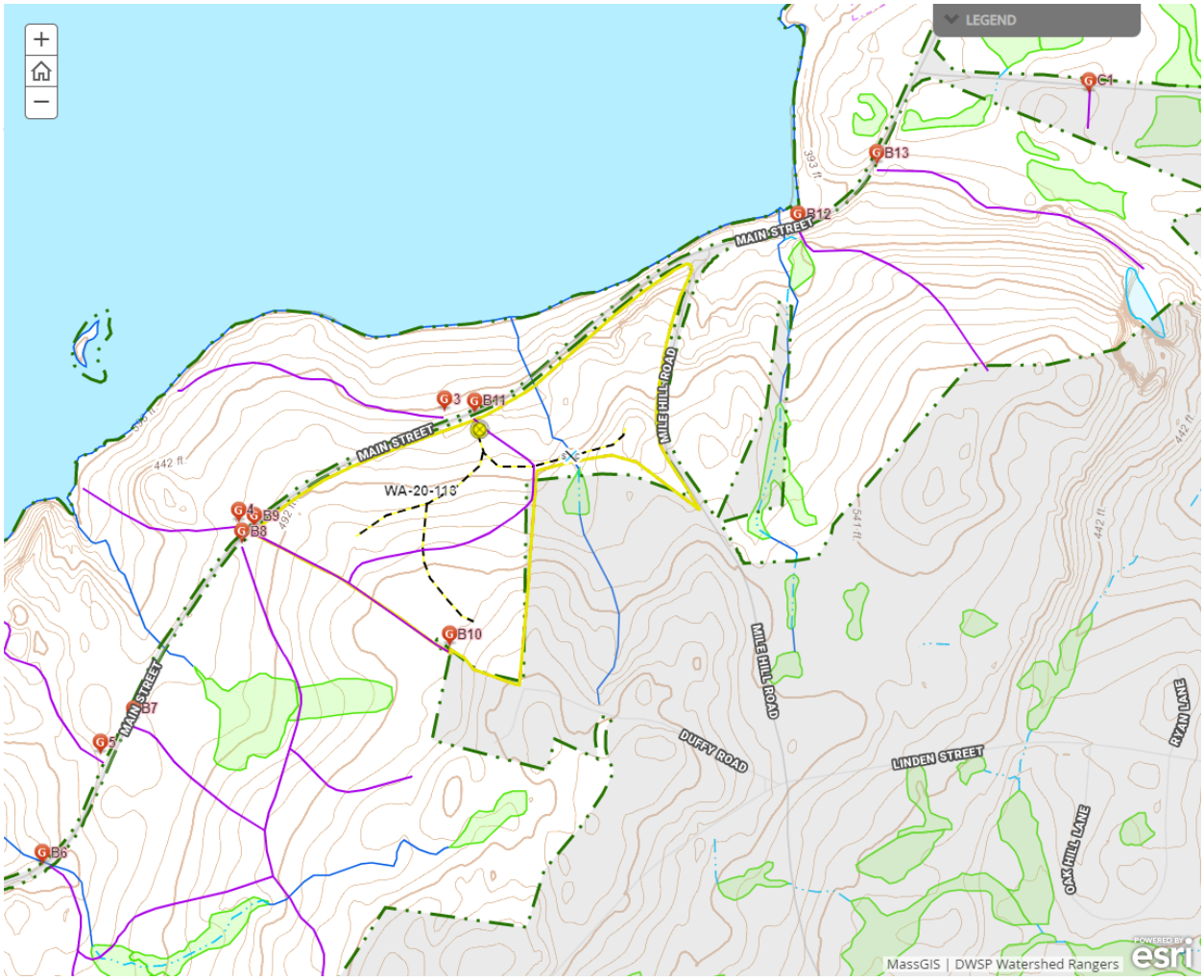


Wetlands

- Wetlands present? - **No**
- 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** **(Riparian Zone Mgt)**
- Is logging in wetlands planned? - **No**

The small stream to the east of the Gate B11 road will be crossed in the same location as Lot #103 in 1993 where the stream crosses the old fire break just inside the property boundary.



Silviculture

Acres in Intermediate cuts: **15**

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

Acres in Regeneration cuts: **15**

Average regen opening size: **1**

Maximum regen opening size: **2**

Description of advance regeneration in proposal area:

Regeneration sampling found adequate regeneration present in 59% of the plots with marginal regeneration in another 27% of the plots. Oak was present in 30% of the plots. The advance regeneration is comprised of red maple, black birch, white pine, red oak, hickory and beech.

