

# RappFLOW's Rain Garden

In 2007, RappFLOW volunteers decided to design, construct, and demonstrate a working rain garden. The Schoolhouse became the perfect location for its construction, given the parking area is the largest impervious surface in the county (27,000 square feet).



The Schoolhouse

Photo By: Raymond Boc

The Rain Garden provides multiple functions from controlling storm-water runoff, to cleansing runoff of pollutants and sediment and recharging groundwater. Rain Garden are designed to handle the first 1/2 inch of runoff which contain most of the pollutants during a storm. The garden also provides an example to the public of how local landowners can make a difference in water quality in Rappahannock County.

In March of 2007, RappFLOW was awarded a grant from the Virginia Department of Forestry to assist in funding the project. RappFLOW's Rain Garden plan was underway!

The first step in the design was to figure out where the runoff from the parking lot was going. Following a heavy rain, runoff was determined to flow to the left of the Schoolhouse and was going into the Thornton River. The Rain Garden's size was determined using resources from the Virginia Dept. of Forestry, the area was prepped for construction, and the excavation began. The garden area was dug out and a special type of biofilter soil was added to assist in the drainage. A berm was constructed to help contain the runoff. The berm and the surrounding area was also seeded with native grass seed to assist in the stabilization of soil. Later native plants and shrubs were planted inside of the garden to remove pollutants and nutrients from the runoff.



For more information on Rain Gardens and native plants, please visit the following websites:

**Virginia Department of Forestry**

<http://www.dof.virginia.gov>

**Department of Conservation and Recreation**

<http://www.dcr.virginia.gov/dnh/native.htm>

## Rappahannock Friends and Lovers of Our Watershed

Preserving and Protecting the  
Waters of Rappahannock County

### Rain Gardens: A Welcome Addition to Any Landscape



**RappFLOW**  
P.O. Box 132  
Sperryville, VA 22740  
<http://www.rappflow.org>

# RAIN GARDENS

## What is a Rain Garden?

A Rain Garden is a specially designed garden created to capture and filter rainwater that runs off from impervious surfaces such as a parking lot, driveway, or rooftop. They can be any size, large or small, and can meet the needs of both homeowners and businesses. They assist in managing storm water runoff, removing pollutants, and helping assist in the recharging of ground water sources by allowing rain-water to slowly sink into the soil.

## How do they work?

Storm water run-off, if improperly managed, can cause deposition of pollutants into waterways. These pollutants can include everything from petroleum products, animal wastes, fertilizers, to pesticides and household chemicals.

Under natural conditions, plants, trees and grasses help slow the speed of storm water runoff and assist in the absorption of chemicals and pollutants. However, due to urbanization, increased impermeable surfaces have caused more and more contaminants to enter our waterways, causing areas like the Chesapeake Bay to become increasingly polluted.

Rain Gardens are designed to mimic the functions of a forest environment by allowing storm water to be diverted to an area where plants can take up moisture and nutrients, and microorganisms are allowed to manage pollutants.

Rain Gardens can also offer other benefits to the community, such as:

- An increase in the vegetation of your yard to provide habitat for insects and birds
- They can enhance the beauty of your yard
- Provide an increase in the amount of groundwater renewal
- Can bring together family and neighbors during construction and maintenance

## Developing Your Own Rain Garden

You must first determine the best location to place your Rain Garden. Observe your yard after a rain event, and note the direction runoff begins to flow, or take notice of areas where roof gutters may drain on your property. These areas may be perfect candidates for a Rain Garden.

Before building your Rain Garden, be sure to evaluate your soil for proper drainage, particular in areas that seem to pond during rain events.. You can do this at home by following these three easy steps:

- Dig a hole 6 inches wide and 18 inches deep in the area that you would like to place your rain garden
- Fill the hole with water, and monitor the length of time the water takes to drain
- If the hole contains standing water after 48-72 hours, you may need to amend your soil to provide proper drainage

If you determine that your soil requires amending, it is recommended by the Department of Forestry to create your own soil mixture, containing 50% sand, 25% top soil, and 25% organic matter. These materials can be purchased from home improvement centers or nurseries.

A properly constructed Rain Garden has some basic layers of construction:

- A grass buffer strip to slow the velocity of runoff
- A mulch layer to help keep the soil moist for the plants
- Native plants that will help assist in collecting moisture and nutrients
- A ponding area or depression to provide storage needed for the runoff
- A berm that is at least six inches of soil or rocks that helps pond the runoff

## Plant Selection

The plants that you choose to incorporate into your Rain Garden should be moisture tolerant, with the middle containing plants that enjoy wet-loving species, since this area will stay moist the longest. The middle of the side slope should contain plants that can be moist or dry, and the upper edge should contain plants that prefer dry conditions. You may want to visit the Virginia Native Plant Society's website for a comprehensive list of native species at:

<http://www.vnps.org>