Massachusetts Department of Conservation and Recreation

Division of Water Supply Protection, Office of Watershed Management

Forest Management Project Proposal Summary for Public Comment

Location, goals, and summary of proposed forest management.

Proposal Summary Item	Item Information/Description
Lot Proposal ID	**WA-26-203**
Fiscal Year	2026
Watershed	Wachusett
Town(s)	West Boylston
Forester	Greg Buzzell
Estimated Acres by Treatment Type	Up to 5 acres in regeneration patch cuts and about 24 acres of partial overstory removal to establish regeneration.
Total Proposal Acres	62.4
Block	n/a
Compartment and/or Working Unit	203
Location and Boundary Description	This area is on the north-facing side of Malden aka Turkey Hill between River Road to the north and Malden St. to the south. It is bound on the east side by an interior woods road and stone walls; the south side by the extension of Malden Street that is inside Gate WB21; the west side by Rt I190 and the north side by the now-interior property boundary line between old MDC property to the north and the more recently acquired parcel which is this proposed sale area.
Previous Proposal?	No
Project Goals and Summary Description	This 62-acre forest is part of a larger parcel that was acquired in 1997 for the protection of water quality. Forests provide exceptional water quality protection and yield high-quality water. Active forest management can increase the resistance and resilience of these watershed protection forests to disturbance by deliberately diversifying forest age structure and species composition. The forest in this area, while diverse in tree species is not sufficiently diverse in age structure with 85% greater than 80 years old and 0% less than 20 years old. With a general lack of seedlings and saplings, this operation will result in only up to 5 acres of young forest through the removal of the older overstory in patches. These patches will range in size up to 2 acres and will be located throughout the area taking advantage of where young seedlings and saplings of diverse species are already present. Otherwise, the primary objective will be to encourage the establishment of a diversity of tree seedlings by the partial removal of trees in the overstory.

Forest Cover Types and Acreages

Overstory Forest Types	Acres
Mixed hardwoods	29.0
White pine - hardwoods	27.2
White pine	5.3

Understory Cover Types and Relative Importance

Understory Cover Type	Relative area covered (Dominant, Secondary, Minor, None)
Tree seedlings and saplings	Secondary
Mountain laurel	Secondary
Mesic site - witch hazel, highbush blueberry	Secondary
Dry site -Huckleberry, blueberry	Minor
Mesic site - cinnamon fern, mixed hardwood	Minor
Hayscented fern	None
Invasive shrubs/vines	None
Other	None

Forest Vegetation Description

Vegetation Topic	Description
General Description, Forest Composition, Stand History, and Harvest History	This property was acquired in 1997. Logging occurred in about 1970 in the far northwest corner of this area and resulted in a now 55-year-old stand of red oak, red maple, paper birch, bigtooth aspen and black birch. Another operation took place in about 1990. Where the cutting of the overstory was heavier in irregular shaped patches mostly in the southern half of the area, primarily black birch along with red oak and red maple make up the now 35-year-old stands. The rest of the property is divided into two pieces. Along the western side are a series of walled-in former pastures. The stands in most of these date to 1920 while a couple date to 1940…presumably the approximate date of the abandonment of the pastures. The overstory in these stands is comprised of black oak, white pine, red maple and red oak. There are a very few pitch pine that begin to occur on the upper part of the slope. There's a small area in the far south end on a knoll that has a significant component of chestnut oak along with white pine, white oak, red maple, red oak and pitch pine. On the northern and eastern part of this area is an older stand that originated in about 1905. The overstory is comprised of red maple, red oak, white ash, black oak, black birch and white oak with fewer yellow birch, sugar maple, pignut hickory and paper birch. Most of the paper birch are now dead having reached their typical life span. Many of the red oak are very large with very wide spreading crowns especially in the lower parts of the slope at the far north end of this area. There is limited advance regeneration in the understory. Much of the understory is witch-hazel and mountain laurel with some hazelnut.
Advance Regeneration description	Sampling found there is adequate advance regeneration in just 9% of the plots with marginally adequate regeneration in 23%. The regeneration is comprised of mostly red maple and black birch along with white pine, red oak, hickory, white ash, yellow birch and hemlock. There are even a few chestnut oak saplings in the far south end on a knoll.
Terrestrial Invasive Plants description	Sampling found no invasives. However, there is a small patch of Japanese barberry where an unmapped stream first enters this area on the east side.

