Green Landscaping: Greenacres

- Prior to the arrival of the first European settlers, the Midwestern landscape was made up of a variety of ecosystems, including tallgrass prairies, oak savannas, woodlands, and wetlands. These ecosystems were home to abundant birds, butterflies and other animals. Most of these areas have been transformed into the agricultural lands, urban centers, and industrial sites we see today. Few acres of the original landscapes remain. For example, approximately 65% of Illinois was originally tallgrass prairie. Today, less than 0.01% of the original prairie survives in small, scattered preserves. Other natural ecosystems have fared similarly.

  After European settlement, people planted gardens with plants brought from their home country. They were tiny, comfortable garden plots set in a huge wilderness. Today, however, the reverse is true. Agricultural and garden plants introduced from all over the world dominate the landscape, while native plants are managed in small preserves. In recent years, natural landscaping - using native plants and plant communities in landscaping - has become more common.

What is a Native Plant? Top

Native plants (also called indigenous plants) are plants that have evolved over thousands of years in a particular region. They have adapted to the geography, hydrology, and climate of that region. Native plants occur in communities, that is, they have evolved together with other plants. As a result, a community of native plants provides habitat for a variety of native wildlife species such as songbirds and butterflies.

What is a Non-Native Plant? Top

Non-native plants (also called non-indigenous plants, invasive plants, exotic species, or weeds) are plants that have been introduced into an environment in which they did not evolve. Introduction of non-native plants into our landscape has been both accidental and deliberate. Purple loosestrife, for example, was introduced from Europe in the 1800's in ship ballast and as a medicinal herb and ornamental plant. It quickly spread and can now be found in 42 states.

In general, aggressive, non-native plants have no enemies or controls to limit their spread. As they move in, complex native plant communities, with hundreds of different plant species supporting wildlife, will be converted to a monoculture. This means the community of plants and animals is simplified, with most plant

species disappearing, leaving only the non-native plant population intact.

For example, purple loosestrife colonizes wetland areas, replacing native plants unable to compete for available sunlight, water, and nutrients. Wetlands infested with purple loosestrife lose as much as 50% of their original native plant populations. This limits the variety of food and cover available to birds and may cause the birds to move or disappear from a region altogether.

Why Should I Use Native Plants? Top

Native plants provide a beautiful, hardy, drought resistant, low maintenance landscape while benefiting the environment. Native plants, once established, save time and money by eliminating or significantly reducing the need for fertilizers, pesticides, water and lawn maintenance equipment.

Native plants do not require fertilizers. Vast amounts of fertilizers are applied to lawns. Excess phosphorus and nitrogen (the main components of fertilizers) run off into lakes and rivers causing excess algae growth. This depletes oxygen in our waters, harms aquatic life and interferes with recreational uses.

Native plants require fewer pesticides than lawns. Nationally, over 70 million pounds of pesticides are applied to lawns each year. Pesticides run off lawns and can contaminate rivers and lakes. People and pets in contact with chemically treated lawns can be exposed to pesticides.

Native plants require less water than lawns. The modern lawn requires significant amounts of water to thrive. In urban areas, lawn irrigation uses as much as 30% of the water consumption on the East Coast and up to 60% on the West Coast. The deep root systems of many native Midwestern plants increase the soil's capacity to store water. Native plants can significantly reduce water runoff and, consequently, flooding.

Native plants help reduce air pollution. Natural landscapes do not require mowing. Lawns, however, must be mowed regularly. Gas powered garden tools emit 5% of the nation's air pollution. Forty million lawnmowers consume 200 million gallons of gasoline per year. One gas-powered lawnmower emits 11 times the air pollution of a new car for each hour of operation. Excessive carbon from the burning of fossil fuels contributes to global warming. Native plants sequester, or remove, carbon from the air.

Native plants provide shelter and food for wildlife. Native plants attract a variety of birds, butterflies, and other wildlife by providing diverse habitats and food sources. Closely mowed lawns are of little use to most wildlife.

Native plants promote biodiversity and stewardship of our natural heritage. In the U.S., approximately 20 million acres of lawn are cultivated, covering more land than any single crop. Native plants are a part of our natural heritage. Natural landscaping is an opportunity to reestablish diverse native plants, thereby inviting the birds and butterflies back home.

