



BUILD A RAIN GARDEN

Rain gardens are a new tool in our efforts to keep Maine's waters clean and part of a new way of thinking about stormwater issues. Their use doesn't involve a lot of centralized planning. They don't require much space, can fit into oddball shapes, and can readily be added to existing buildings. They look nice, and you don't need to be an engineer to build one.

The Problem

When rain falls faster than the ground can absorb it, it runs off into storm drains along with any contaminants in its path, such as oil and grease, de-icing salts, heavy metals, pesticides, and bacteria from trash and animal waste.

Structures like rooftops, driveways, roads, and parking lots alter the "water cycle" on homes and business properties. These hard surfaces reduce the amount of rain or snow melt that soaks into the ground. Instead, that water is immediately converted to stormwater runoff. The runoff can pick up pollutants such as eroded soil, lawn fertilizer, oils and gas from leaky vehicles, pet waste, etc., as it flows downhill to a nearby river or lake. Also the quantity increases and the volume of runoff is much larger and it flows more quickly than on a vegetated surface, which can cause more erosion and damage aquatic habitats.

The Solution

Every little bit of rainwater that you can keep on your property helps! We can all help minimize the problem of storm water runoff by planting rain gardens—6- to 12-inch-deep depressions filled with native plants. Rain gardens can capture hundreds of gallons of rainwater, filtering out up to 90 percent of pollutants while allowing the water to drain deep enough into the soil to help recharge groundwater supplies.

Did you know?

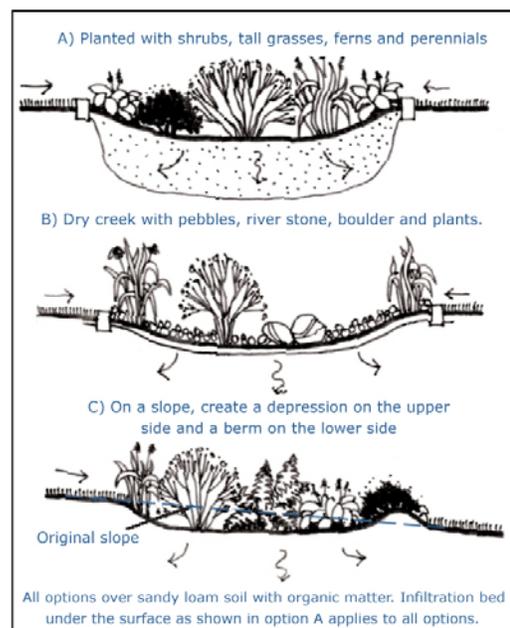
Rain gardens can effectively trap and retain up to 99% of common pollutants in storm runoff.

These gardens can be very attractive and blend into the yard landscape. Rain gardens are often located in existing or created depressions on property, so that stormwater will be collected and slowly soak into the ground.

Whether you undertake this project on your own or with a landscaper, here are some factors to consider when planning a rain garden.

Location. Site your rain garden where rain and snowmelt collect or run off—near downspouts or gutters, below a slope, or along sidewalks and driveways. However, avoid planting a rain garden within 10 feet of your home's foundation, within a septic system's drainage field, or above buried utility lines. The garden should be bowl-shaped, with the lowest point of the garden 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.

Size. The square footage of your rain garden should generally be about 20 percent that of the area draining into it. For example, if your roof covers 800 square



feet, a rain garden designed to collect all of the roof's runoff should cover 160 square feet. Rain gardens for single-family homes will typically range from 150 to 300 square feet, but even a smaller one will help reduce water pollution problems. To capture runoff most efficiently, a rain garden should be longer than it is wide, and aligned perpendicular to the slope.

Materials. Rain gardens use layers of different materials to help maximize drainage. The bottom layer typically features an "underdrain" (e.g., a piece of perforated PVC pipe) pointed toward an existing storm drain and covered with gravel. The next layer is the planting medium, which should be a mix of about 20 percent compost, 50 percent sand, and 30 percent topsoil. A final layer of mulch helps prevent weeds and removes metals from runoff.

Plant choice. Whenever possible, plant native species. Native plants are best because they establish deeper roots (which help the soil hold water), can withstand the local climate, need minimal care, and attract local butterfly and bird populations. Natives are hardy and you don't risk bringing in more invasive species to Maine. For more information, see *Gardening to Conserve Maine's Landscape: Plants to Use and Plants to Avoid*, which is available on the web at www.umext.maine.edu/publications/homegarden.htm.

Rain gardens can be placed in sunny or shady regions of your lawn, but plants should be chosen accordingly, with the lowest point planted with wet tolerant species, the sides closest to the center planted with moist tolerant species, and the edges of the rain garden should be planted with subxeric (moist to dry) or xeric (dry) tolerant plants. It is also important to check the permeability



Did you know?

Rain gardens act as mosquito cemeteries because the rain water drains quickly and leaves the mosquito eggs high and dry.

of your soil. Sandy soils only need compost added, but clay soils should be replaced with a mix (50-60% sand, 20-30% topsoil, 20-30% compost). After construction of the garden is complete, the entire area should be covered with a thick layer of mulch, preferably Erosion Control Mix.

If your rain garden is near a street treated with salt in the winter, ask your local nursery for salt-tolerant plants.

Maintenance. Overall, once plants mature, the maintenance of a rain garden is very low. Watering is important during the first growing season, and some weeding is necessary after planting. As the garden matures, some of the perennials may need to be divided if plantings become too crowded.

For more information, please see "Adding a Rain Garden to Your Landscape" at <http://www.umext.maine.edu/onlinepubs/pdfpubs/2702.pdf> or "How to Install a Raingarden" at http://www.cwp.org/Resource_Library/Center_Docs/Residential/rainbarrelgarden.pdf (page 2).



Spruce Creek Watershed Improvement Project

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