

## Massachusetts Deer Browse Impact Survey

Property Name: Kaufman/Russo Lane Town(s): Harvard

Ownership: Harvard Conservation Commission

General Surroundings: 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:

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 of various stand types. Hardwood dominated areas composed of oak, maple. Coniferous stands dominated by either white pine or hemlock. Mixed stands of white pine and oak as well. No logging.**

**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](mailto: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.

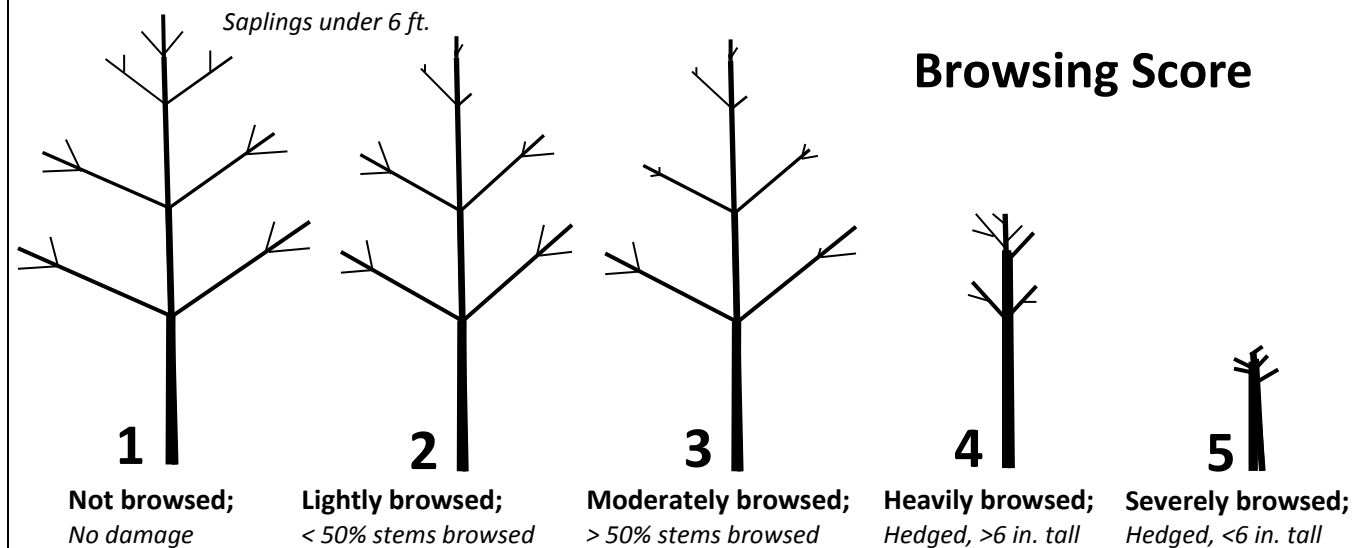
☐ **6: Between Impacted and Heavily Impacted**

☐ **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>witch hazel</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):**

Some preferred species heavily browsed - black gum root sucker = 4;

Preferred species were for the most part lightly browsed. Red maple stump sprouts were hit more heavily. Moderate preference species also lightly browsed including witch hazel, beech and hemlock. Near and in hemlock stand (likely deer wintering area), plants were browsed more moderately to heavily; hemlock and witch hazel all showed light-moderate browsing, and black gum root suckers were hedged. No browse noted on low preference species (unless beech ranked lower). Oak in the sapling layer was uncommon but when present it was >6ft tall. Oak and maple seedlings present in understory and browse was light. In the herb layer, Canada mayflower and starflower present, but not dense. Habitat more ericaceous with blueberry and huckleberry and Pennsylvania sedge. One example of browsed blueberry present, but vast majority unbrowsed.

