

Massachusetts Deer Browse Impact Survey

Property Name: Delaney WMA Town(s): Harvard

Ownership: DFW

General Surroundings: Rural/Forest/Ag Low-residential Med-residential High-residential

General level of use by public: Low Moderate (horse, bike, hike, dogs) Heavy Unknown

Is this property open to hunting? Yes No Unknown

Special Hunting Restrictions:

General level of nearby hunting? None Limited Moderate Heavy Unknown

Date of site visit: 5/21/19 Name(s) conducting survey: Siener

Description of the forest on the property: (e.g., conifer, mixed conifer/ hardwood, hardwood dominated; what are the dominant trees in the forest canopy; is it closed or open, is the forest older- or younger-aged, is there active logging, etc):

Closed, mature forest dominated mostly by conifers. Stands are white pine dominant, hemlock dominant and mixed (white pine, oak). Some areas with saplings present >6ft tall. Other areas with canopy and herb layer only, possibly due to lack of light. No logging. Lakes and wetlands abundant. Also some patches of shrubland where meadows abandoned.

Survey Instructions: Using the worksheet on the back, walk through a representative area (10-50%) of the forest to come up with an average level of impact on a property. Avoid areas near trails and roads as these are not representative. Pay special attention to what is able to grow and which tree species are being browsed, especially in canopy gaps (e.g., areas where the sun is able to reach the forest floor from fallen trees, recent cuts, etc.). Take pictures showing the forest floor as well as specific cases of browsing, if present. Please also record a GPS track or attach a map of the property with areas surveyed marked (e.g., if random plots used). After filling out the back, check the box below that best describes the general level of forest impacts from deer browsing. Please email a copy of the survey, GPS track/map, and pictures to david.stainbrook@state.ma.us.

General level of forest impacts from deer browsing on the property (check one):

☐ **1: Little to No Impact**

Preferred hardwood tree seedlings and saplings such as maple, oak, ash, and hickory are growing up to and above 6 feet tall, with little to no sign of browsing. The shrub and herbaceous layers are well developed and show little to no impact (e.g., Pink Lady's Slipper, Trilliums, and Wild Sarsaparilla are present)

☐ **2: Between Little to No Impact and Moderately Impacted**

☐ **3: Moderately Impacted**

Preferred hardwood tree seedlings and saplings such as maple, oak, ash, and hickory are growing up to and above 6 feet tall, but most do show some signs of browsing. Some moderately preferred trees (e.g., cherry) may show slight browsing, but no sign of browsing on low-preference tree species such as American beech and white pine. Some preferred to moderately preferred shrubs show evidence of browsing (e.g., viburnums) and preferred herbaceous plants (e.g., Trilliums, Pink Lady's Slipper, Canada Mayflower, and Wild Sarsaparilla) are present, but show some signs of flowering parts removed.

☐ **4: Between Moderately Impacted and Impacted**

☐ **5: Impacted**

Preferred hardwood tree seedlings and saplings such as maple, oak, and ash are not common, and when present, show signs of moderate to heavy browsing. In their place are other tree species such as American beech, white pine, cherry, birch, etc., which may show evidence of browsing. Some low-preference shrubs show evidence of browsing (e.g., blueberry, Glossy Buckthorn). Few preferred shrubs may be found scattered in the understory and Hay-scented Fern, low-bush blueberry, huckleberry, grasses/sedges, and barberry may dominate large sections of the forest floor.

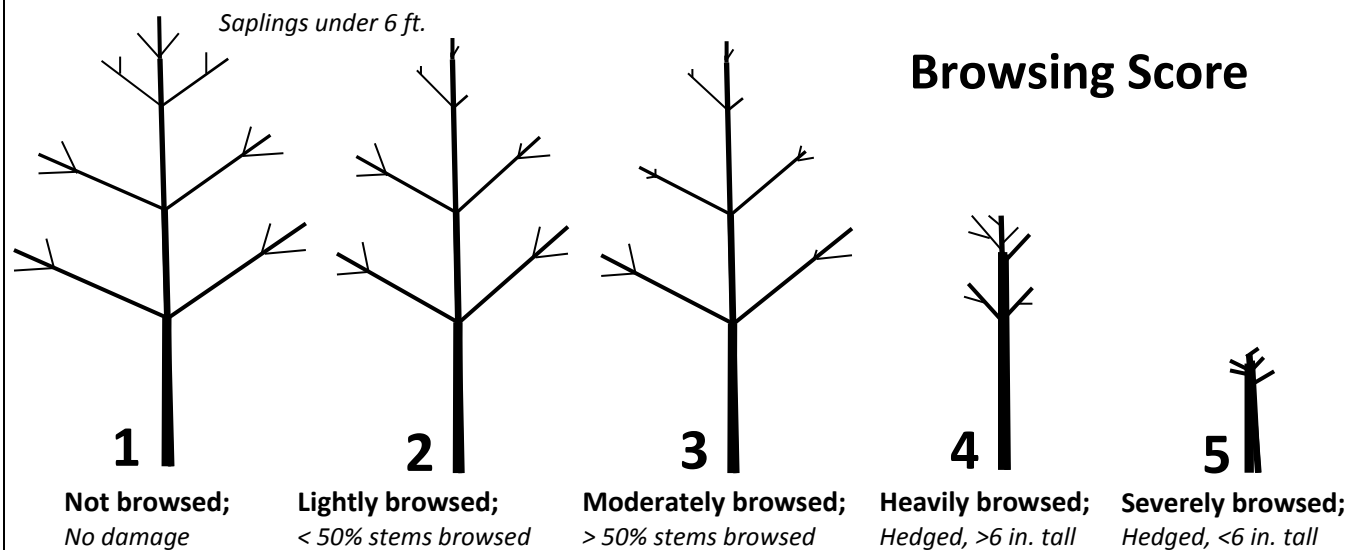
☐ **6: Between Impacted and Heavily Impacted**