Native plants save money. A study by Applied Ecological Services (Brodhead, WI) of larger properties estimates that over a 20 year period, the cumulative cost

of maintaining a prairie or a wetland totals $3,000 per acre versus $20,000 per acre for non-native turf grasses.

Which Plants Attract Birds and Butterflies? Top

There are several species of native wildflowers and grasses that will attract particular birds and butterflies.

For song birds:	For hummingbirds:	For butterflies:
sunflowers*, blazing star*, white prairie clover, compass plant, prairie dock, big bluestem, little bluestem, sideoats grama, switch grass, prairie dropseed, downy serviceberry, hackberry, dogwood, juniper*, elderberry, and hawthorn*.	columbine, jewelweed*, native phlox*, native honey- suckle, and cardinal flower.	milkweed*, aster*, purple cone-flower*, blazing star*, native phlox*, black-eyed Susan*, dogbane*, New Jersey tea, coreopsis*, joe-pye weed*, goldenrod*, vervain*, and ironweed*.

Will Native Plants Aggravate Allergies? Top

Many native flowers, such as asters, goldenrods, and milkweeds, are insect-pollinated, not wind-pollinated, and do not cause allergies. It is the pollen in the air that triggers allergic reactions. The plants responsible for many pollen allergens are not native to the Midwest (e.g., Kentucky bluegrass, Bermuda grass, orchard grass, redtop grass, and timothy grass). Native ragweed is one native plant which is highly allergenic.

Will Native Plants Attract Pests? Top

Unsecured garbage is the main attraction for most pests such as rodents and raccoons. Native landscaping is not. Native plants will attract butterflies and dragonflies; birds such as purple martins, hummingbirds, hawks, and swallows; mammals, including bats; amphibians such as frogs and salamanders; and insects because they provide shelter and food. In return, wildlife will help control pesky bugs such as mosquitoes. A single bat can eat 3,000 to 7,000 insects per night. Canada geese, also considered a pest in some regions, prefer short turf grass over taller native grasses.

Weed Laws Top

Some municipalities have "weed laws" to prevent unsightly or poorly maintained property. Natural landscaping does not pose the hazards that the weed laws are intended to address (e.g. problems with vermin). Fortunately, many municipalities are responding to the current trend toward natural landscaping. Some communities have modified weed laws to allow natural landscaping, but require a "setback" or buffer strip to make the landscape look planned. A few municipalities actively promote natural landscaping because of the environmental and economic benefits. Check with your municipal officials

regarding weed laws in your area.

Case Studies Top

Everyone is planting natives: corporations, businesses, schools, local, State, and Federal government agencies, developers, and homeowners. Following are some examples of natural landscaping in the Midwest:

Prairie Crossing, Grayslake, Illinois. Nearly 175 acres of native prairies and wetlands are being restored throughout this residential development. In addition to the beautiful landscape and wildlife habitat provided, these areas serve as part of an alternative stormwater management system.

Oak Park, Illinois. Two adjacent homeowners share a wildflower garden which fills their side yards and portions of the front yards. The project was based upon a shared interest in attracting wildlife, reducing the amount of turf grass and the associated use of pesticides, and creating a more diverse landscape.

Wheaton-Warrenville South High School, Wheaton, Illinois. The high school is incorporating native landscaping into its school grounds, initially planting 2.5 acres of upland mesic and wet prairies. The school's goals are to reduce maintenance on unused lawn areas and time demands on limited staff, improve overall aesthetics, restore native habitats, and create a living laboratory for hands-on environmental education.

Olympia Fields Country Club, Olympia Fields, Illinois. The club blends two 18-hole golf courses into a natural setting of native woodlands and rolling topography with large oak trees linking the fairways. Planting native trees and shrubs from locally collected seed, removal of invasive non-native species, reestablishing prairie and savanna vegetation, and controlling erosion with native vegetation are some of the programs in progress.