### MAP OF SURVEYED AREA

Primary survey areas (please note that due to batteries dying, GPS tracks only recorded part of my survey route)



## IMAGES



**Forest landscape at Kaufman/Russo. Sapling layer was healthy in this section of the forest with a mix of preferred and moderately preferred species exceeding 6ft tall.**



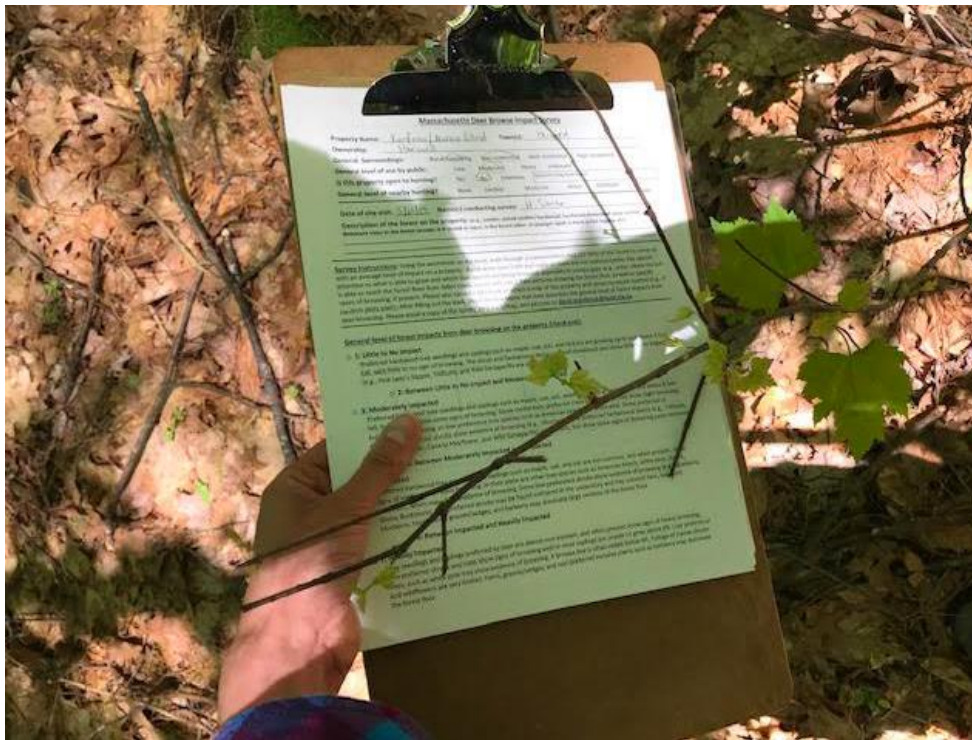


**An area of the forest with a slightly sparser sapling and herbaceous layer.**



**Herbaceous layer of the forest showed a mix of maple and oak seedlings, lowbush blueberry and huckleberry, Pennsylvania sedge, Canada mayflower and starflower.**