Description of Wetland Resources Present

Resource Type	Description of resources present
Wetlands	None
Streams	There is an unmapped very small intermittent stream in the northeast corner of this area. It drains a large wooded wetland to the southeast that is outside of this working unit. It flows northerly ultimately feeding the most easterly of the seeps.
Vernal pools	None known.
Seeps	There are a series of three seeps in the far north end of this area arrayed along a short dip in the slope.

Description of Soils by Hydric Class

Soil Hydric Classes	% of area	Soil series and any further comments
Excessively Drained	0	
Well-drained Thin	31	Chatfield-Hollis-Rock outcrop complex
Well-drained thick	38	Canton fine sandy loam
Moderately well-drained	27	Woodbridge fine sandy loam
Poorly to very poorly drained	4	Whitman mucky fine sandy loam

Proposed Silvicultural Activities

Topic	Description
Site Selection and Silvicultural Objectives	This working unit was selected due both to the lack of age diversity in the forests of these subwatersheds and in this working unit itself. Within sub-watershed #14 (Quimpoxet River), only 10% of the forest stands are 20 years old or less. Within the 62.4 acres of this working unit, 0% are 20 years old or less while 73% of the stands are more than than 100 years old. The age structure of this working unit is as follows: 0%, 0-20 years old; 10%, 21- 40 years; 5%, 41-60 years; 0%, 61-80 years; 12%, 81-100 years; 73%, 100+ years old. The oldest stands date to 1905 making them 120 years old. Given the lack of young stands in this area and the general lack of good advance regeneration, the primary goal will be to encourage the establishment of regeneration of species well suited to the site. A secondary goal will be to increase the proportion of young forest stands.
Silviculture Prescription	Where adequate regeneration is present, it will be released by the removal of the overstory in patches. Given the limited extent of suitable regeneration, it is estimated that these patches will occur on not more than about 5 acres. These will range in size up to 2 acres and will occur in the 53 acres of forest where the stands are greater than 80 years old. On the remaining 48 acres of older forest, the goal will be to encourage the establishment of regeneration. The partial removal of the overstory at levels approaching 50% of the stocking will occur on up to half of the 48 acres. These zones of partial removal will occur throughout the area, focused where there are concentrations of less desirable and more common species such as black birch and red maple. They will also be located in a manner that takes advantage of the presence of the more desirable or less common species which will be maintained such as the very large red oaks, white oak, sugar maple, hickory and pitch pine. Special attention will be paid to maintaining the presence of the very few pitch pine and the chestnut oak. After the operation, the age structure of the forest is estimated to be: 8%, 0-20 years old; 10%, 21-40 years; 5%, 41-60 years; 0%, 61-80 years, 12%, 81-100 years and 65%, 100+ years old.

Climate Change Considerations: DWSP has determined that the decision to implement this project is consistent with EEA climate goals and guidelines and agency land management objectives. Carbon and climate change considerations specific to the activities proposed for this project are discussed below.

Proposed Activity	Alignment of Activity with Climate Oriented Strategies and Recommendations
Partial and Variable Overstory Removal. Regeneration Establishment. **(see page 3, Silvicultural Prescription)**	Partial cutting via single trees or small groups in a mature stand can advance a variety of management objectives as well as **climate-smart practices**. Single tree or very small group removals, if used exclusively and repeatedly, will perpetuate an **uneven-aged stand condition** with a species mix shifted towards higher shade tolerance. However, this type of harvest can also serve within an even-aged system to establish regeneration of species of lower shade tolerance under a partial canopy for subsequent release using larger group or patch cuts (irregular shelterwood) or complete-stand overstory removals. Advantages of partial overstory removals include, but not limited to: • Partial cutting **retains carbon on the landscape** for extended periods while regeneration develops. • Reducing competition for resources improves growth and **carbon sequestration** rates on residual trees. • Promotion of a diversity of age classes enhances overall forest **resiliency**. • Maintenance of continuous forest corridors provides for wildlife habitat. • As part of a regeneration system this method can be used to help guide species diversity towards more **future-adapted mixes**.