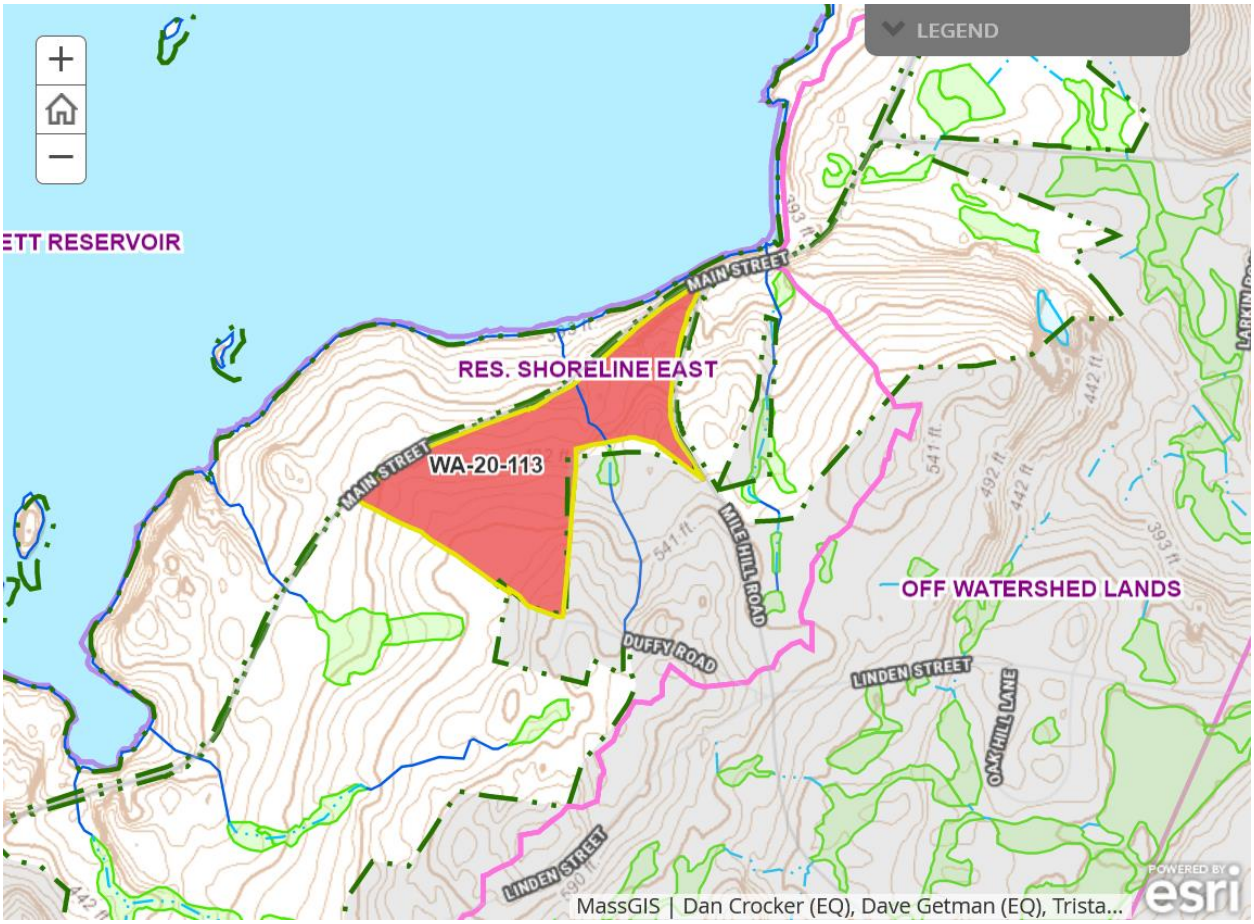
General comments on silviculture proposed:

With adequate advance regeneration present throughout this working unit, openings will be made on up to 14.5 acres thereby achieving the goal of creating a new age class on 1/3rd of this area. This will be accomplished by the removal of the overstory in patches that average about 1 acre with a maximum size of about 2 acres. These will be well distributed throughout the proposed area taking advantage of where the advance regeneration is best. Following this cut, this working unit will have an approximate age structure as follows: 33%, 0-20 years old, 14%, 21-40 years, 0%, 41-100 years, 53%, >100 years old. Some partial cutting may occur between the openings on up to 1/3rd of the area focusing on the removal of trees of the poorest quality while maintaining species diversity.

