

Picking Your Battles: Invasive Plant Control

by Larry Weaner

The battle against invasive plants rages on. With the right strategies you can combat invasive plants more effectively. It's important to know when to walk away. You have limited time and money, so prioritize your targets. Top priority goes to invasive plant removal when nearby native plants are at risk. Lowest priority are invasive plants that have minimal potential to do further harm. An example would be a low area, perhaps a culvert or detention pond, filled with cattails in the middle of an upland meadow. The cattails cannot escape the depression and invade the dry meadow, so removing them is a low priority. Another low priority would be invasives that will go away on their own as part of site succession.

What You Do Now Determines the Trajectory of the Habitat

Identify and protect areas that serve as sources of high quality, native propagules. These may be naturally occurring areas at the site, or they can be areas with established native plantings. The seed coming from these areas every year will help to change the composition of the seed bank at your site, and have a positive influence on plant community composition for decades to come.

In the 1950s, ecologist Frank Egler stopped mowing a hay field and learned that the initial plants that occupied the area began to return. Keeping unwanted plants out of the meadow was hard work at first, but became easier as native species emerged from the seed bank. From this experience he developed the concept of Initial Floristic Composition, which says that after a disturbance, the plant species that succeed will be the ones that were already there, even if only as propagules. Therefore, if you remove the ones that you don't want, as Egler did, you can bring a site to a point of relative ecological stability and very low maintenance.

If there is a weed seed bank, it is important to minimize disturbance to the soil. Even in relatively undisturbed, un-invaded native habitats, avoid disturbing the soil because that makes a healthy habitat more susceptible to invasion. The relative ecological stability is lost whenever we seed or plant into an un-invaded habitat. Weigh the importance of adding new plant species to that habitat against the loss of the site's ecological stability.

A native meadow is another example of relative ecological stability. There may be a drift of early successional weeds in the meadow where a utility line has created a disturbance, but these cannot invade and persist in the mature meadow.

When to Cut Instead of Pulling

Sometimes you can cut weeds and prevent them from spreading, you don't need to pull and disturb the soil. For example, in deciding how to treat a woodland infested with multiflora rose, first question whether this is a high priority area for you? Are there other native plants in the

woods that would be damaged by broadcast spraying of herbicides? In many cases the best option is to cut back the rose and paint herbicides onto the cut, or come back a few weeks later and spot spray the resprouts. Pulling the roses, for example using a weed wrench, disturbs a lot of soil and predisposes the site to further invasion.

- On a larger scale, forestry mowers can cut large areas of invasive shrubs and vines.
- A drift of ferns infested with garlic mustard may be controlled by cutting back the garlic mustard before it goes to seed. If you do this each year, you wear out the weed seed bank without disturbing the soil.
- We've recently learned that *Microstegium* will produce seeds after being mowed, so care must be taken if the mowing option is used. If herbicides are used, use one that is grass-specific and plant broadleaf plants. Over time you'll wear down the seed bank and the broadleaf plants will provide competition.
- There are exceptions, with oriental bittersweet, for example, it is better to pull.

More Tips for Success

- Minimizing soil disturbance will reduce the vigor of the second wave of invasives, but it will come. Plan for it. Control seedlings with light raking or for larger areas of solid seedlings, use herbicide.
- When you hand the site over to the next generation of maintenance professionals, give them a maintenance manual. The manual should include a maintenance schedule, information on all the invasives on the property, and methods for their control.
- Prevent light from penetrating into the woods and increasing susceptibility to invasion. Some good strategies are to plant evergreens like red cedar along the woodland edge, or to plant trees that leaf out earlier in spring and keep their leaves on longer in the fall.
- Cover the ground with wood chips where you want late stage canopy trees like oaks and hickories to grow.
- Maintain fire-adapted communities with controlled burns.
- Select aggressive native plant species. This is especially important in floodplains.

Landscape design and maintenance plans should be developed concurrently so you can take advantage of these strategies.

Handouts:

none