☐ **7: Heavily Impacted**

Tree seedlings and saplings preferred by deer are almost non-existent, and when present show signs of heavy browsing. Less preferred shrubs and trees show signs of browsing and/or most saplings are unable to grow above 6ft. Low preference trees, such as white pine may show evidence of browsing. A browse line is often visible below 6ft. Foliage of native shrubs and wildflowers are very limited. Ferns, grasses/sedges, and non-preferred invasive plants such as barberry may dominate the forest floor.

Classify average level of browsing on seedlings/saplings for the following species (*minimum 20 stems*):

Oak	1	2	3	4	5	Present in canopy, few in understory	Not Present/Seen
Red/Sugar Maple	1	2	3	4	5	Present in canopy, few in understory	Not Present/Seen
Eastern Hemlock	1	2	3	4	5	Present in canopy, few in understory	Not Present/Seen
Birch	1	2	3	4	5	Present in canopy, few in understory	Not Present/Seen
American Beech	1	2	3	4	5	Present in canopy, few in understory	Not Present/Seen
Black Cherry	1	2	3	4	5	Present in canopy, few in understory	Not Present/Seen
White Pine	1	2	3	4	5	Present in canopy, few in understory	Not Present/Seen
Other: <u>beaked hazelnut</u>	1	2	3	4	5	Present in canopy, few in understory	Not Present/Seen



General level of deer sign on the property (e.g., scat, tracks, etc.): Low Medium High Unknown

Is there any evidence of deer impacts in surrounding areas (e.g., homes with landscaping damage)?
 None Very Limited Moderate Heavy Unknown

Additional Notes (e.g., describe herbaceous and shrub layer):