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
3 (Reservoir Shoreline - East)	1164	109	182	43

The proposed level of cutting falls below the 25% threshold.



Harvesting Limitations

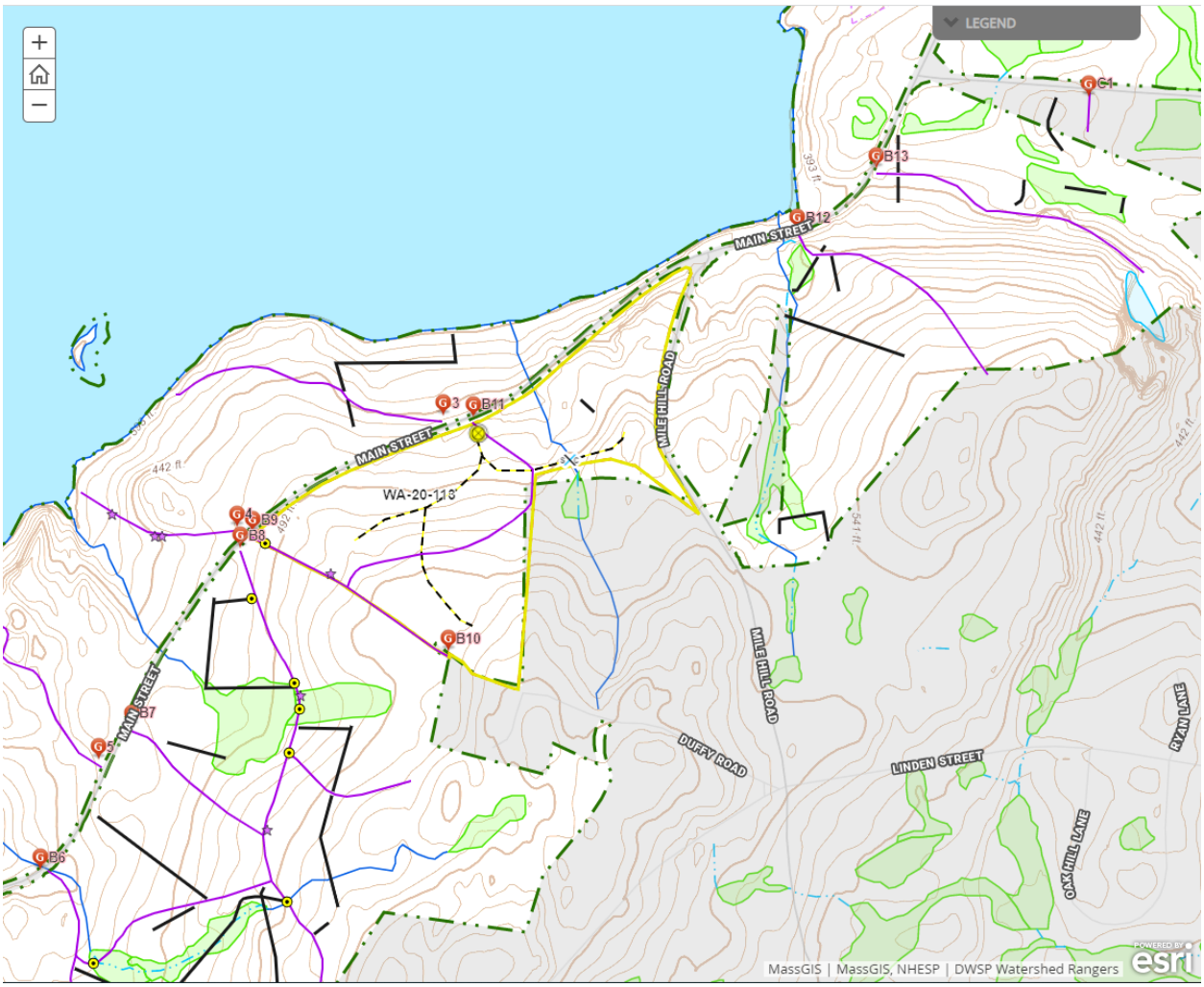
Forwarder required: **Yes**

Feller/processor required: **Yes**

Steep slopes present: **No**

Comments on harvesting limitations:

With advance regeneration present and a desire to protect as much of it as possible during the harvest, a cut-to-length harvesting system will be employed.