Proposed Activity	Alignment of Activity with Climate Oriented Strategies and Recommendations
Patch Regeneration Cut **(see page 3, Silvicultural Prescription)**	Patch cutting is a regeneration technique that straddles the boundary between classic even-aged and uneven-aged forest management systems. Foresters select appropriate areas ('patches' or 'groups') covering a portion of the stand to harvest rather than removing the entire stand and then return periodically to repeat the process in other portions of the stand. In using patch cutting there is no final regeneration cut. Patch size and shape are determined by many different factors including overstory condition, desired species composition in the regeneration layer, other desirable herbaceous and woody vegetation, location, stand re-entry period, etc. Harvesting in patches aligns with many **climate-smart forestry practices**: • Increasing **structural diversity** improves resiliency by reducing the impact of age/size related disturbances. • Extending regeneration periods minimizes short term impacts to groundwater and nutrient cycling. • Partial stand overstory removals more closely align with **natural disturbance patterns**. • More **carbon is left on the landscape** for longer periods, and within-patch live tree, snag, and coarse debris retention allow for development of old forest characteristics. • Can also be used as opportunities to increase the stocking of **future climate adapted species, current climate imperiled species**, or other types of desirable vegetation.
General/other Climate Change Considerations	This silvicultural approach addresses a significant age-class imbalance. This lack of age diversity reduces forest resilience to climate-related disturbances such as storms, pests, drought, and disease. The harvest plan employs two climate-smart silvicultural strategies: *patch cutting* and *partial overstory removal*, both of which align with EEA climate goals and guidelines and support agency land management objectives. This selective approach maintains substantial on-site carbon stocks, improves the diversity and growth and of residual trees, and guides species composition toward greater adaptability under changing climate conditions.

Equipment and Access Constraints and Considerations

Constraint Topic	Description and Considerations
Proposed Equipment requirements	Forwarding and mechanized felling will be required. On the limited acreage where advance regeneration is present and overstory removal occurs, this equipment is the best option to minimize damage to the regeneration.
Proposed wetland or stream crossings	The small, unmapped intermittent stream in the northeast corner of the area will be crossed when it is dry or frozen.
Further wetland comments	There is a small wetland mapped in the far northeast corner of this area. There is no wetland in that location.
Vernal Pools	None

Constraint Topic	Description and Considerations
Access improvements needed	None needed
Other EQ issues	None
In-kind Services	None
Other Access Concerns (parking, trails, etc.)	None

Subwatershed Analysis

Sub-Watershed number/name	Total DCR-owned acres in this sub-watershed	Acres regenerated on DCR land in the last 10 years in this sub-watershed	Total DCR-owned acres remaining for regenerating up to the 25% per 10 year limit for this sub-watershed	Acres in this sub-watershed that are part of this proposed lot
14/Quinapoxet River	2462	92	523	62.4

Additional comments on Subwatershed analysis:

Wildlife and Habitat Observations and Considerations

Wildlife/Habitat	Observations and Considerations
Natural Heritage Priority Habitats?	None
State Listed species present:	None known
Rare Natural Communities:	None known
General Wildlife Comments	No unusual wildlife sightings were recorded during site visits. Diversification of the composition and structure of the working unit will benefit wildlife species in this area. With successful recruitment of young trees in patch cuts, early successional species such as Eastern Towhee and Chestnut-sided Warbler will benefit, as has been documented in nearby patch cuts. These openings also provide benefits to foraging bats. And the retention of mature stands with less common tree species in between patch cuts will continue to benefit species such as Ovenbird.

Cultural Resources Description and proposed protection measures

Cultural Resource	Description and proposed protection measures
Historical features present; comments regarding protection	This property was part of a farm that was last attributed to A. Lovell on Richardson's 1898 atlas. In Walling's 1857 atlas it was shown as A. Lord. The house and barn were located on the north side of Malden St. just to the east of the apex in the curve at the intersection of a road from the north. Evidence of these structures seems to have been wiped out in about 1990 when this property was subdivided and construction of several houses commenced which were then abandoned. Stonewalls will be crossed at existing barways where possible and otherwise will make use of lower or poorly built sections.

