

## *Gardening with Water Quality in Mind*

When you make a garden a "rain garden" you can improve local water quality while creating a beautiful natural area that will attract birds and butterflies. Rain gardens allow rain and snowmelt to seep naturally into the ground. This helps recharge our groundwater supply, and prevents a water quality problem called polluted runoff (see box below for more information on polluted runoff). Rain gardens are an important way to make our cities more attractive places to live while building urban ecological health.

What makes a garden a rain garden? All it takes is a few simple steps in the following three areas:

**Landscaping** — Rain gardens are designed with a dip at the center to collect rain and snow melt. Any degree of indentation is useful, from slight dips made with your garden trowel to large swales created by professional landscapers. Neatly trimmed shrubs, a crisp edge of lawn, stone retaining walls and other devices can be used to keep garden edges neat and visually appealing.

**Location** — Strategic placement next to hard surfaces such as alleys, sidewalks, driveways and under gutters makes your rain garden effective. Inside you'll find descriptions for how rain gardens can work in the front, side and back sections of your property.

**Plant choices** — Hardy native species that thrive in our ecosystem without chemical fertilizers and pesticides are the best choices. Many rain gardens feature shrubs as well as wild flowers and grasses. As a rule, the less "turf" on lawns, the better it is from a water quality stand point — turf-style lawns create a harder surface which does not absorb water as readily as garden areas. Also, turf-style lawns often require chemical treatments and extra water to look uniform. Yards that feature native plants, grasses and shrubs are much easier to maintain!

### ***What is polluted runoff?***

Polluted runoff is a big problem in urban areas where much of the ground is covered with hard surfaces such as roofs, streets, parking lots and sidewalks.

Before development, rain and snow melt seeped slowly into the

earth. Now water flows quickly across hard surfaces, picking up pollutants — from pesticides, fertilizers and gas and oil residue — before dumping into storm drains. Once in the storm sewer system the water goes directly into local lakes, streams and wetlands. It is not treated or cleaned in any way. In the Twin Cities, all storm water eventually ends up in the Mississippi River — our precious, world-class resource that is also the source of our drinking water.

*The fact sheet is part of urban watershed restoration efforts sponsored by:*

*Friends of Bassett Creek 1930-A Glenwood Ave. No. • Mpls, MN 55405 • 612/374-4849*

*Friends of Swede Hollow 729 East 7th Street • St. Paul, MN 55106 • 651/771-2659*

## Front yard gardens

Gardens along the front of homes and businesses are particularly useful from a water quality and aesthetic standpoint. Their proximity to the street makes front yard gardens an effective place to collect water that has run off of your roof, yard and sidewalk before it hits the stormwater system. Because they are highly visible to people passing by on the street or sidewalk, front yard gardens also add to the beauty of the neighborhood.

Front yard gardens can be created:

- 1) At the end of the roof gutter to capture run off from the roof.
- 2) Along front walk way to keep runoff from travelling down the sidewalk and into the storm sewer.
- 3) Along the city sidewalk to act as a buffer between your lawn and the street.
- 4) On the city-owned boulevard to stop runoff from entering the street.

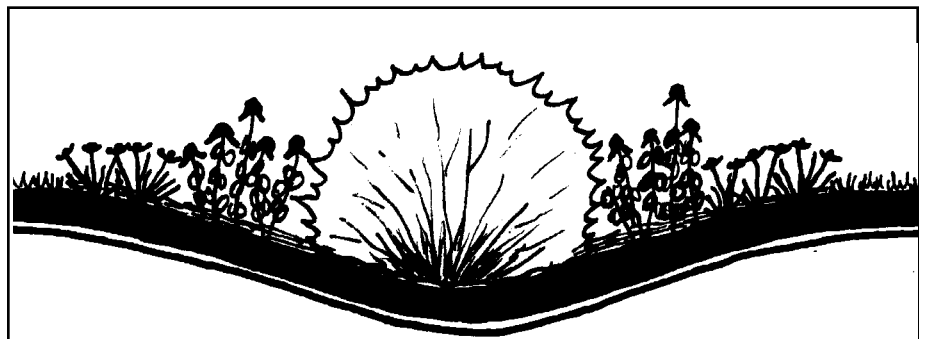
Property owners with front yards that slope to the sidewalk may choose to incorporate stone walls. With the addition of wall features, collection points can become deeper and more useful from a water filtration stand point. If the wall is decorative and combined with neatly edged turf, the area will be beautiful throughout the year.