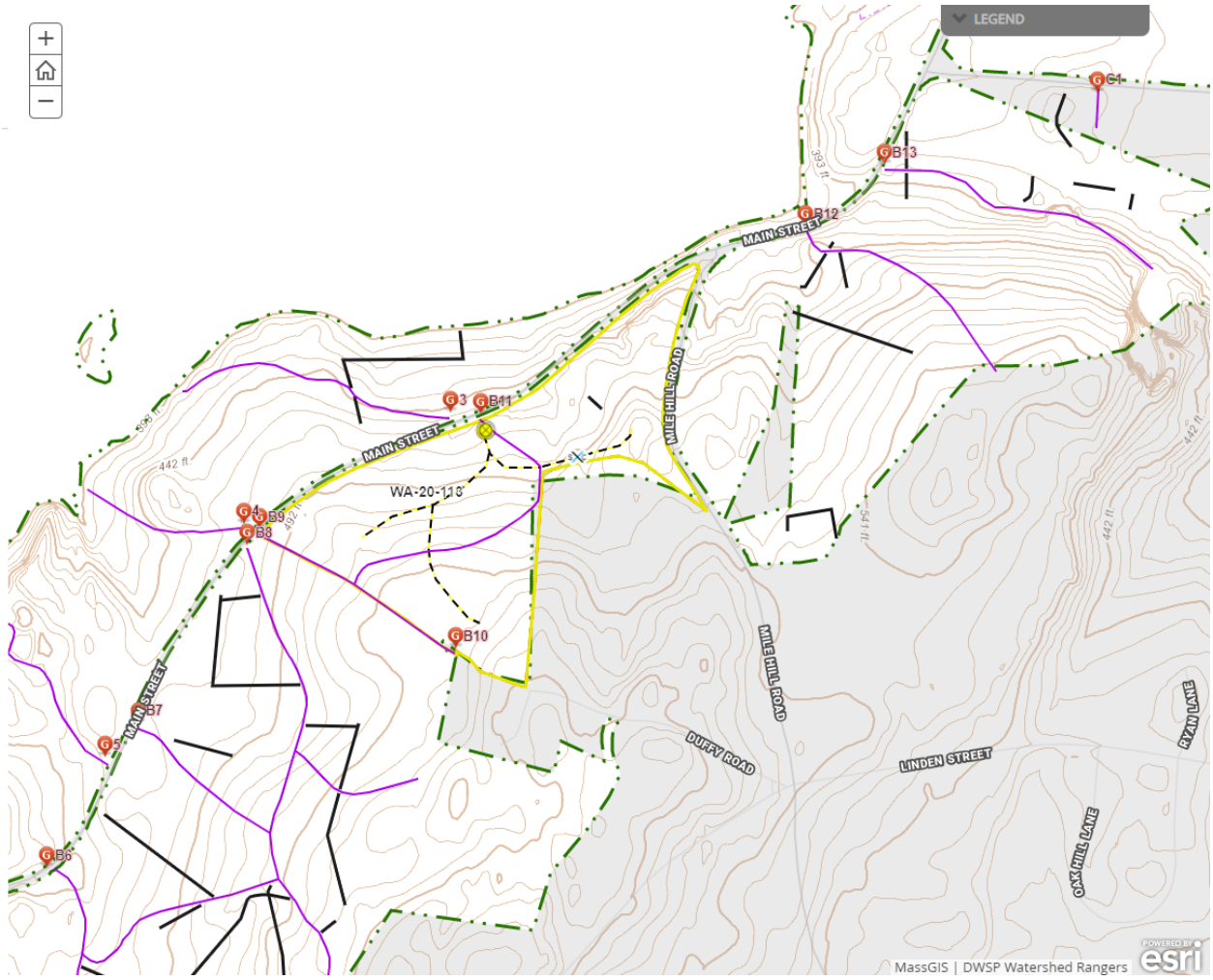
Cultural Resources

Comments on Cultural Resources:

This area has been assessed by the DCR Archaeologist for both known sites of cultural or archaeological importance as well as for potential use by pre-Contact Native Americans.

This area was owned by Henry C. Hastings prior to reservoir construction. His home was just north of the old Boston & Maine Railroad, all of which is now under water. There's an old, small cellar hole in the eastern part of the area not far from Mile Hill Road and very near the property boundary line. There's no indication of the cellar hole on the old M.D.C. land survey taking plans…perhaps the building was long gone by the time of Henry Hastings.

