What is a Watershed?

A watershed is an area of land from which rain & snowmelt drain into a lake, wetland, or creek. Most of the land in our watershed is developed. This means that about 34% of our land is covered with hard (impervious) surfaces and no longer absorbs rain water.

The Problem

Water running off hard surfaces like rooftops, roads, and driveways is not natural and harms our lakes and wetlands. This water - called *stormwater runoff* - causes flooding, increases erosion, and carries pollution to our surface waters.

You Can Make a Difference

The key to solving this problem is to *stop water from running off* your property. In this pamphlet, we summarize techniques used to stop stormwater runoff. Once stopped, the water either soaks into the ground - called infiltration - evaporates, or is used for gardening.

How to be a Hero

There are easy and economical techniques available to stop and infiltrate water. A homeowner can reduce stormwater runoff by *several thousand gallons* per year.

Money is Available

Local agencies may offer cost-share programs to help pay for water resources projects of all sizes. It is now even easier to stop stormwater runoff! See back panel for a list of programs.

A downspout directing water to a garden.

Local Watershed Districts

Nine Mile Creek Watershed District
www.ninemilecreek.org
952.835.2078
Riley-Purgatory Watershed District
www.rileypurgatorybluffcreek.org
952.937.8372
Lower Minnesota River Watershed District
www.watersheddistrict.org
952.227.1038

Useful Websites

Lake Superior Duluth Streams - Stormwater
www.duluthstreams.org/stormwater/toolkit/tools.html

MN DNR— Native Landscaping
www.dnr.state.mn.us/gardens/nativeplants/index.html

University of Wisconsin - Rain Gardens
http://clean-water.uwex.edu/pubs/raingarden/

Permeable Pavement Fact Sheet
http://builditgreen.org/resource/index.cfm? fuseaction=factsheet_detail&rowid=16

Come See How it Works!

All of the techniques mentioned here can be seen at the Ramsey-Washington Metro Watershed District office, 2665 Noel Drive in Little Canada.

Thank you to the Ramsey-Washington Metro Watershed District for allowing the reproduction of this brochure.

City of Bloomington Engineering Division
952-563-4870

http://www.ci.bloomington.mn.us/cityhall/dept/pubworks/engineer/waterres/xlinks.htm

CITY OF BLOOMINGTON MINNESOTA

Be A Watershed Hero!

Stop water where it drops!

CITY OF BLOOMINGTON MINNESOTA

Be A Hero: Stop Water Runoff

Basic Techniques

Downspouts - Direct water onto lawns.
- Having roof runoff spread across your lawn will allow some water to infiltrate.

Rain Barrels – Capture water from roofs.
- An 80 gallon barrel emptied regularly can capture 3,275 gallons of water per year from one side of a house.
- Gardeners favor rainwater for watering flowers and vegetables.
- The cost for a rain barrel: $100 - $200.

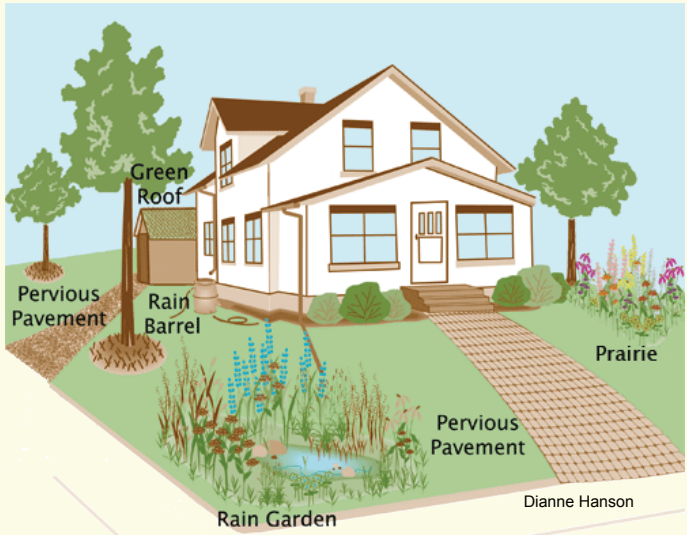
Trees - Catch rainwater and help infiltration.
- A mature tree canopy will intercept 1,600 gallons of water per year.
- The cost of a 6 ft tree: $50 - $100.

Prairie - Deep rooted prairie plants work to slow water runoff and increase infiltration.
- If you were to convert 1/2 of your lawn into prairie, an additional 370 gallons of water would be infiltrated per year.
- The cost to seed a 4,500 sq. ft area:
  Do-it-yourself: $300
  Professionally installed: $1,000

Rain Gardens - Are low areas designed to capture runoff from rooftops and driveways.
- A 100 sq. ft. garden can capture and infiltrate 9,000 gallons of water per year.
- Native plants increase infiltration & attract a variety of birds and butterflies.
- Cost: Do-it-yourself: $300
  Professionally installed: $1,200

How much water can I stop?

During an average year, we receive 24 in. of rain. For a residential lot, **49,000 gallons** of water will run off — this is stormwater. If we use the techniques described here, we will be able to stop and infiltrate roughly **33,000 gallons** of water each year, reducing storm water runoff by **67 percent!** This will help reduce flooding, erosion, and pollution entering our waters.



How much will it help?

There are cumulative benefits of reducing stormwater runoff. When each homeowner uses some of these techniques, **millions of gallons** of water can be stopped and infiltrated into the ground. This helps our lakes and wetlands, and recharges groundwater.

The figures provided are based on a typical residential lot in the Watershed. Average precipitation, lawn area, roof dimensions, and driveway length were used in determining runoff and gallons of water trapped. Cost estimates are from 2006 figures. The benefits of each technique will vary for every lot in the watershed. The house drawing is a modification of original artwork by Dianne Hanson in *Green Spaces, Clean Waters* ©Tree Trust, 2005. Rain barrel photo ©2006 National Gardening Association/www.garden.org.

Advanced Techniques

Pervious Pavement and Pavers – Are special materials used to make driveways, sidewalks, and patios that allow water to seep through and infiltrate into the soil.
- A 1000 sq. ft. pervious driveway will infiltrate 12,100 gallons of water per year.
- It is possible to direct runoff from rooftops and lawns for additional water treatment.
- Pavers are quite attractive and some have a 50-year lifespan.
- The average cost - professionally installed:
  Pervious pavers: $10,500
  Pervious asphalt: $14,000

Green Roofs - Are vegetated roof covers. Hearty plants are established in a special growing media.
- In the United States, this is a new technology that is quickly evolving.
- Currently, there are a few demonstration sites in the Metro area.
- A 620 sq. ft. green roof will capture and hold 6,500 gallons of water per year.
- There are other benefits to green roofs, including roof insulation, noise dampening, and an attractive landscape feature.
- The average cost - professionally installed:
  Garage— 620 sq. ft.: $13,600

Re-grading - Changing the slope of the land to slow runoff and increase infiltration.
- When new sidewalks, patios & driveways are installed, consider changing their slope to send rainwater onto lawn, garden, and prairie areas.
- Directing water onto areas with taller, deep rooted vegetation will increase the rate of infiltration.