CREATING A POLLINATOR GARDEN

Pollinators are crucial to many plants. In order for a flower to be pollinated, it must receive pollen from another flower like itself. As pollinators move from one plant to the next, pollen from different plants of the same species gets transferred to the pistil of the flower and travels down the tube, joins with the eggs and they turn into seeds.

Of course, pollinators do not set out to be so helpful. They are merely searching for a good meal. As bees, butterflies, humming-birds and other pollinators get the nectar and pollen they want from flowers, the sticky pollen gets on their bellies, feet, and wings.

In order to attract pollinators to your garden, you must:

Plant a wide variety of nectar and pollen-rich plants, with a diversity in color, shape and size.

Include a variety of flowers that bloom throughout the season.

Provide food sources and over-wintering places for all stages of life including eggs and larvae.

Avoid using pesticides, herbicides and fungicides, all of which should not be used in a rain garden to protect groundwater.

OUR RAIN GARDEN

The rain garden at 1802 Princeton Road in Hamilton should attract the following species:

Butterflies:

- Painted Lady
- Red Admiral
- Giant Swallowtail
- Black Swallowtail
- Spicebush Swallowtail
- Monarch Butterflies

Bees:

- Honey Bees
- Yellow Jackets

Other Pollinators:

- Ruby Throated Hummingbird
- Beetles

POLLINATOR STUDY

The Ohio State Phenology Network provided 11 native perennials to our garden to study span of bloom as well as pollinator visitation. While many "pollinator plant" lists exist, none are specific to Ohio. They list calendar dates for bloom time for wide regions, but this can vary greatly by location and by year. For Ohio beekeepers, gardeners and farmers who want to develop pollinator habitat, OSU wants to emphasize "span of bloom" using local data.

Additionally, we do not have a clear picture of which bees or other pollinators visit which plants. This could help to inform plant selection in specific pollinator mixes, as well as help scientists learn about bee preferences and behavior.

Finally, many gardeners want to "help the bees," but don't know which plants to use. We will collect "garden worthiness" data to provide input (by and for gardeners) on native perennial plants suited for gardens.

PROJECT PARTNERS

OSU Extension Master Gardener Volunteers
Ohio State University Extension of Butler County
Butler Soil and Water Conservation District
Butler County Storm Water District
Butler County Commissioners

This rain garden was designed as a master gardener project. The Master Gardener Volunteer Program provides intensive training in horticulture to interested Ohio residents who then volunteer their time assisting with educational programs and activities for Ohio citizens through their local Ohio State Extension county office. Contact 513-887-3722 for info.

During the 2013 Butler County class, rain gardens were highlighted within the curriculum. Working along with Butler Soil and Water Conservation District, the Master Gardeners researched plants, pollinators, soil, and the drainage area. They used this information to design and construct this rain garden, and create accompanying educational materials.

RAIN GARDEN RESOURCES

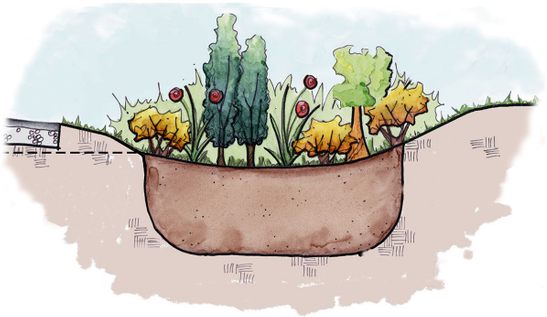
Our Rain Garden
Plant lists and more at www.pearltrees.com and search for rain.garden.butler.cnty

Rain Garden Manual For Homeowners
Contains user friendly information on designing and installing www.tinkerscreekwatershed.org/documents/RGManual.pdf

Cincinnati Rain Garden Alliance
http://cincyrain.org/

A Blue Thumb Guide to Rain Gardens, by Rusty Schmidt, Dan Shaw and David Dods. Reference guide is great for beginners, yet contains detailed info for professionals.

RAIN GARDENS FOR POLLINATORS



WHAT IS A RAIN GARDEN?

Rain gardens are attractive and functional landscaped areas that are designed to capture and filter stormwater from roofs, driveways, and other hard surfaces. They are designed to mimic the layered conditions of a forest floor, which naturally filters pollutants from water. The rain garden collects water in bowl-shaped, vegetated areas, and allows it to slowly soak into the ground. This reduces the potential for erosion and minimizes the amount of pollutants flowing from your lawn into a storm drain, and eventually into our streams and lakes.