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



Wildlife Resources & Rare and Endangered Species

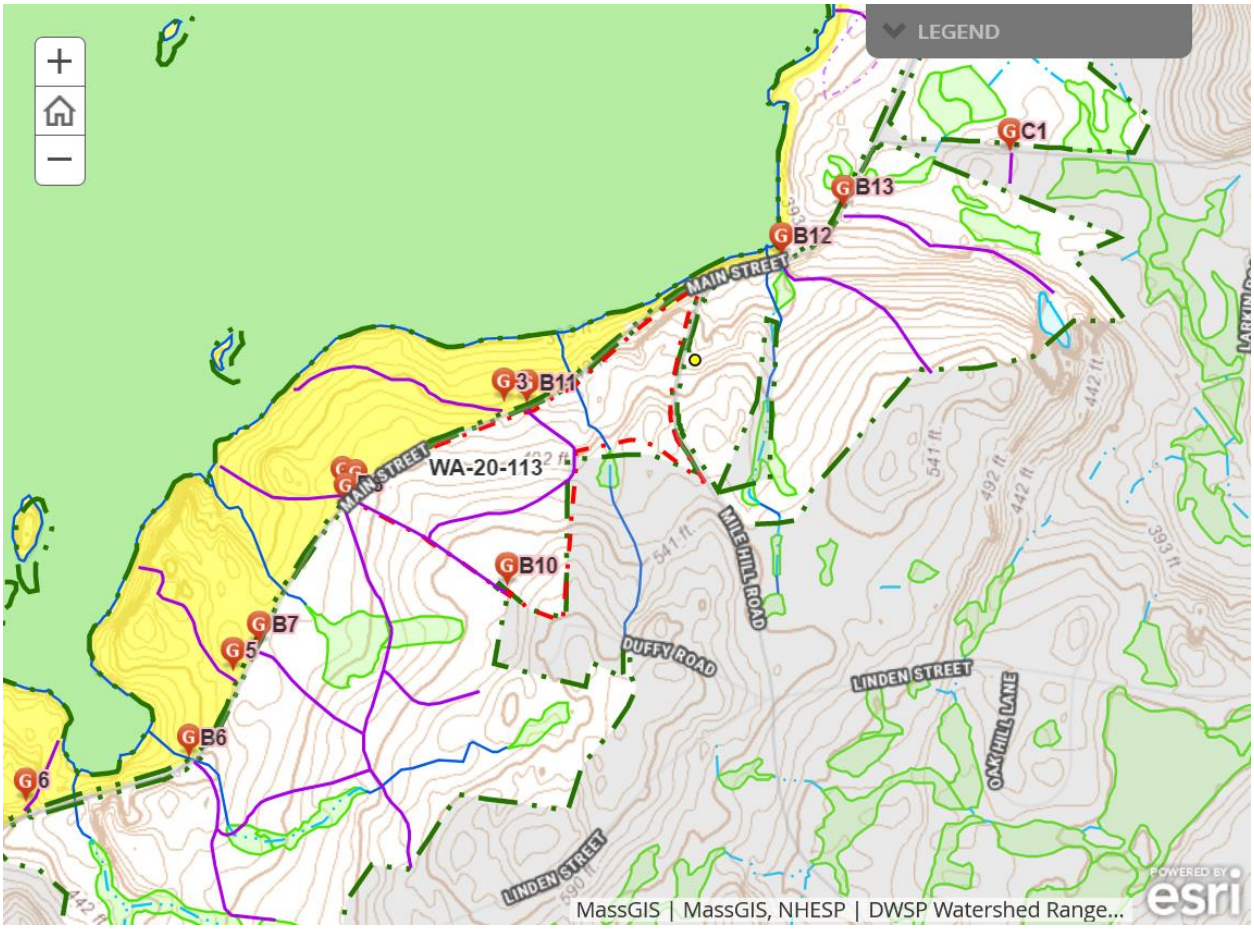
General Wildlife Comments:

The very short maple-leaved viburnum is evidence of a high deer population although the fact that the viburnum is still present suggests that the population has not been too high for an extended period of time. Hopefully the newly expanded deer hunt will address this issue.

