Invasive Plant Management

Natural Lands

Many of today's most pernicious invasive plants were once believed to be beneficial additions to the environment.

In the 1930s, the U.S. Soil Conservation Service touted **multiflora rose *(Rosa multiflora)*** for its use in erosion control and as "living fences" to confine livestock. State conservation departments encouraged its use by distributing root cuttings free of charge to landowners.

European settlers brought **garlic mustard *(Alliaria petiolata)*** to the continent to use as a flavorful cooking herb that doubled as a remedy for gangrene and ulcers. **Purple loosestrife *(Lythrum salicaria),*** also known for its medicinal benefits, was popular in late 19th century gardens. Other species spread simply by accident. **Japanese stiltgrass *(Microstegium vimineum)***, also known as packing grass, was used to protect china in packing crates, then disposed of at ports.

defining invasive plants.

Invasive plants are not native to the environment but rather introduced. They seed prolifically, grow fast, spread rapidly and aggressively, and lack the diseases and predators that keep their populations in balance. As a result, these plants can out-compete native species and destroy diversity, causing a ripple effect throughout the ecosystem. In fact, invasive plants pose a threat to two-thirds of all endangered plant and animal species.

invasive plants.

multiflora rose *(Rosa multiflora)*

garlic mustard *(Alliaria petiolata)*

purple loosestrife *(Lythrum salicaria)*

Japanese stiltgrass *(Microstegium vimineum)*

Photography *top to bottom, left to right:* Famartin, Famartin, Julie Heuchert, Benjamin Zwittnig, Liz West, Anemone Projectors, NY State IPM Program at Cornell University, Leslie J. Mehrhoff

tips for managing invasive plants.

know what you're dealing with.

Natural Lands' stewardship staff spend countless hours working to control invasive plant species on our preserves. Choosing which species to manage and how much effort to invest is the real challenge. "Natural Lands takes a balanced approach to managing invasive plants," says Dan Barringer, invasives coordinator and manager of Crow's Nest Preserve. "We know they will always be with us, but we do what we can to minimize their impact."

The first step is identifying the biggest offenders. We begin with a thorough inventory of invasive species at each preserve. In some instances, we even map their locations and relative density. "We then focus our management efforts on the invasives that most interfere with our objectives for the preserve," Dan explains. "For example, one of our goals for Crow's Nest Preserve is to maintain the forests and encourage regeneration of native trees. So, we put a lot of time into removing invasive vines that damage trees, like oriental bittersweet and Japanese honeysuckle."

work from best to worst.

While it may seem logical to address the most severely degraded areas of a property first, this is not always the best use of resources. In general, our staff recommend starting invasives control efforts with the tree canopy in the healthiest areas, then moving to the moderately invaded areas, and so on to the most degraded areas. Since the worst areas cannot degrade any further, their restoration is best left until the healthier sites are stabilized.

multi-pronged approach.

We use a variety of techniques to manage invasives. Woody species—such as autumn olive, Norway maple, and bush honeysuckle—are good candidates for mechanical removal with pruners, handsaws, chainsaws, and brush cutters. However, most of these plants will re-sprout—sometimes vigorously—without some additional attention. So, we often pair mechanical methods with chemical ones, painting stumps or re-sprouting vines with a targeted, small amount of herbicide to kill the roots.

A less obvious approach—but one widely used at Natural Lands—is called cultural control: essentially stacking the deck in favor of desirable species. For example, by replanting an old farm field with a diversity of native trees, we "jump-start" the process of succession from field to forest and give the native trees a chance to shade out invasives. Minimizing unnecessary soil disturbance is another important cultural control because it limits the germination of invasive seeds. "Disturbed ground is often just what an invasive species needs to get a foothold," says Dan. "To avoid churning up the soil we prefer to cut woody invasives rather than ripping them out with a tractor and chain." Containment is also a priority. Our staff is careful to clean mud that might contain weed seeds off of equipment before moving it to another preserve.

Rue anemone, a native ephemeral, at Crow's Nest Preserve.

As daunting a task as it may seem, small victories help keep Dan and the other preserve managers motivated. One such triumph came in the form of an ephemeral wildflower. For the last several years, staff has been diligently pulling garlic mustard from the woodlands at Crow's Nest Preserve. This noxious weed exudes a chemical into the soil that inhibits the growth of other plants. Recently, Dan discovered a patch of nodding trillium had emerged where the garlic mustard once grew. A sweet success, indeed.

Trout lily, another native ephemeral, at Crow's Nest Preserve.

living proof.

Come see invasive plant management in action at Natural Lands' preserves. **To find a preserve near you, visit natlands.org.**

Photography *top and bottom:* Judith Trojnar