## Side yard gardens

Gardens along the side of your home or business can catch runoff from your roof, create a "living fence" between properties and channel runoff to front or back yard gardens. Some homeowners create wide side yard gardens that become wider still in the back yard. This style of garden can minimize the amount of "turf" in your back yard that needs to be mowed. Creating wild areas along the side of your house ensures that you can look out your window and see beautiful plants, birds and butterflies. Don't plant tall shrubs right next to your windows if you are concerned about people hiding there. Also, make sure dips for capturing runoff channel water away from your house to avoid basement flooding problems.

## Back yard gardens

Back yard gardens can keep water from running down the alley and into storm sewers. Like side yard gardens, back yard gardens can also help minimize the amount of high-maintenance turf-style lawn on you property. Most people place their largest gardens in the back yard. If you already have a large back yard garden, you can easily add a water filtration component by creating dips that will hold and filter water.



In any location, rain gardens' basic feature is a dip or swale. Shrubs are often planted at the center and surrounded by wild flowers.



Neighborhood gardens can provide recreation opportunities, re-create wetlands and add aesthetic value to our urban communities.

## Neighborhood Projects

The overall landscape pattern of our cities includes easements and small public properties. These areas are ideal for gardens that improve the ecological functioning and the aesthetic value of our communities. In the Twin Cities, our proximity to the Mississippi River and its network of tributary creeks and streams provides many opportunities for protecting this great waterway through restoration of former natural areas.

Across the country, urban communities are realizing the economic, social and environmental benefits of creating stormwater filtration projects and restoring native vegetation. Twin City based efforts include work in the neighborhoods surrounding St. Paul's Lower Phalen Creek and Minneapolis' Bassett Creek — Mississippi River tributaries that have been degraded and partially buried as storm sewers.

Residents, businesses, employees and government agencies are working together to recreate natural areas and improve water quality in Lower Phalen Creek and Bassett Creek. Efforts, which are spearheaded by St. Paul's Friends of Swede Hollow and Minneapolis' Friends of Bassett Creek, include promoting rain gardens as well as:

- Recreating wetlands and other natural areas.
- Improving and enhancing existing parks and natural areas through removal of invasive trees, planting of native species and increasing public access.
- Creating and extending public bicycle and pedestrian trails to provide new recreation opportunities and connections to the Mississippi River.

For more information on these projects, call St. Paul's Friends of Swede Hollow: 651/771-2659 or Minneapolis' Friends of Bassett Creek: 612/374-4849.

## Rain Garden Q & A

*Q: How do I turn a section of my yard into a rain garden?*

A: Simply remove sod, dig a shallow depression and plant with native plants.

*Q: Don't rain gardens attract a lot of mosquitoes?*

A: Not really. Mosquitoes thrive and breed in standing water. Most mosquitoes breed in places like junk piles where there are old tires or tin cans. There is rarely standing water in a well-designed rain garden.

*Q: Can I create a rain garden that doesn't look too wild or messy?*

A: The way to make a rain garden — or any garden — appear "well kept" is to keep the edges tidy. Tall plants and grasses tend to "flop" so if you want a neat silhouette, you will want to stick with short species. To keep native plants from growing too large, remember not to water them!

*Q: What happens to water-tolerant plants when we have a dry spell?*

A: Native plants can withstand a range of weather conditions. Native plants that do well in poorly drained soil will be fine during dry weather.