All DWSP Best Management Practices for wildlife management such as the protection and enhancement of wildlife habitat features will be an integral part of the silviculture and job layout. Diverse hard and soft mast species will be retained and the healthiest trees will be released to improve seed production, which will promote tree seedlings and food for wildlife. Large snags, den trees, logs and nest trees will be retained whenever possible as valuable habitat. Stick nests were observed and so they will be protected. Where they occur; streams, wetlands, seeps and vernal pools will be protected for water quality and wildlife habitat.

Comments on Rare Species/Habitats:

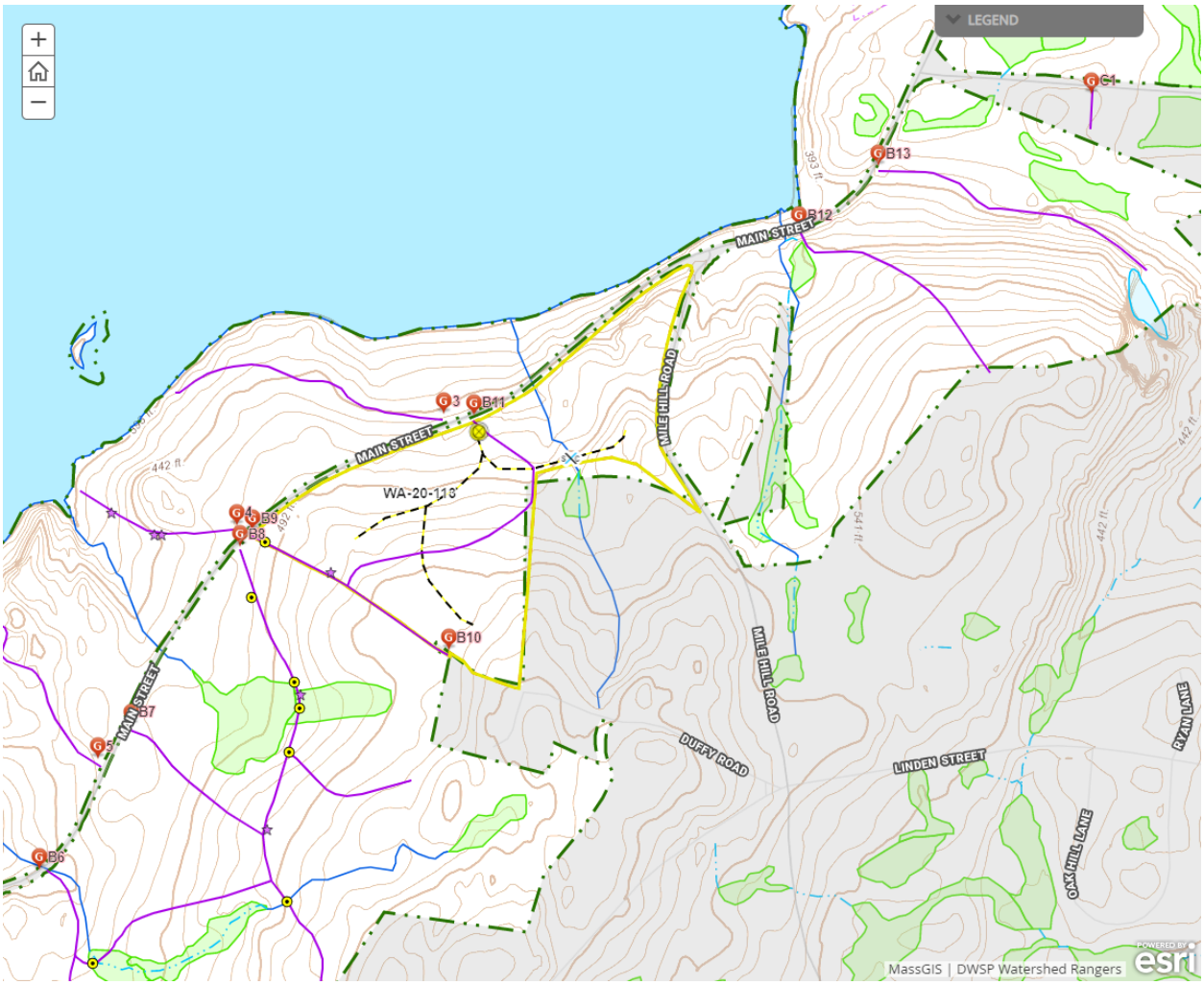
None known.