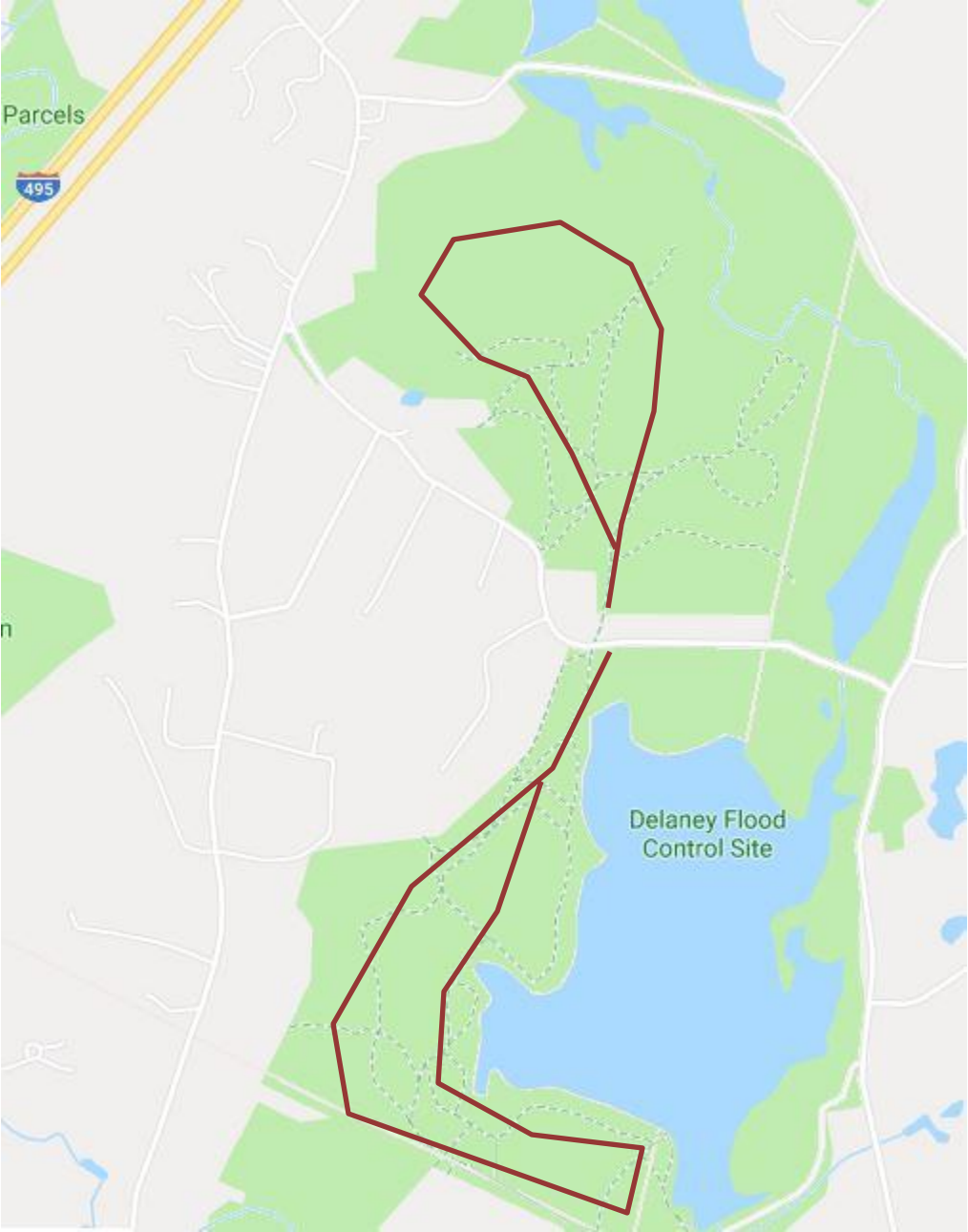
White pine and glossy buckthorn common in the understory in different areas of forest. Glossy buckthorn almost always browsed when in reach of deer, but always light-moderate. Glossy buckthorn = 2-3; witch hazel = 2; ash and Am. Chestnut = 2; euonymus when present = 3. Red and white oak lightly browsed. Many examples of oak and maple >6ft tall with minimal browse.

No examples of low preference species browsed (except perhaps glossy buckthorn?).

Herbaceous layer composed of hayscented fern in uplands. Canada mayflower and starflower also present and abundant, not browsed. Sarsparilla common and rarely browsed. Nodding trillium and lady slipper not common, and unbrowsed.

MAP OF SURVEYED AREA

Primary survey areas





Fern dominated herb layer under a closed mixed canopy forest.



Relatively sparse herb layer in this section of forest but note saplings and shrubs past the trees.



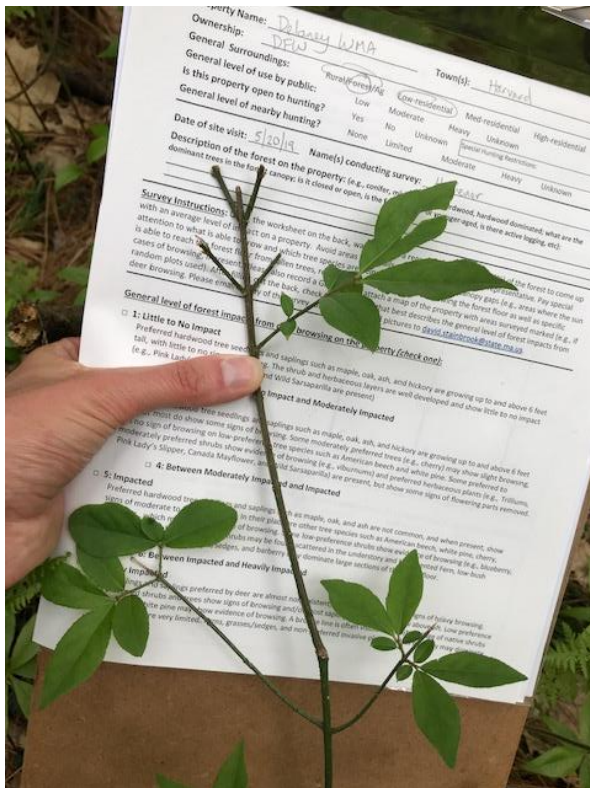
Starflower and Canada mayflower under white pine. Lack of saplings partially due to closed canopy conditions and deer pressure.