Lakeview Industrial Park, Pleasant Prairie, Wisconsin. Nearly 500 acres of this industrial park have been dedicated to a large natural area along the Des Plaines River. It includes extensive floodplain wetlands, oak savannas, prairies, and the riverine system. The industry has saved significant sums of money through use of native landscaping. The ecological benefits have exceeded expectations. The project has won wide acclaim for its innovative approach to ecological resources and has forged an important partnership among industry and conservation groups.

Sears Corporate Headquarters, Hoffman Estates, Illinois. Native plants have been incorporated into the main features of this 780-acre property for ornamental as well as functional reasons.

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University of Florida IFAS Extension
Solutions for Your Life

Publication #Cir 1429

- Topics: Wildlife Ecology and Conservation | Landscaping for Wildlife | Hostetler, Mark E | Youngentob, Kara Nicole | Miller, Sarah Webb

Landscaping Backyards for Wildlife: Top Ten Tips for Success[1]

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In Florida, urban areas are a dominant feature in the landscape, and many of these urban areas are situated near natural wildlife preserves. What people do in their own yards and neighborhoods affect local and nearby wildlife populations. Steps can be taken to create and save wildlife habitat in urban areas, minimizing our adverse impact on local wildlife. Plus, creating wildlife habitat provides wildlife viewing opportunities for people in cities.

Wildlife are affected by how homeowners manage their yards and neighborhoods at both local and regional scales (Figure 1). For example, maintaining a habitat for wildlife in a yard increases biodiversity in the neighborhood. (Biodiversity is simply the number of different species occurring in a given area.) On a larger scale, how one manages yards and neighborhoods can have a positive effect on surrounding habitat. For example, a neighborhood may separate natural areas. These natural areas can be connected if residents provide a *corridor* of natural vegetation through the neighborhood. Residents can plant natural vegetation in their individual yards so it is near or connected to vegetation in the next yard, and so on. This creates a corridor that animals can use to travel from one natural area to another, thus benefiting wildlife at a larger scale.

However, neighborhoods can have a negative impact on both local and nearby wildlife habitat. People may plant invasive, exotic plants that invade nearby natural areas (for example, Chinese Tallow). The growth of these plants in natural areas destroys wildlife habitat. Also, pets may run loose in neighborhoods and nearby areas. Pets can disrupt wildlife populations through hunting and harassment of animals. What people do within their own yards does affect nearby wildlife populations.

Collectively and as individuals, homeowners can do many different things to provide wildlife habitat. Essentially, **wildlife habitat consists of food, cover, water, and space**. However, providing habitat is not enough. One must manage the yard or neighborhood so that impacts are minimal. The suggestions below will guide homeowners to manage and design their yards and neighborhoods for wildlife.

Ten Tips for Landscaping for Wildlife

All these tips are of value to wildlife, so they are presented *in random order*.

1. Limit the Amount of Lawn

2. Increase Vertical Layering
3. Provide Snags and Brush Piles
4. Provide Water
5. Plant Native Vegetation
6. Provide Bird/Bat Houses and Bird Feeders
7. Remove Invasive Exotic Plants
8. Manage Pets
9. Reduce Pesticide Use
10. Expand the Scale of Habitat

Tip 1: Limit the Amount of Lawn

Lawn is like concrete to most species of animals. It offers very little food or cover. In general, we recommend reducing the amount of mowed lawn around your house, especially in areas of low traffic such as corners of the yard (Figure 2). By simply not mowing, you will be creating shelter and food for many animal species. Over time, unmowed areas contain more plant species than mowed areas. This plant diversity attracts more wildlife species. For example, birds are attracted to areas that are structurally diverse. These areas provide shelter in which to hide from predators or build nests. Further, the diversity of plants provides more feeding opportunities. More fruits and seeds can occur in these unmowed areas. Most importantly, diverse areas attract more insects and most birds eat insects.

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Why does mowing favor grass? Mowing favors grass because it is adapted to being cut down. When you leave an area unmowed, other plants will gradually replace the grass. These plants may sprout from seeds already in the soil. Also, seeds could come from the surrounding area. Wind and water can bring a wide variety of seeds to a given place. As an area becomes more diverse, animals will visit the area and bring in more seeds. Seeds are stuck to their body or are found in their droppings. To help speed up the replacement of lawn, you can remove the grass and plant seeds of NATIVE wildflowers that are adapted to the conditions in that part of your yard (sunny, shady, wet, dry, etc.).