Cultural Resource	Description and proposed protection measures
Description of site characteristics in relation to Ancient sites modeling or other verified evidence	Virtually none of this area is less than 7% sloped. Surface stones are prevalent.

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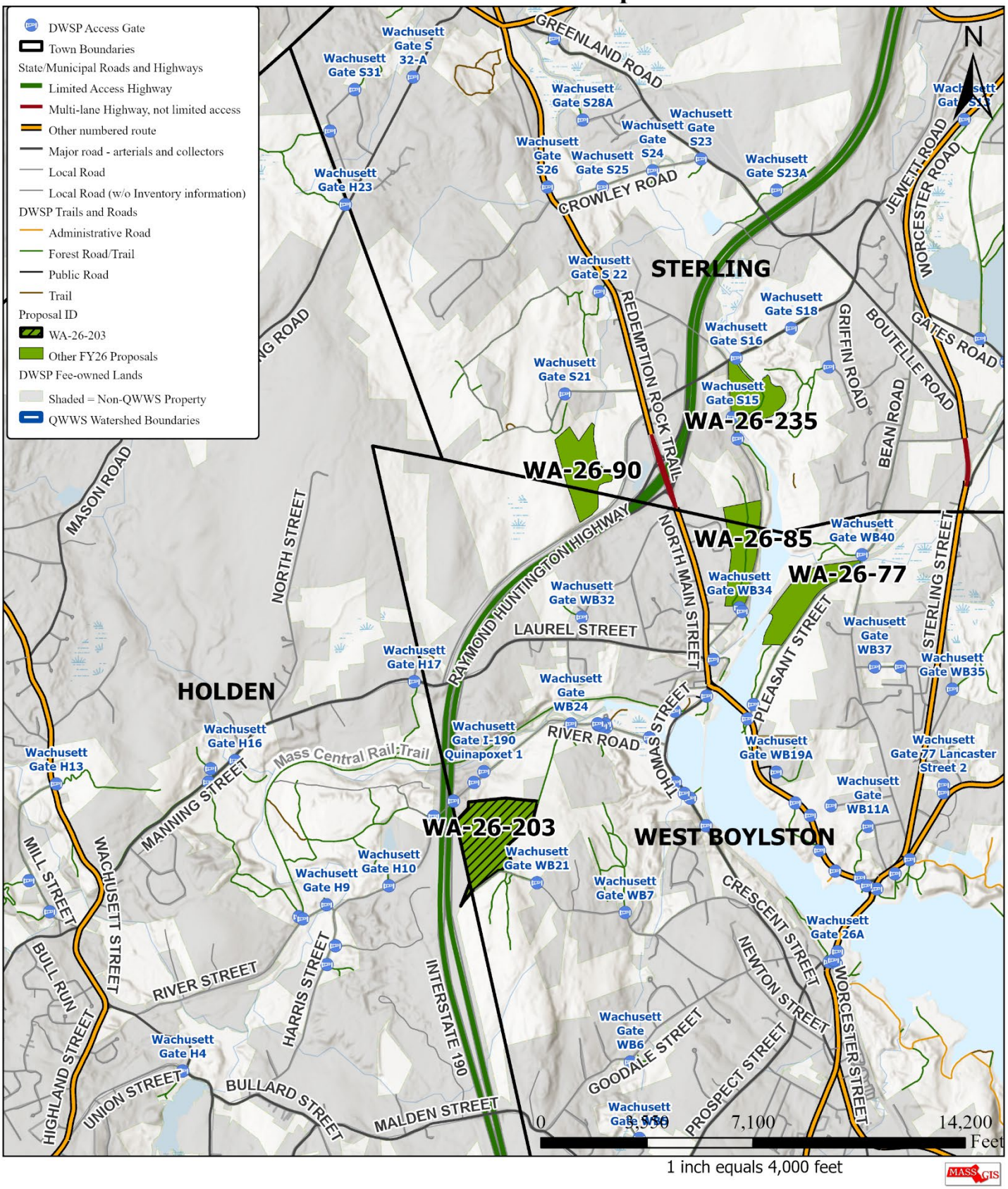
WA-26-203 -- Locus Map