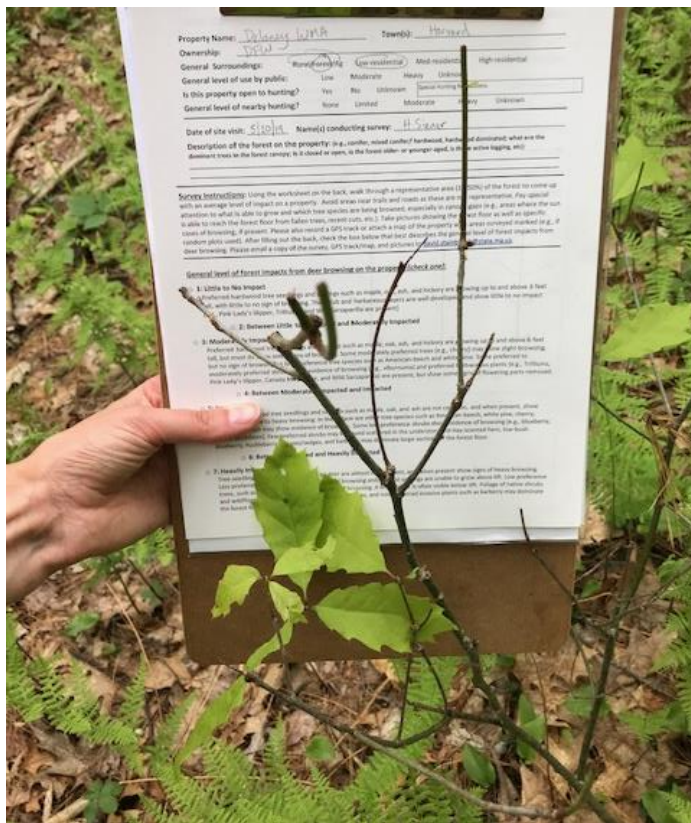
Rub on hemlock. No sign of browse on hemlock.



Browse (browsing score 2) on maple-leaf viburnum, a preferred-moderately preferred species. This was fairly common throughout the area.



Browse (browsing score 2-3) on euonymus, on a moderately preferred species. This species was not very common throughout the area, but almost always browsed when present.



Browse on red oak (browsing score 2, on average), a preferred species. This specimen was slightly more browsed than the majority of other red oaks in Delaney.



Browse on beaked hazelnut (browsing score 2, on average), a moderately preferred species. There were some areas where browse was moderate to light, and other areas where it was untouched. Many patches grew to 6 ft tall.

Property Name: Delaney WMA Town(s): Delaware

Ownership: DFW Rural/Forest/Ag ☒ Low-residential ☐ Med-residential ☐ High-residential

General level of use by public: ☐ Low ☐ Moderate ☐ Heavy ☐ Unknown

Is this property open to hunting? ☐ Yes ☐ No ☐ Unknown Special Hunting Restrictions: ☐ None ☐ Limited ☐ Moderate ☐ Heavy ☐ Unknown

General level of nearby hunting? ☐ None ☐ Limited ☐ Moderate ☐ Heavy ☐ Unknown

Date of site visit: 5/20/19 Name(s) conducting survey: H. Siemer

Description of the forest on the property: (e.g., conifer, mixed conifer/hardwood, hardwood dominated; what are the dominant trees in the forest canopy; is it closed or open, is the forest older- or younger-aged, is there active logging, etc.)

Canopy Instructions: Using the worksheet on the back, walk through a representative area (10-50%) of the forest with an eye for the forest floor. Avoid areas near trails and roads. Take notes on what is not representative of the forest floor. Pay attention to what is able to grow and which tree species are being browsed, especially in canopy gaps (e.g., are there any gaps in the canopy? Is the forest floor from fallen trees, recent cuts, etc. visible? Pictures showing the forest floor as well as cases of browsing, if present. Please also record a GPS track or a map of the property with areas surveyed (random plots used). After filling out the back, check the box below that describes the general level of forest impacts from deer browsing. Please email a copy of the survey, GPS track/map, and photos to david.stainbrook@state.ma.gov.

General level of forest impacts from deer browsing (check one):

☐ 1: Little to No Impact
Preferred hardwood tree seedlings and saplings such as maple, oak, ash, and hickory are growing up to at least 6 feet tall, with little to no signs of browsing. Some moderately preferred trees (e.g., cherry) may show signs of browsing, but no sign of browsing on low-preference tree species such as American beech and white pine. Some moderately preferred shrubs show evidence of browsing (e.g., viburnums) and preferred herbaceous plants (e.g., Pink Lady's Slipper, Canada Mayflower, and Wild Sarsaparilla) are present, but show some signs of browsing.

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☐ 6: Between Impacted and Heavily Impacted

Witch hazel stump sprouts (browsing score 2), a moderately preferred species were occasionally browsed.



Many areas of the forest floor had dense Canada mayflower and starflower. No sign of flowering parts removed though many plants had not yet flowered.