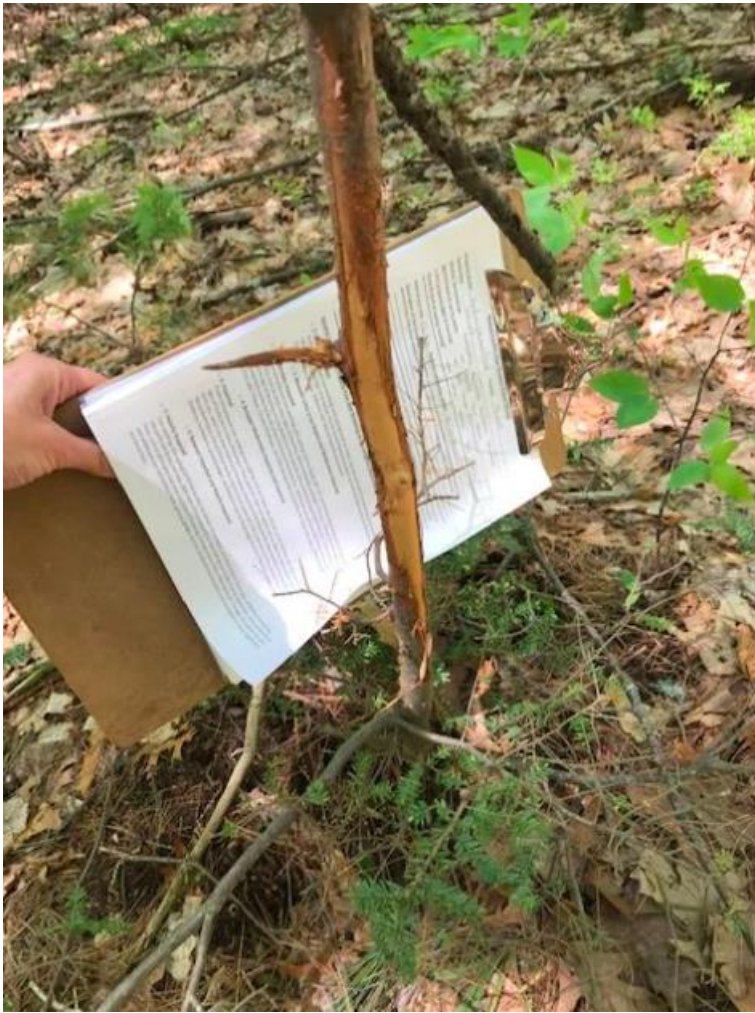


Browsed red maple seedling (browsing score 2-3). Many red maples showed none to moderate browse. And many specimens reached over 6 ft tall in the sapling layer.



Red maple stump sprouts heavily browsed.





**Another form of deer sign: antler rub on hemlock sapling.**



**The hemlock sapling has been frequently browsed probably in the winter (browsing score 2-3). It was less than two feet tall.**

**Massachusetts Deer Browse Impact Survey**

Property Name: Kaufman/Russo Land Town(s): Harvard

Ownership: Harvard ☐ Residential ☐ Med-residential ☐ High-residential

General Surroundings: Residential ☐ Moderate ☐ Heavy ☐ Unknown

General level of use by public: None ☐ Limited ☐ Moderate ☐ Heavy

Is this property open to hunting? None ☐ Limited ☐ Moderate ☐ Heavy

General level of nearby hunting: None ☐ Limited ☐ Moderate ☐ Heavy

Date of site visit: 5/21/19 Name of surveyor: H. Sauer

Description of the forest on the property: Hardwood, hardwood dominated forest, mostly maple, oak, ash, and hickory. The forest is young, with many saplings and seedlings. The forest is open, with many gaps. The forest is in good health.

Survey Instructions: Using the worksheet, record the number of deer observed on the property (check one):

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

☐ 1: Little to No Impacts. The forest floor is mostly clear of saplings and seedlings. The shrub and herbaceous layer is well developed. Preferred tree species (e.g., maple, oak, ash, and hickory) are present. Wild Sarsaparilla are present.