*Q: How large must a rain garden be to be worthwhile?*

A: Any water that seeps into the ground instead of running into a storm sewer helps water quality. A rain garden of any size has a positive impact.

## Rain gardens in action!

There are a number of sites where rain gardens are being installed to add beauty to our cities while capturing and filtering stormwater.

Friends of Swede Hollow and the City of St. Paul are installing a rain garden demonstration site on Seventh Street near the Swede Hollow Cafe.

The St. Paul Neighborhood Energy Consortium is building a rain garden at their new site on Selby and Dale. Through this project, an existing parking lot's impervious surfaces are being reduced by about 17 percent. Plantings will take place in Spring, 1999.

To see a residential rain garden, take a look at the yard on 118 Virginia Street (one half block north of Summit Avenue, near Western in St. Paul). The rain garden is visible from the sidewalk

# Native Plants for Rain Gardens

Below is a list of native plant and shrub options for wet soils in the center of rain gardens. A list which includes non-native plants and options for dry soils is available from Friends of Swede Hollow: 651/771-2659 or Friends of Bassett Creek: 612/374-4849.

### Native Plants for Wet Soil (Sunny)

Sweetflag/Acorus calamus  
\*Giant Hyssop/Agastache foeniculum  
Canada Anemone/Anemone canadensis  
\*Marsh or Swamp Milkweed/  
Asclepias incarnata  
\*New England Aster/Aster novae-angliae  
March Marigold/Caltha palustris  
Tussock Sedge/Carex stricta  
\*Turtlehead/Chelone glabra  
Boneset/Eupatorium perfoliatum  
\*Joe-Pye Weed/Eurpatorium maculatum  
\*Queen of the Prairie/Filipendula rubra  
Sneezeweed/Helenium autumnale  
Blueflag Iris/Iris versicolor  
Soft Rush/Juncus effusus  
Great Blue Lobelia/Lobelia siphilitica  
\*Switchgrass/Panicum virgatum  
Prairie Phlox/Phlox pilosa  
Mountain Mint/Pycnanthemum virginianum  
River Bulrush/Scirpus fluviatilis  
Softstem Bulrush/Scirpus validus  
Riddell's Goldenrod/Solidago riddellii  
\*Tall Meadow Rue/Thalictrum dasycarpum  
\*Culvers Root/Veronicastrum virginicum  
Golden Alexander/Zizia aurea

### Native Plants for Wet Soil (Shady)

Caterpillar Sedge/Carex crinita  
\*Cardinal Flower/Lobelia cardinalis  
\*Ostrich Fern/Matteuccia struthiopteris  
Virginia Bluebells/Mertensia virginica  
Sensitive Fern/Onoclea sensibilis  
  
Shrubs (Sunny or Shady)  
Black Chokeberry/Aronia melanocarpa  
Red-Osier Dogwood/Cornus sericea  
Low or Dwarf Bush Honeysuckle/  
Diervilla lonicera  
Annabelle Hydrangea/Hydrangea  
arborescens 'Annabelle'  
Blue Arctic Willow/Salix purpurea 'Nanna'  
Pussy Willow/Salix caprea

### Shrubs (Sunny Only)

Meadow Sweet/Spirea alba  
Steeplebush/Spirea tomentosa  
High Bush Cranberry/Viburnum trilobum

\*Likely to grow taller than three feet.

Native plant information was supplied by Fred Rozumalski, Barr Engineering.

## Resources

### For purchasing native plants and seeds:

Prairie Restorations, Inc: 1/888/389-4342  
Landscape Alternatives: 651/488-3142  
Prairie Moon Nursery (mail order only): 507/452-1362

For information on gardening with native plants, runoff pollution prevention and workshop opportunities, call the St. Paul Neighborhood Energy Consortium: 651/644-7678

For information on native plant demonstration sites, classes, youth gardening projects or starting a community garden call the Sustainable Resources Center Urban Lands Program: 612/872-3288

### For Twin Cities watershed restoration project information:

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