

Asking More of the Landscape (Going Native)

Typically the WPCA includes articles in Saybrook Events featuring: reducing run-off and lawn size, proper watering techniques, planting butterfly gardens, and avoidance of nutrient pollution. To hail the return of Spring we'd like to discuss - the positive impacts of using native plants.

In February, the New York Times published an article about a Brooklyn Botanic Gardens annual event; quoting horticulturalists and landscape ecologists on this particular topic.

The focus has always been on aesthetics: what makes an attractive garden. The keynote speaker, Douglas Tallamy, noted that, "**Beauty is not enough.**"

"We have to raise the bar on our landscapes," said Mr. Tallamy, a professor and chairman of the department of entomology and wildlife ecology at the University of Delaware. "In the past, we have asked one thing of our gardens: that they be pretty. Now they have to **support life, sequester carbon, feed pollinators and manage water.**"

Native plants are the key to survival; if the plants crash, so do the rest of the species, including us. But, yards filled with beautiful natives that can provide all of these services, don't have to look unruly and formless....

Let's examine some facts first.

- Pollinators pollinate 90 percent of all plants, not just crops.
- Landscape ecologists estimate that only 3 to 5% of the lower 48 states is undisturbed habitat for plants and animals. Farmland covers more than 1/2 of the country. Most of the rest is taken up by suburban sprawl; about 40 million acres of lawns (8 New Jerseys), highways, malls and growing cities.
- A world with 1/2 those lawns, might have 20 million acres of habitat, or more than 13 national parks!
- Due to vanishing habitats, we have 50% fewer birds than 40 years ago. Some 230 species of North American birds are at risk of extinction, per the 2014 State of the Birds Report (stateofthebirds.org).
- Trees are carbon sinks. A large native sugar maple sequesters 450 pounds of carbon a year; a white oak, 513 pounds. Millions of such trees planted in American yards, could help reduce global warming.
- Landscape contractors often discourage clients from planting oaks and sugar maples, because they won't live long enough to enjoy an oak tree, but it doesn't have to be 300 years old. In 14 years, a white oak can be 20 feet tall and 13 feet wide.
- Though non-native plants may provide nectar for butterflies, their leaves are unpalatable to caterpillars. Caterpillars chomp leaves of willow, black cherry, oak and other native species. A Japanese elm, sequesters carbon too, but the difference is that native oaks support 557 species of caterpillars.
- Caterpillars aren't just entertaining to look at: 96% of all our terrestrial birds eat insects. Their young can't survive without them. Chickadees need 6,000 to 9,000 caterpillars to feed one clutch.
- 90% of native insects have developed specialized relationships with native plants. Only native hummingbird moths and a few other insects have a proboscis long and narrow enough to reach the pollen and nectar of Phlox divaricata, a native ground cover, for example.
- Most plants defend themselves with toxic compounds. But certain native insects have evolved alongside specific plants to break down the plant's particular chemicals.
- The Eastern red cedar has been around for millennia, but very few insects, except the Juniper Hairstreak butterfly, can safely consume it. Unfortunately, that's the only thing the hairstreak eats. So if we don't include cedars in our yards, we lose the hairstreak.
- By the same token the only host for the great fritillary butterfly is the native violet. When violets are mowed down, we lose the fritillaries.
- If we lose the insects, including spiders and moths, we lose amphibians, bats, and rodents.
- Larger mammals like raccoons, opossums, and foxes eat insects. [Insects comprise 25% of the fox's diet.] Thus it travels up the food web.

Of course, not all of us are about to give up our beloved lilacs, tree peonies, and Japanese azaleas. Although they are not ruining the landscape, they do take up room that a native plant could occupy. Some experts advise striving for a minimum of 50% natives to make sure they are looking after the native wildlife.

When visiting nurseries, it's good environmental policy to ask where a particular plant originates from.