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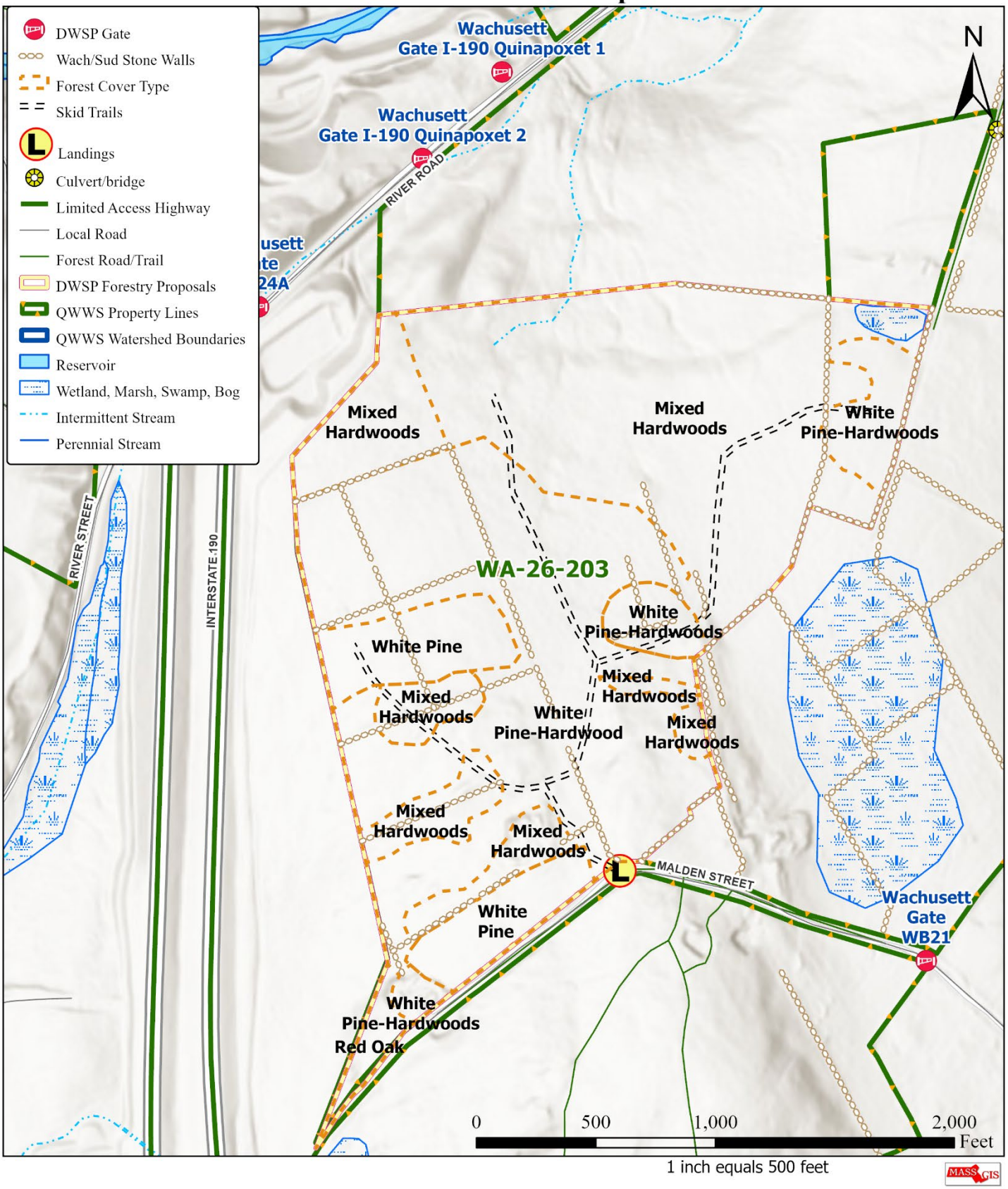
WA-26-203 -- Stand Map