Replace Some Lawn Grass with Ground Cover Plants: Another option is to replace lawn with ground cover plants, which are more valuable to wildlife than lawn grass (Figure 3). Compared to ground cover plants, lawn grasses require a lot of maintenance -- mowing, fertilizing and watering -- all of which have high energy costs in electricity, water, and other natural resources. In general, yards have many areas where native ground covers would be attractive (under trees and bushes, or along a privacy fence). Ground covers also provide food and cover for small animals. For information on the benefits of ground covers, see this Web page at http://edis.ifas.ufl.edu/topic_book_enviroscaping_to_conserve_energy.

Tip 3: Provide Snags and Brush Piles

As trees become diseased or die, consider leaving them standing as "snags". Many wildlife species use snags for feeding and nesting. While nest boxes supply homes for many species, some woodpeckers will only use cavities they excavated themselves. Thus, the need for snags. Many of the insects that occur in snags are food for woodpeckers and other bird species.

If safety is a concern in leaving snags (dead trees) standing, ask a tree surgeon to cut the snag to about 15 feet tall. This will still be valuable to wildlife!

For those without a dead or dying tree, adding a small snag is an option. For example, you could obtain permission from a developer to remove small downed trees, or sections of downed trees, from a property. These snags could be placed in your yard (either propped upright, or laid down horizontally to provide a rotting log).

A brush pile or two, especially if near other vegetation, will provide excellent cover and feeding opportunities for wildlife (small mammals, birds, and butterflies). This will also serve as cover in open areas.

Tip 4: Provide Water

Water is an essential part of productive wildlife habitats. Wildlife will benefit from any water source you provide, such as a birdbath and/or a small pond. Ponds are not only beautiful, but also attract a variety of species and enhance amphibian breeding. Please consult our free publications "Water for Wildlife" and "An Introduction to Aquascaping." These publications can be accessed through this website: http://www.wec.ufl.edu/extension/landscaping/.

Tip 5: Plant Native Vegetation

Plant NATIVE plant species in your yard whenever possible. Landscaping with plants that are native to Florida not only provides better food and cover for native wildlife than do non-native plants, but on average, requires less care and resources to maintain. As with all plants, newly planted native plants must be watered until they are established. But after they are established, Florida's native plants require less water because most are adapted to local water conditions. Native plants are better adapted to natural soil conditions and generally do not require fertilizing. They are more resistant to natural pests and diseases, so do not require pesticides.

Even with native plants, be sure to plant them in the specific conditions for their optimal growth (full sun, part sun/part shade, full shade, wet soil, dry soil, acidic soil, sandy soil, etc.). It's best to first take a look at the conditions in your yard: sunny and shady areas, wet areas, compare morning versus afternoon, etc. *Then* go buy the appropriate plants for the conditions in your yard.

Native plant species have evolved and adapted to local conditions over thousands of years. They are usually much more tolerant to climatic conditions at a given location. Once established, most species require little or no additional irrigation beyond normal rainfall. They typically grow more slowly, generating much less yard waste.

Each native plant species is a member of a community that includes other plants, animals, and micro-organisms. The natural balance keeps each species in check. Plants thrive in conditions to which they are adapted. However, other organisms (e.g., insects) prevent plants from spreading uncontrolled. Thus, native species rarely become invasive, unlike some exotic (non-native) plants imported from other areas that have no natural organisms here to keep their spread in check.

For more information on native plants, visit the Florida Native Plant Society website at http://www.fnps.org/. Information on where you can purchase native Florida plants can be found on the Association of Florida Native Nurseries website at http://www.afnn.org/.

If you want to know the specific benefits that each type of plant provides for wildlife, consult the booklet entitled *Planting a Refuge for Wildlife*. This booklet includes a list of trees, shrubs, and vines, and gives their specific value to wildlife (see last section of booklet). One copy of this booklet is available for free and can be obtained by sending a request for one copy to: Planting a Refuge, P.O. Box 1289, Woodville, FL 32362-1289. Additonal copies are 50 cents each. Make your check payable to the Florida Wildlife Federation, and write "Habitat Fund" in the Memo area on the check.