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## Building Resiliency into the Modern Landscape

By Dan Jaffe, Propagator and Stock Bed Grower, New England Wildflower Society



*Asclepias syriaca*



*Ageratina altissima*



*Fragaria virginiana*



*Rhus aromatica*



*Rudbeckia hirta*

Anyone who's been involved in an invasive removal project knows that the job is hardly over once the last buckthorn or garlic mustard has been pulled. Let's assume for a moment that we do indeed call the project complete after we've pulled that last plant out, and we walk away from the site feeling a wonderful sense of accomplishment. In no time at all, the thousands (if not millions) of seeds below our feet will send out radicals and begin the process of recolonizing the site. Nature abhors a vacuum, and to bare soil, one seed is much like another.



PHOTO: BRUCE WENNING

*Glossy Buckthorn*

Yet this is a common mistake among invasive removals; mature plants are removed without a complete plan for further maintenance. Whether due to lagging support or simple time constraints, many invasive removal projects fail or leave us in a purgatory of constant maintenance without an end in

sight. Occasionally a post-invasion planting plan is employed though more often than not these plans do not take the real-world conditions into account. These sites are heavily disturbed with an established seed bank of invasive species. Any hope that the simple act of invasive removal will naturally lead to the reestablishment of a healthy native ecosystem is quickly squashed.

A planting and maintenance plan is essential for long-term success, and though the idea of planting bleeding heart (*Dicentra* spp.) or garden phlox (*Phlox paniculata*) is often recommended, it is not a recipe for success. Instead, we should be turning to those sorts of native plants that the average gardener is happy enough to do without. We need strong-spreading, colonizing native species capable of not only dealing with difficult planting conditions but also with pushing back against would-be re-invaders. In addition to being able to handle the difficult growing conditions, we cannot forget the purpose of the work. We do not want to simply replace the invasives with any old pushy plant; we want to build habitat. With this in mind, it behooves us to choose plants

that support as much biodiversity as possible.



Black Swallow-wort

Ironically some of New England's most ecologically viable species also happen to thrive in some of the most commonly invaded sites. Think of your typical roadside invasion or abandoned lot. Similar conditions are often present in dry New England

meadows. These sites are often sunny, well drained, and highly disturbed. Common invaders include black swallow-wort (*Cynanchum louiseae*), common buckthorn (*Rhamnus cathartica*), Japanese barberry (*Berberis thunbergii*), oriental bittersweet (*Celastrus orbiculatus*), tree of heaven (*Ailanthus altissima*), and Bradford pear (*Pyrus calleryana*).

Re-invasion is often accomplished by high seedling recruitment, and thus our strategy should not only be to replace the invasive shrubs with native shrubs but also to ensure high competition at the ground level. Walk around a number of meadows in New England looking closely at the ground level, and you will notice a rich array of very low-growing species that we don't normally think about being present in meadow conditions. In wild places where meadows are never cut down, this ground layer is not as



Fragaria virginiana

necessary, but in the modern landscape where roadsides and fields are often mowed annually, this ground layer is absolutely essential.

Two native species that play this role exceptionally well are wild strawberry (*Fragaria virginiana*) and creeping dewberry (*Rubus hispidus*). These species are fast-moving, low-

growing species capable of spreading around larger clumping plants and effectively competing with any new seedlings that may try to pop up after the initial removal stages. These plants also provide an excellent example of what is truly important in terms of building healthy habitat. When one thinks of valuable pollinator plants, species such as bee balm (*Monarda didyma*) or purple coneflower (*Echinacea purpurea*) come to mind. Though both of these plants do indeed support some very important pollinators, they don't have anything on the power of strawberries and dewberries.



Monarda didyma



Asclepias syriaca

Though bee balm is a great nectar source, its value as a host plant is limited to approximately ten species of native caterpillars. Compare that to the nearly 80 species that host on wild strawberry and the nearly 100 that host on creeping dewberry, and our idea of what makes a plant a good pollinator species begins to mature. As a bonus that very same strawberry (*Fragaria virginiana*) makes a wonderful replacement for the typical American lawn.

