

# Rain Garden

Cobb County Water System created the Rain Garden Demonstration Site in 2004. The garden, located at the Water Quality Laboratory, was once a railroad maintenance facility. The purpose of the project was to show the community ways to address common stormwater issues.

As our project matured, urban wildlife started visiting the garden. Birds and butterflies come with the seasons and we now teach people about urban wildlife as well as about rain gardens and stormwater pollution prevention. In 2010 a master plan was developed for the garden, identifying five objectives:

- 1) Increase the visual appeal of the garden
- 2) Increase the diversity of themes in the garden
- 3) Expand the access to planting beds
- 4) Create a visual boundary to the garden
- 5) Phase out non-native species of concern

Over the next few years, this site was transformed to better accommodate the education programs being offered to the community. Visitors are able to get closer to the plantings and observe the features being profiled, learn about stewardship practices they can implement in their landscape, and gain an improved understanding of the land ethic.

## Stormwater Capture

Rain gardens work by capturing runoff from your roof or driveway and diverting it to gardens and low-lying areas to slowly soak into the soil. If not retained, rainwater goes into storm drains that discharge directly into rivers, lakes or streams. This sudden introduction of large volumes of stormwater erodes streambanks and beds and increases flooding risks. In addition, any pollutants on the land (landscape chemicals, automotive fluids and dusts, bacteria and pathogens in pet waste) are transported by the water as it flows across the surface. These pollutants end up in our streams or rivers, the source of our drinking water. Our garden features two types of bioretention areas. The larger swale is spanned by our bridge and demonstrates how rain water can be collected at a commercial site. A one square foot chamber has been excavated along the bottom of this channel that adds additional capacity for this garden to hold stormwater - see image on left. A second, smaller rain garden is located above the bridge on the northeast side of the garden. In this area, the soil has been removed and the edges of the garden bermed to hold runoff and allow time for the water to be absorbed into the soil and taken up by the plants. While uniquely designed to accommodate different volumes of water, both serve to prevent downstream pollution and provide good habitat for urban wildlife.



*Workers prepare the underground water storage chamber in the commercial rain garden.*



*Top: Gabion baskets were installed in the streambed of the receiving channel to prevent erosion.*

*Bottom: The residential garden holds water after a rain event.*

## Gardening for Wildlife

In addition to the stormwater functions of the garden, the area has also become a miniature wildlife sanctuary amidst an urban and industrial setting. Plants were chosen not only for their beauty, but for their beneficial attributes as well. Whenever possible, the site utilizes native plants or hybrids of natives. These specimens are more able to withstand Georgia's extremes in temperature and moisture. Additionally, natives have evolved to coexist with the wildlife in an area. For example, many species of butterflies and moths require a specific family of plants to host their eggs and caterpillars. Without this symbiotic relationship, neither organism would thrive.

We also try to control pest species through natural means instead of chemicals. Weeds are controlled through hand removal. Not only does this reduce the negative impact on the insect species that depend on these plants, it also keeps these harmful substances from entering our ground and surface water through run-off.

Cobb County Water System's rain garden has been certified as a Pollinator Habitat by Monarchs Across Georgia, a Wildlife Habitat through the National Wildlife Federation, and a Monarch Waystation by the University of Kansas.



*Black swallowtail caterpillars host on members of the carrot family, such as parsley, fennel, and dill.*



## Plant List

- Bog
  - pickerel weed
  - arrowhead
  - pitcher plant
  - bog cranberry
  - sphagnum
- Sensory & Ethnobotany
  - thyme, basil, & other herbs
  - coneflower
  - stokes aster
  - dusty miller
  - verbena
  - sedum
- Midnight Garden
  - bluestar
  - cabbage
  - bee balm
  - sweet pepperbush
  - Oenothera spp.
  - Epilobium spp.
- Meadow
  - milkweed
  - joe pye weed
  - boneset
  - cardinal flower
  - coneflower
  - yarrow
  - switchgrass
  - liatris
  - coreopsis
- Shrubs & Trees
  - yaupon holly
  - musclewood
  - river birch
  - redbud
  - red twig dogwood
  - winter honeysuckle
  - arrowwood
  - virburnum
  - possumhaw
  - red maple
  - bottlebrush
  - buckeye
  - black locust
  - Miss Huff
  - lantana
  - virginia sweetspire
  - pawpaw
  - american beautyberry
  - american holly
- Other
  - goldenrod
  - swamp hibiscus
  - ferns
  - ironweed
  - sunflower
  - green and gold
  - false indigo
  - guara