Trip Report: Inside Mashomack's Deer Exclosures

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Thomas J. Rawinski

U.S. Forest Service Northeastern Area State and Private Forestry 271 Mast Road, Durham, NH (trawinski@fs.fed.us)

On July 29, 2011 I had occasion to walk into two of the hectare-sized deer exclosures at The Nature Conservancy's Mashomack Preserve in Shelter Island, New York. I made some notes and took some pictures. One exclosure was in the area north of the house, and the other was in the area known as Section 6.

This was the fourth growing season (2008 through 2011) for the plants within the exclosures. Detailed accounts of the vegetation development will be presented at a later date by Dr. Marc Abrams, who is conducting research here.

How fascinating it was to see the plant life within the exclosures! Was this really Mashomack, where, for decades, the vegetation has been so ravaged by overly abundant deer? Was that really maple-leaf viburnum (*Viburnum acerifolium*) in fine fruit – after only four short years?

Young saplings of many tree species grew knee-high or taller on the forest floor. Forbs of many species showed flower buds, flowers, or fruit. Yes, it was clear that chronic browsing by deer had kept these plants suppressed. I could only imagine the abundance of native pollinators that now work these flowers.

As managers strive to attain a balance between the needs of the deer and the health of the forest, one might consider a future in which most tree species are able to regenerate, and where most of the forbs are able to flower and set seed. One wouldn't expect anything close to the lush greenery presently found within the exclosures, but something in-between perhaps, where, with a bit of searching, one could find some individuals of most of the preferred forbs in flower or fruit. The deer-preferred forbs that I observed within the exclosures are listed in Table 1.

Table 1 is by no means a complete list of deer-preferred forbs that one could use to gauge deer impacts in Mashomack's forest. For example, along one trail I spotted some wild sarsaparilla (*Aralia nudicaulis*), which has been all but eliminated from the interior forests. Similarly, bracken fern (*Pteridium aquilinum*) has also become scarce at Mashomack. The few fronds that I saw were alongside the main road. In the absence of excessive browse pressure, this fern would be common in the dry oak woods.

Table 1. Deer-preferred forbs observed within two deer exclosures at Mashomack Preserve.

| Dicots | | Native (N) / Introduced (I) | |
|-----------------------------------|-----------------------|-----------------------------|--|
| Asteraceae (Aster Family) | | | |
| Eurybia divaricata | White Wood Aster | N | |
| Euthamia graminifolia | Grass-leaf Goldenrod | N | |
| Hieracium paniculatum | Woodland Hawkweed | N | |
| Lactuca canadensis | Yellow Wild Lettuce | N | |
| Nabalus trifoliolatus | Fall-Rattlesnake-root | N | |
| Solidago bicolor | Silverrod | N | |
| Solidago caesia | Bluestem Goldenrod | N | |
| Solidago rugosa | Rough Goldenrod | N | |
| Symphyotrichum laeve | Smooth Aster | N | |
| Symphyotrichum lateriflorum | Calico Aster | N | |
| Fabaceae (Bean Family) | | | |
| Desmodium nudiflorum | Naked Tick-trefoil | N | |
| Lespedeza intermedia | Wand Bush-clover | N | |
| Primulaceae (Primrose Family) | | | |
| Lysimachia quadrifolia | Whorled Loosestrife | N | |
| Trientalis borealis | Starflower | N | |
| Scrophulariaceae (Figwort Family) | | | |
| Aureolaria virginica | Downy False Foxglove | N | |
| Violaceae (Violet Family) | | | |
| Viola palmata | Three-lobed Violet | N | |
| Monocots | | | |
| Liliaceae (Lily Family) | | | |
| Maianthemum canadense | Canada Mayflower | N | |
| Maianthemum racemosum | False Solomon's Seal | N | |
| Polygonatum pubescens | Solomon's Seal | N | |
| Uvularia perfoliata | Perfoliate Bellwort | N | |

In addition to the oaks, red maple, sassafras, and beech that grow well within the exclosures, a number of other woody species have become established, or are now released from suppression. These plants are listed in Table 2. Note that many of these, upon maturity, would provide soft mast for wildlife.

The photographs in Figures 1, 2, 3, and 4 show vegetation conditions within and outside the fencing.

Table 2. Some woody plant species established or released from suppression within the Mashomack deer exclosures.

| Dicots | | Native (N) / Introduced (I) |
|-------------------------------------|----------------------|-----------------------------|
| Anacardiaceae (Cashew Family) | (| |
| Rhus copallinum | Winged Sumac | N |
| Rhus glabra | Smooth Sumac | N |
| Toxicodendron radicans | Poison-ivy | N |
| Asteraceae (Aster Family) | | |
| Baccharis halimifolia | Groundsel-tree | N |
| Betulaceae (Birch Family) | | |
| Ostrya virginiana | Hop-hornbeam | N |
| Caprifoliaceae (Honeysuckle Family) | | |
| Viburnum acerifolium | Maple-leaf Viburnum | N |
| Cornaceae (Dogwood Family) | • | |
| Cornus florida | Flowering Dogwood | N |
| Rosaceae (Rose Family) | | |
| Amelanchier arborea | Serviceberry | N |
| Rubus allegheniensis | Allegheny Blackberry | N |
| Rubus phoenicolasius | Wine Raspberry | I |
| Salicaceae (Willow Family) | | |
| Populus grandidentata | Big-toothed Aspen | N |
| Populus tremuloides | Trembling Aspen | N |
| Vitaceae (Grape Family) | | |
| Parthenocissus quinquefolia | Virginia Creeper | N |
| Vitis labrusca | Fox Grape | N |



Figure 1. Vegetation conditions along a fence line.



Figure 2. Vegetation conditions along a fence line. The crooked tree in the distance is the same tree appearing in Figure 1.



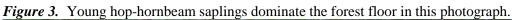




Figure 4. A close-up of the hop-hornbeam saplings shown in Figure 3.