

# Rain Gardens

The Great Bay Discovery Center's Low Impact Development (LID) stormwater management demonstration site got a few new additions in October. In August, the site was paved with porous asphalt and porous concrete parking areas and walkways. In October, an eco-paver walkway and exhibit area was installed, and now we have added a new rain garden. The rain garden was installed by a small crew of volunteers who were part of a rain garden installation workshop organized by Julia Peterson of Cooperative Extension, and held at the Center. Rain gardens are a low cost LID option for both residential and commercial properties and are a great tool to protect water resources from pollution carried by runoff.

Don't confuse a rain garden with a wetland as they are very different. Wetlands are poorly drained areas that retain water; rain gardens are depressions or low spots in the ground that are designed to allow water to infiltrate into the ground. The amount of digging required for a rain garden depends on the site and the drainage area that feeds water to it. It is planted with native perennials and shrubs that do well in wet conditions. Rain gardens reduce runoff flow volumes by getting water to infiltrate into the soil, and by doing so reduces the pollutant loading in our surface waters. They are a beautiful landscaping feature that is low maintenance and can be designed to enhance the property from a gardening color and texture standpoint or for wildlife viewing and habitat enhancement.

There are several key design features to consider. A key point is to remember that the purpose of the rain garden is to get water into the ground. The location of the garden is important so that it can capture runoff and allow that water to infiltrate, but you don't want to create another problem like water in the base-



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Workshop participants install rain gardens at Great Bay Discovery Center.

ment – so be sure to keep rain gardens away from buildings. Of course, you would never want to build a rain garden over a septic tank or leach field or near your drinking well. And you don't install rain gardens in wetlands or other naturally wet areas. Placing a rain garden in a flat area helps reduce how much soil you have to move. You should also always check with Dig Safe before you install the garden.

There is an easy method to determine the size of the rain garden for proper function; a primary goal is to have the rain garden capture the first 1 inch of a rainfall event from the drainage area. So first determine the size of the drainage area, if for example, you have a roof 25' x 40' that will drain into the rain garden, this is 1000 square feet. The rain garden should be 30% of this area or 300 square feet. Rain gardens can be almost any shape so there is a great deal of flexibility in how the rain garden will fit into the landscape. For 300 square feet it could be a 10 x 30 foot long narrow garden or a 20 foot diameter circle. The rain garden should be about 6 inches deep in the center with gently sloping sides.

There are several other design considerations, such as plant selection and

layout, the soil characteristics of the site, getting the new garden established, mulch selection, cost, and both short and long term maintenance. If you're not a gardener you'll want help with the plant selection and you may want to hire a landscaper to work with you and help install it. If you are a gardener, designing and installing a rain garden can be a lot of fun. Either way they are a great enhancement to the landscape and will help protect water quality in the Great Bay Watershed.

The CTP will be holding workshops on rain garden installation next spring and summer. Contact the CTP if you are interested. In the mean time there are some good reference materials out there to read including the *Landscapes for Maine* "Adding a Rain garden to Your Landscape," Bulletin #2702 from The University of Maine Cooperative Extension (<http://extensionpubs.umext.maine.edu>), and the *Vermont Rain garden Manual*, "Gardening to Absorb the Storm," from the University of Vermont Extension, which can be found at: [www.uvm.edu/%7Eseagrant/communications/filelibrary.html](http://www.uvm.edu/%7Eseagrant/communications/filelibrary.html).

Steve J. Miller  
CTP Coordinator, GBNERR

# Something worth noticing at the GBDC

A difficult question facing the state is the funding of nonprofit education, and how to meet its growing demands with less funding. This is a problem that all non profits face, including the Great Bay Discovery Center. The answer to this question, when posed to the staff of the Discovery Center unfolds in an interesting and complex way.

The Center's mission is supported through the Fish and Game Department's insightful philosophy aimed at preserving an ecosystem that is fascinating and inherently sensitive to the changes of modern time. This philosophy is combined with a presentation of the natural and cultural history of the Great Bay and the economic heritage that it has provided to its residents for centuries. The Discovery Center serves as a gathering place for a variety of interests around the Seacoast.

Within the Center are a group of people who bring unique solutions to the problem of doing more with less. A dedicated mix of biologists, educators and researchers are the core of the Center. The imaginations of these people could never be quantified by a balance sheet., and a visitor is drawn to the uniqueness of its offerings.



Center educator Helen Kruppa leads a group of children on a habitat discovery walk during the Spring school program.

The value in the mind of an inspired child, who ventures into an understanding of Native American life on the banks of the Great Bay hundreds of years ago, too cannot be quantified in dollar amounts. Equally interesting is what happens when, with hands immersed in a horseshoe crab tank, another child can overcome reluctance and finds herself holding a creature and gaining an experience that is lasting. These are just two examples in an innumerable set of possibilities presented to visitors by the efforts of talented and educated employees of the State.

These experiences are shepherded by another group at the Center, perhaps most important; the Stewards and volunteers who have chosen to give their time, yet another unquantifiable resource that brings character and depth to the Great Bay Discovery Center. The examples from this group are countless. Hearing a volunteer sing the "Gundalow Song" and witnessing groups of school children participating in a real life history lesson that school teachers are proud to bring their classes to, is exactly what inspired me to write this piece.

The offerings of the Center to both children and adults make for a very rich life in the Great Bay community. The imagination and untiring efforts of the people who give so much to this place of discovery, combine in a complex way to answer this simple question: This *is* how do we do more with less. The rewards for generations who come here are noticeable. It is no wonder that so many choose to spend time here and why so many donate not only to be remembered, but to continue the efforts of keeping Great Bay a special place for many years to come.

John Zolnay  
Friend of Great Bay

## Spotlight

### Ideally Suited for Great Bay

As the finishing touches to the new porous parking lot and walkways were being completed at the Center, we received a phone call from



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"Eco-Stone" and  
"Aqua-Bric"

Lou Iuliano of Ideal Concrete Block Company, Inc. in Westford, Mass. Lou had read about our project and wanted to introduce us to another alternative to porous asphalt and concrete. After discussing our outdoor exhibit planned to interpret the new lot, Lou agreed to donate the product and installation of two different kinds of permeable pavers; "Eco-Stone" and "Aqua-Bric". Both feature a unique design and installation process that allows water to infiltrate into the ground, reducing storm-water runoff and recharging groundwater supplies. The Aqua-Bric is an ADA compliant paver which looks much like antique Beacon Hill bricks, many of which came from Great Bay clay! The Eco-Stone is a "granitesque" paver and surrounds our demo plots in the exhibit. Many thanks to Lou, and Ideal Concrete Block for their generous donation!