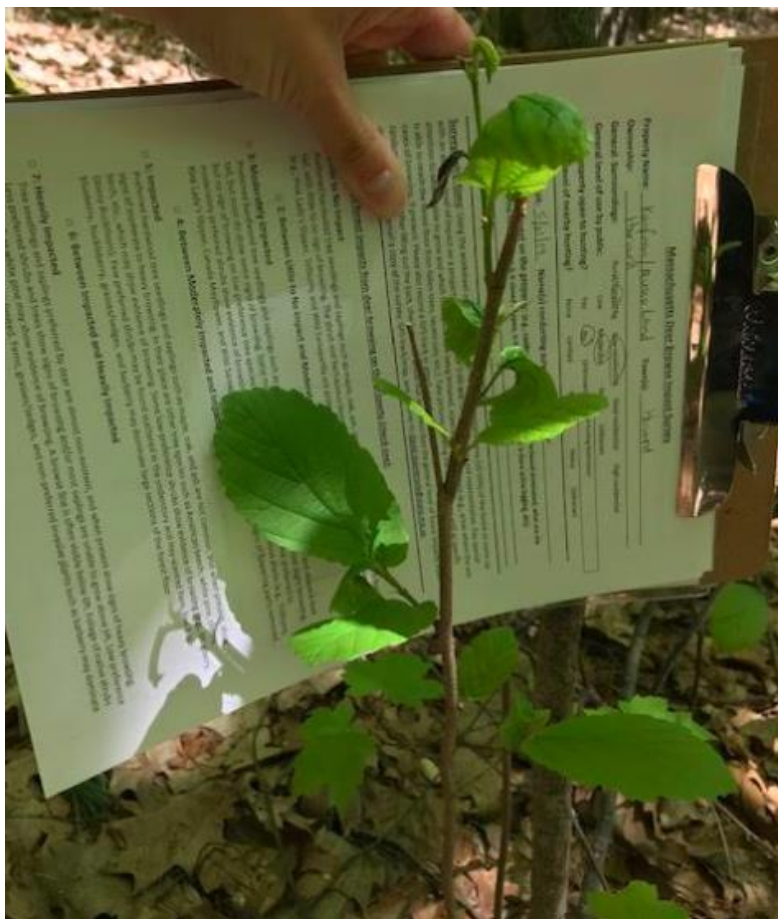
☐ 2: Moderately Impacted. The forest floor is mostly clear of saplings and seedlings. The shrub and herbaceous layer is well developed. Preferred tree species (e.g., maple, oak, ash, and hickory) are present. Wild Sarsaparilla are present.

☐ 3: Moderately Impacted and Impacted. The forest floor is mostly clear of saplings and seedlings. The shrub and herbaceous layer is well developed. Preferred tree species (e.g., maple, oak, ash, and hickory) are present. Wild Sarsaparilla are present.

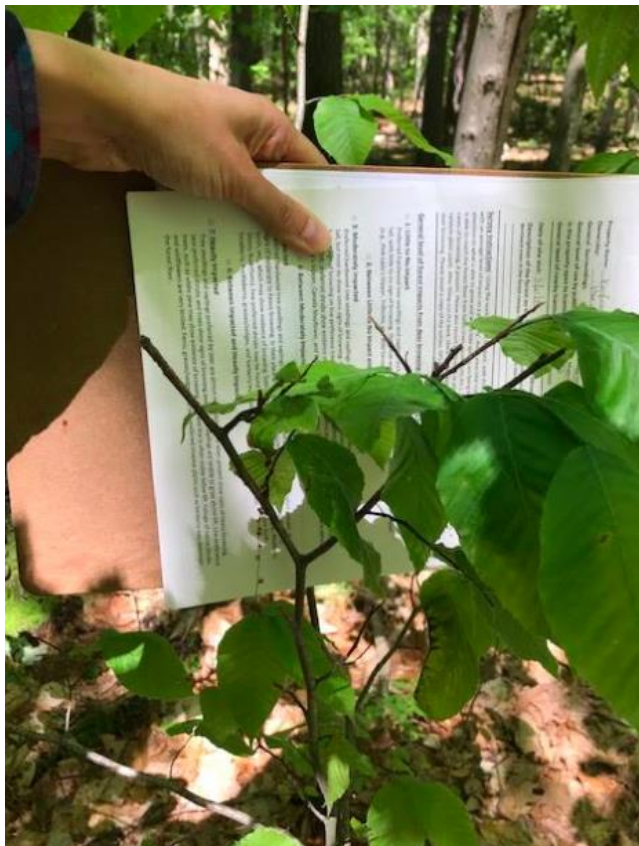
☐ 4: Between Moderately Impacted and Impacted. The forest floor is mostly clear of saplings and seedlings. The shrub and herbaceous layer is well developed. Preferred tree species (e.g., maple, oak, ash, and hickory) are present. Wild Sarsaparilla are present.

Browse on lowbush blueberry (browsing score 2). This was the only observation of browse on this species.





Witch hazel browse was light to moderate (browsing score 2-3). Heavier browse on the species was noted along a vernal pool and near a deer wintering area.



American beech was not a common species in this forest. When present, there were some signs of browse (browsing score 2), but not on all specimens.





Black gum root suckers were hedged by deer (browsing score 4).