Above the ground layer a mixed planting of Canada goldenrod (*Solidago canadensis*) and common milkweed (*Asclepias syriaca*) can fill the next niche in our meadow/roadside/abandoned lot. Canada goldenrod is the goldenrod that gives the entire genus a bad rap for being too weedy for garden settings (and goldenrods have nothing to do with hay fever other than blooming at the same time of year as ragweed (*Ambrosia artemisiifolia*), the real culprit behind hay fever. Though there are some wonderful goldenrod species for garden settings, it's the vigor of Canada goldenrod that makes it the best choice for invaded sites.



Solidago canadensis and Eutrochium maculatum

Supporting about 125 different native lepidopteran species in New England, there is not a single herbaceous species that provides more ecological value than goldenrod on our landscape (though the asters come close). Common milkweed doesn't support nearly the same level of diversity, but instead it supports a number of specialist's species including the monarch butterfly, milkweed tussock moths, milkweed beetles, and a slew of different native bees. For many sites this can be the end of further plantings. A regular check of the area can go a long way in allowing the natives to fully colonize the site and keep the invasives at bay. A regular mowing in early spring can cut back the woody species while leaving the herbaceous ones untouched, making dealing with woody seedlings a lot easier.



*Rubus allegheniensis*

For many sites woody species are required, and in this case a combination of native sumacs (*Rhus* spp.) and raspberries (*Rubus* spp.) make for additional competitive pressure as well as wonderful wildlife value (both in terms of berries and protein-rich insects for our local birds). Staghorn sumac (*Rhus typhina*) is the strongest spreading species though winged sumac (*Rhus copallinum*) and fragrant sumac (*Rhus aromatica*) are also great

choices. Fragrant sumac's shorter stature makes it a fine choice for roadsides and parking lot islands as it does less to block sight lines than its larger relatives.

This exact same strategy can be employed in wet areas with species such as broad-leaf cattail (*Typha latifolia*), speckled alder (*Alnus incana* ssp. *rugosa*), sensitive fern (*Onoclea sensibilis*) and boneset (*Eupatorium perfoliatum*). Shady sites would benefit from white wood aster (*Eurybia divaricata*), white snakeroot (*Ageratina altissima*), and Canada mayflower (*Maianthemum canadense*). They would also benefit from



*Maianthemum canadense*

great rosebay (*Rhododendron maximum*) under planted with a combination of black huckleberries (*Gaylussacia baccata*), white wood aster (*Eurybia divaricata*), white snakeroot (*Ageratina altissima*), and Canada mayflower (*Maianthemum canadense*).

Our native flora is full of plants capable of performing many functions on the landscape. In a changing world we need to look beyond the natural areas and start thinking about how we might be able to build a connecting habitat across the entire area. While the species mentioned here may or may not make decent garden plants, their vigor might be the exact traits that make them invaluable on the landscape in some of New England's most difficult sites.

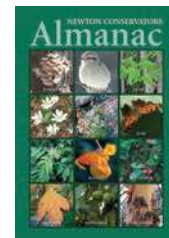


For more information about Dan's new book *Native Plants for New England Gardens* go to the following link: <http://bit.ly/NativePlantsBook> ♦

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### MISSION

#### Newton Conservators, Inc.

The Newton Conservators promotes the protection and preservation of natural areas, including parks, playgrounds, forests and streams, which are open or may be converted to open space for the enjoyment and benefit of the people of Newton. It further aims to disseminate information about these and other environmental matters.

A primary goal is to foster the acquisition of land, buildings and other facilities to be used for the encouragement of scientific, educational, recreational, literary and other public pursuits that will promote good citizenship and the general welfare of the people of our community.

*The Newton Conservators was formed as a not-for-profit organization 57 years ago in June 1961.*

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