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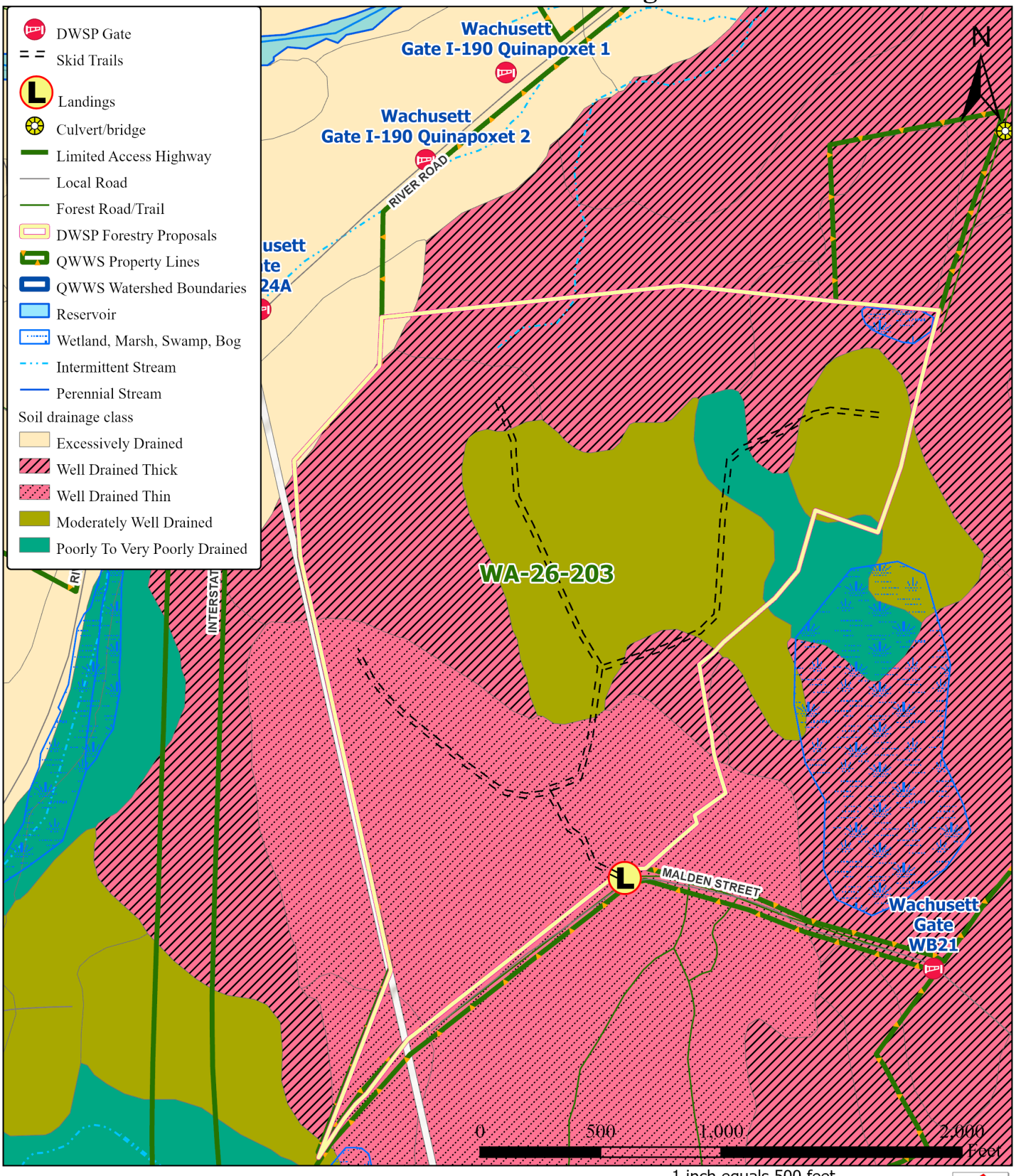
WA-26-203 -- Soil Drainage Classes