WHAT ARE THE BENEFITS OF A RAIN GARDEN?

The benefits of rain gardens are multiple and include their ability to perform the following functions:

- Help keep water clean by filtering storm water runoff before it enters local waterways
- Reducespeak velocity and volume of storm water runoff delivered to storm sewer system or streams
- Alleviatesflooding and erosion downstream
- Enhance the beauty of individual yards and communities
- Provide habitat and food for pollinators including birds and butterflies
- Recharge the ground water supply
- Reduce mosquito breeding by removing standing water in yards
- Inexpensive to install and maintain, though needs watered until established

BUILD A RAIN GARDEN

Location

Locate your rain garden down slope from downspouts, drive-ways or other low points that collect water in your yard. Locate the garden 10 feet or more from your house to keep water away from the foundation. Consider where the water will enter the garden and where it might overflow. Make sure it does not go in an unwanted direction!

Pick a location where you can dig a shallow depression. Sloping areas are ideal for catching runoff and allowing over-flow during large rainfall events. Rain gardens should not be placed over or near the drain field of a septic tank system or above below-ground utility lines. Sunny or partly sunny locations are ideal, but shady areas can also work.

Call Before You Dig
Don't forget to call OUPS to locate underground utilities, at least 48 hours before you begin digging
1-800-362-2764

Soil

Drainage—Dig a hole 8 inches deep and 8 inches wide and pour a bucket of water into it. Ideally, the water should drain at a rate of about an inch every hour. If it takes longer the soil should be improved with compost and sand.

Soil Texture—Add a little water to a handful of soil and firmly squeeze it. Open your hand.

- If the soil holds its shape, poke it slightly. If it gently crumbles then you have great soil!
- If the soil holds its shape, even when you poke it then it contains too much clay. For clay or compacted soil, dig down about 12 inches and amend the soil with sand and compost. This will help the water percolate.
- If the soil immediately falls apart then it is too sandy. Add compost.

Design

The garden should be bowl-shaped, with the lowest point no more than 6" below the surrounding land.

The sides should be gently sloping towards the center to prevent sudden drop-offs that could lead to erosion problems or walking hazards.

Planted with shrubs, tall grasses, & perennials

Dry creek with pebbles, river stone, boulders and plants

On a slope, create a depression on the upper side and a berm (mound) on the lower side

Plants

Plants should be chosen according to moisture tolerance. Plant wet tolerant species in the lowest area, moist tolerant species on the sides closest to the center, and moist to dry tolerant species at the edges of the rain garden

There are a great variety of native plants that you can use. Unlike many non-native plants, native plants are hardy, less susceptible to pests and diseases and unlikely to escape and become invasive.

TYPICAL PLANTS

Perennials

Columbine *Aquilegia canadensis*
Goat's beard *Aruncus dioicus*
Swamp Milkweed *Asclepias incarnata*
Butterfly weed *Asclepias tuberosa*
Coneflower varieties *Echinacea*
Cardinal Flower *Lobelia cardinalis*
Monkey flower *Mimulus ringens*
Beebalm *Monarda didyma*
Spiderwort *Tradescantia ohiensis*
Globe flower *Trollius laxus*
Longleaf speedwell *Veronica longifolia*
Culver's root *Veronicastrum virginicum*
Ironweed *Veronia fasciculata*
Bird's foot violet *Viola pedata*
Golden alexanders *Zizia aurea*

Shrubs

Chokeberry *Aronia arbutifolia* (red)
melancocarpa (black)
Buttonbush *Cephalonthus occidentalis*
Red Twig Dogwood *Cornus sericea*
Inkberry *Ilex glabra*
Sweetspire, Virginia *Itea Virginica*
Ninebark *Physocarpus opulifolius*
Meadowsweet Spirea *Spirea latifolia*
Vibernum *dentatum* (Arrowwood)
troilobum (Am. Cranberry)

Trees

Serviceberry *Amenlanchier Canadensis*
Black gum *Nyssa sylvatica*
River Birch *Betula nigra*

Grasses

Soft rush *Juncus effusus*
Switch grass *Panicum virgatum*
Little Bluestem *Schizochyrium scoparium*

Ferns

Maidenhair fern *Adiantum pedatum*
Cinnamon Fern *Osmunda cinnamomea*