An anecdote on species revitalization concerns the Atala butterfly, a native of South Florida that once thrived on its sole host plant, *Zamia pumila*, or coontie palm, a slow-growing native cycad. The butterfly disappeared as the coontie palm was harvested to the point of extinction, to make starch out of its roots. But in the mid-1970s, landscape designers rediscovered the coontie palm as a valuable evergreen that could withstand drought and heat. As they began to fill South Florida yards, the Atala butterfly returned!

Summary of Benefits Native Plants Provide [along with wildlife habitats]

Stormwater Management

Using moisture-loving plants in rain gardens and in bioretention and wetland detention basins slows down and absorbs rainwater, thus reducing the quantity and velocity of stormwater runoff while improving water quality.

Less Maintenance

Compared with lawns and mulched tree, shrub, and perennial plantings, landscapes planted with appropriate native plants require less maintenance.

They require minimal watering (except during establishment and drought periods) and they need no chemical fertilizers or pesticides.

Characteristics of native plants that reduce maintenance include:

- Longevity: plants that live for many decades
- Three to four-season interest: plants that are appealing most of the year
- Variable conditions: plants that tolerate a wide range of light and moisture conditions
- Small and compact: plants that are in scale with a given space
- Weed elimination: plants that grow into dense groupings and eliminate weeds
- Seediness: plants that do not spread readily from seed

Wildlife Habitat

A native plant garden or large planting with a diversity of trees, shrubs, perennials, and grasses provides food and shelter for insects, birds, amphibians, and mammals throughout the growing season. Leaving seed heads and plant structure throughout winter provides continuing food and shelter for many creatures and provides opportunities to observe nature up close.

Resistance to Deer Browse

Deer are adaptable and eat a wide variety of plants. Fortunately there are many native plants that deer avoid. Deer rely on their sense of smell to determine whether an area is safe and which plants are desirable to eat. For instance, plants with aromatic foliage such as wild bergamot (*Monarda fistulosa*) and round-leaved groundsel (*Senecio obovatus*) deter deer. Some plants repel deer because of their coarse, rough, hairy or spiny textures. This group includes rattlesnake master (*Eryngium yuccifolium*). See Deer Resistant list.

Educational Opportunities

Native plant gardens present endless opportunities for learning about seasonal cycles, wildlife, and plant life cycles. Quiet spaces outside can be used for art and reading classes. Environmental and conservation topics are taught best outdoors.

Sense of Place

People who have lived in one place for a while develop images of their home that create a sense of belonging and familiarity. For instance, the Mountain Laurel (Connecticut State flower), ferns, maples, oaks, birches, holly, dogwoods, sweet pepperbush - and their foliage, blossoms, and berries have made their mark in the hearts and thoughts of residents. Many people have recognized this heartfelt connection with nature, and it often is referred to as “sense of place.”

Beautification

Native wildflowers and flowering vines, shrubs, and trees offer a wide range of colors, textures and forms to create dynamic displays. Grasses and sedges have interesting flowers and seed heads and yellow–orange fall color. Shrubs and trees have fall color and berries that persist into the winter. Choosing a wide assortment of plants ensures seasonal interest, with the bonus of attracting colorful birds, butterflies and insects.

For Further Information on Native Plants Review the Resource List.

Native Plant Database

<http://www.wildflower.org/plants/>

CT Audubon – Plant Native Species

<http://ct.audubon.org/plant-native-species-0>

Kick the Invasive Exotic Gardening Habit with Great Native Plant Alternatives

<http://www.usna.usda.gov/Gardens/faqs/InvasivesAlternatives.html>

Native Plant Library and where to purchase them

<http://www.abnativeplants.com/>

Regional Plant List

<http://www.plantnative.org/rpl-nes.htm>

Connecticut Botanical Society

<http://www.ct-botanical-society.org/garden/index.html>

The Native Plant Center

<http://www.sunywcc.edu/about/npc/>

“The Living Landscape: Designing for Beauty and Biodiversity in the Home Garden” & “Bringing Nature Home” by Douglas Tallamy

“Essential Perennials: The Complete Reference to 2,700 Perennials for the Home Garden” by Ruth Rogers Clausen

Deer Resistant Plants

http://reddinggardenclub.org/deer_resist.html