1 inch equals 500 feet

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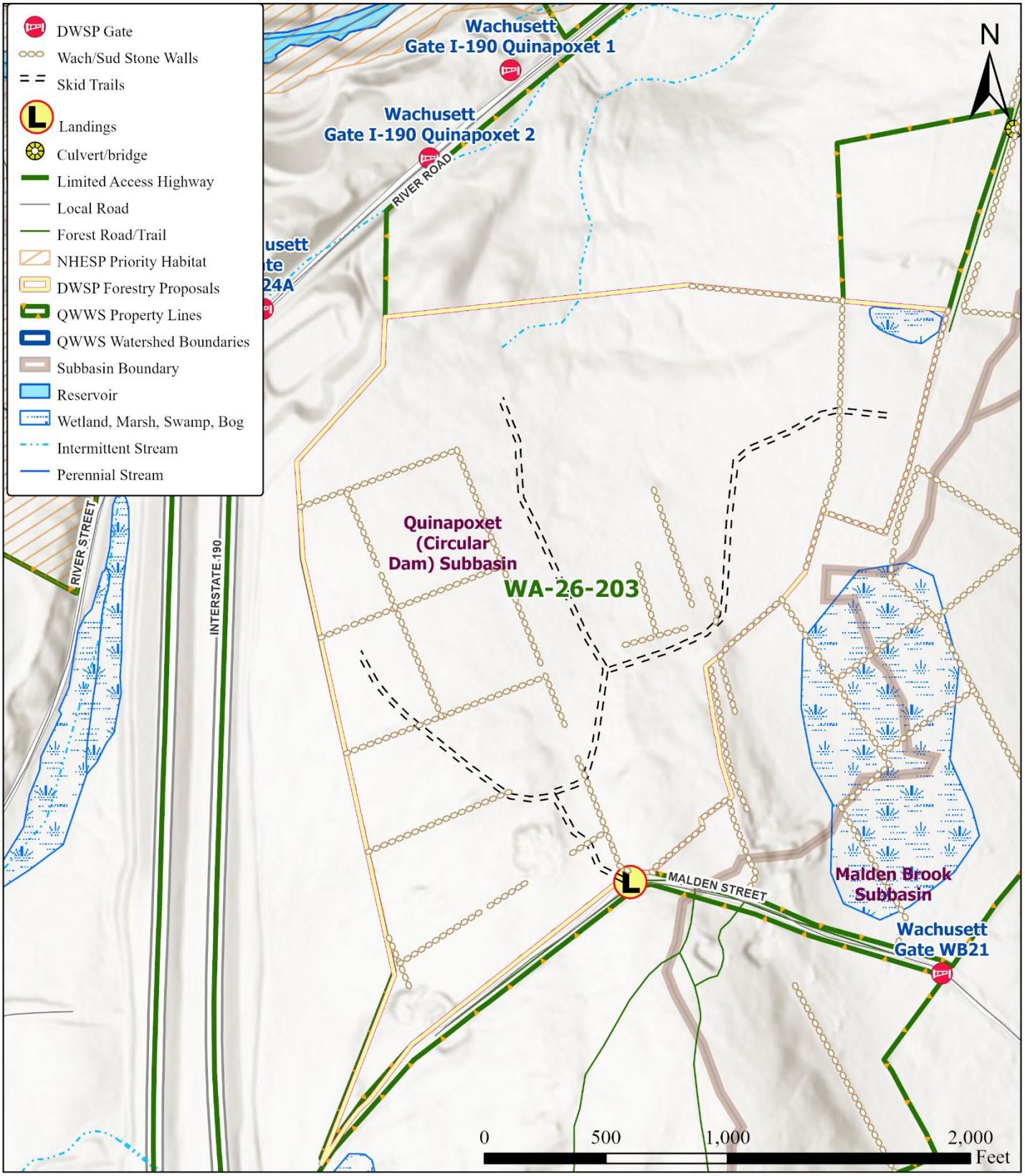
WA-26-203 -- Wetlands and Wildlife Resources



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WA-26-203 -- Cultural Resources and Landscape Characteristics