



Luncheon Special:

– Lady's-slipper Salad –
Fawns Eat Free!

by

Thomas J. Rawinski, Botanist
Northeastern Area State and
Private Forestry
USDA Forest Service
(trawinski@fs.fed.us)

IF WILDFLOWERS COULD SING, like canaries in a coal mine, we would hear a cacophony of hissing gasps emanating from the forests of Rhode Island. From Westerly to Cumberland many of our most cherished wildflowers are getting hammered by overabundant white-tailed deer. It's sad to witness the chronic wasting of native vegetation, and the concomitant proliferation of invasive plants that fill niches left vacant by decimated natives. The alarm has been sounded, and it's time to heed the warning.

In the 1980s I spent many a fair day botanizing the wondrous environments of Rhode Island. Deer impacts were all but negligible then, except of course on Block Island, where the seven deer introduced in 1967 created quite the population explosion (and the current epidemic of tick-borne diseases).

When I moved back to New England in 1997, after seven years in Virginia, I asked Rick Enser, Coordinator of the Rhode Island Natural Heritage Program, "So, what's new?" The first words out of his mouth were, "Deer are everywhere now!" In 2004 the Division of Fish and Wildlife estimated a rising population of 15,800 whitetails in Rhode Island (<http://www.dem.ri.gov/programs/bnatres/fishwild/pdf/deer.pdf>).

I saw three bucks and two does during a recent walk in Johnston. Like everyone, I enjoy seeing deer in the forest. They are magnificent and beautiful creatures. But I also love the rich variety of nature. And I commend landowners who are trying to manage forest resources on a sustainable basis for the benefit of society. It is therefore with conflicting emotions that I have come to the conclusion that deer have become too much of a good thing.

When do we know that deer impacts in forests are cause for concern? The next time you're out in your favorite forest, observe which plants are showing evidence of deer herbivory. Is the level of browsing tolerable, or excessive? Is seed production being inhibited? Are rare species being threatened?

- You might first notice that rough goldenrod, white snakeroot, hay-scented fern, false hellebore, skunk cabbage, blue cohosh, and Pennsylvania sedge show no evidence of deer damage. This is because of the chemical defenses in these plants, or their low digestible content. One reason why glossy buckthorn is spreading so rapidly in Rhode Island is because deer hardly ever feed upon it. A deer's ability to recognize and avoid unpalatable plant species is quite remarkable.

- Think about the wildflowers that may have been more common in the past, such as pink lady's-slipper. Did deer contribute to their demise?
- Look carefully at members of the lily family, such as solomon's-seal, false solomon's-seal, perfoliate bellwort, nodding trillium, and Turk's-cap lily. These are particularly favored by deer. If present at all in a deer-infested forest, they will likely be smaller than normal and devoid of fruit.
- Also favored by deer is spotted touch-me-not. It should be tall and dense on many moist soil environments. When impacted by deer, it retreats to the wettest sites. Japanese stilt-grass, which deer avoid eating, is then free to invade the sites formerly occupied by touch-me-not.
- Examine the height of maple-leaved viburnum, and its fruit production. If most of the stems are knee high (instead of chest high), and lacking fruit, deer impacts are severe. Sweet pepperbush is similarly impacted.
- Notice whether the fronds of cinnamon fern have been chomped. When preferred forage becomes scarce, the deer resort to eating this fern. Many swamps at Arcadia show evidence of this.
- Examine saplings of deciduous tree species. You may see numerous tall saplings, one to three inches in diameter. These originated in the 1980s or early 1990s when deer did not appreciably suppress their growth. And, you may see many small saplings, not much taller than your ankles or knees. If you find very few (if any) saplings of an intermediate size class, deer are probably overly abundant and suppressing tree regeneration.
- Inspect steep, inaccessible slopes and ledges, or places where the crowns of fallen trees have created natural barriers to deer movement. If the wildflowers inhabiting these areas are more robust and fruitful than elsewhere, a deer impact can be inferred.
- Finally, on your own property perhaps, you might want to construct fences to exclude deer from certain areas. The wildflower response within these fenced areas is often very dramatic and informative.

Well, I hear some flowers calling. Good luck one and all.

P.S. A large body of scientific evidence is being generated on the subject of white-tailed deer overabundance. An overview is available on the Forest Service website, at

https://www.nrs.fs.fed.us/sustaining_forests/conserves_enhance/timber/deer_impacts/