Environmental Quality Engineering

Comments on EQ Issues:

The small stream to the east of the Gate B11 road will be crossed in the same location of a previous crossing in 1993 where the stream crosses an old fire break. Background samples will be collected downstream from the proposed stream crossing prior to logging in order to establish baseline conditions, while downstream and upstream samples will be collected to measure the effects of ongoing logging operations, and after, to determine whether there are any measurable impacts.



Forest Access Engineering

Gravel needed: No

Landing work needed: No

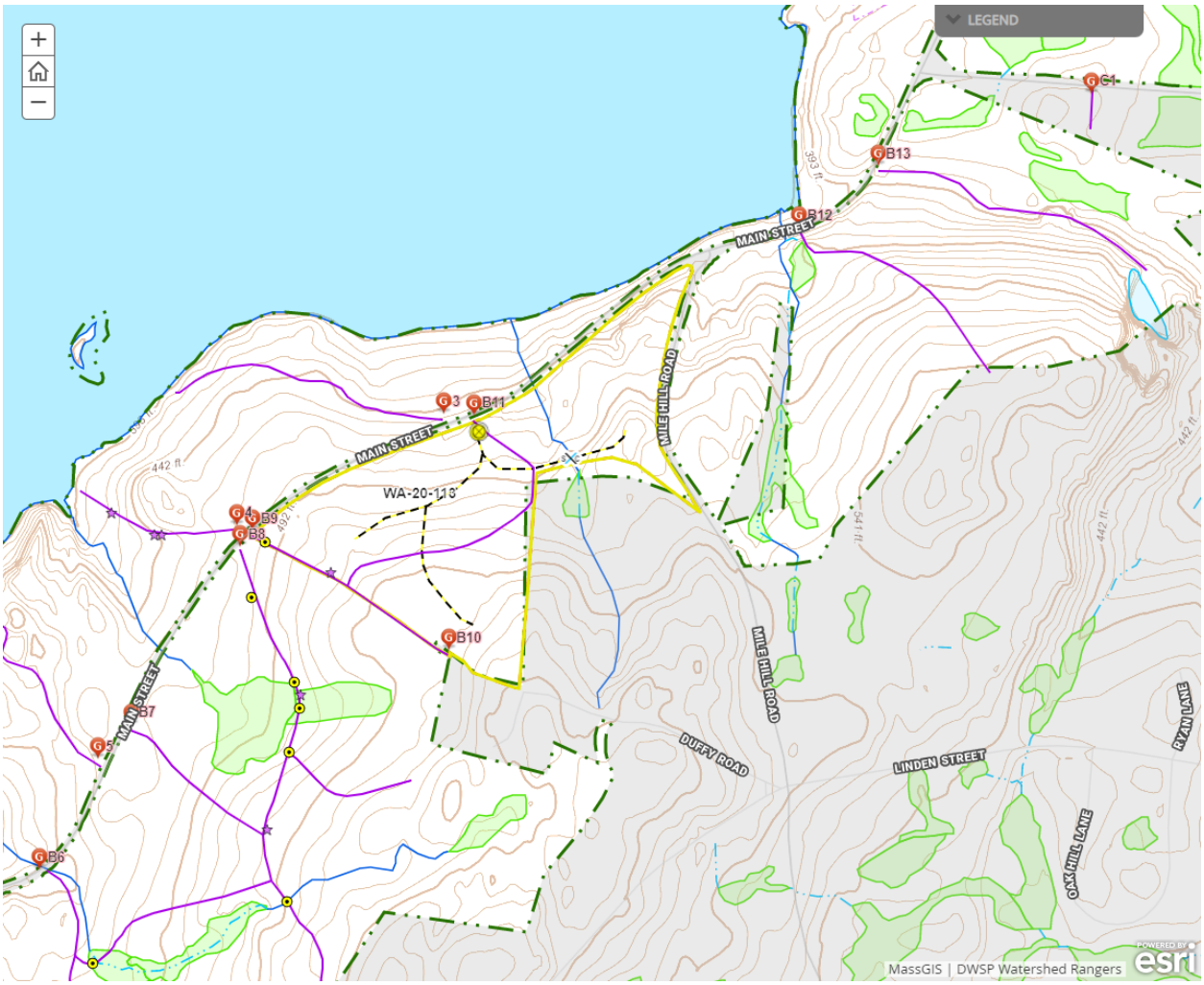
Culverts needed: No

Work needed on permanent bridges: No

Beaver issue: No

Further comment on access needs:

No engineering work is anticipated to be needed prior to harvest.



DWSP FY 2020 Forestry Proposals – Master Legend for story maps