



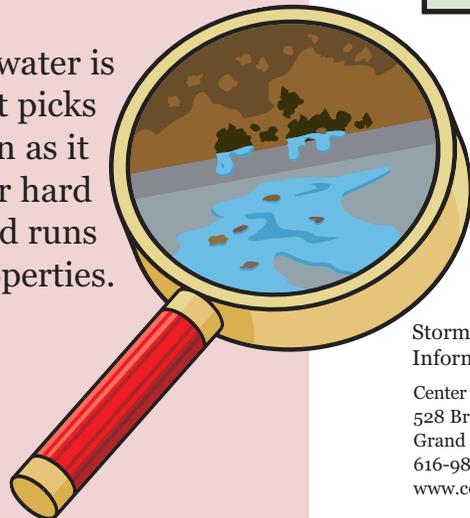
What Is Stormwater?

SWIRLING
DIRTY
WARM
WASTED

Stormwater causes problems in our fresh water systems.

Stormwater is rainwater that is channeled past important natural paths.

Stormwater is rainwater that picks up pollution as it flows over hard surfaces and runs off our properties.



Rain, rain come this way
On my yard you're asked to stay
I want to feed my plants today
Rain, rain don't go away

Remember:

What we do on our land affects the quality of the water we drink and use.

Natural things such as soil, leaves, grass clippings and pet waste can cause water pollution.

Waste dumped into storm drains goes into lakes and streams without treatment.

Many small sources of pollution add up to big water quality problems.

Vehicles cause water pollution as well as air pollution.

We each contribute to the problem.
We each need to contribute to the solution.

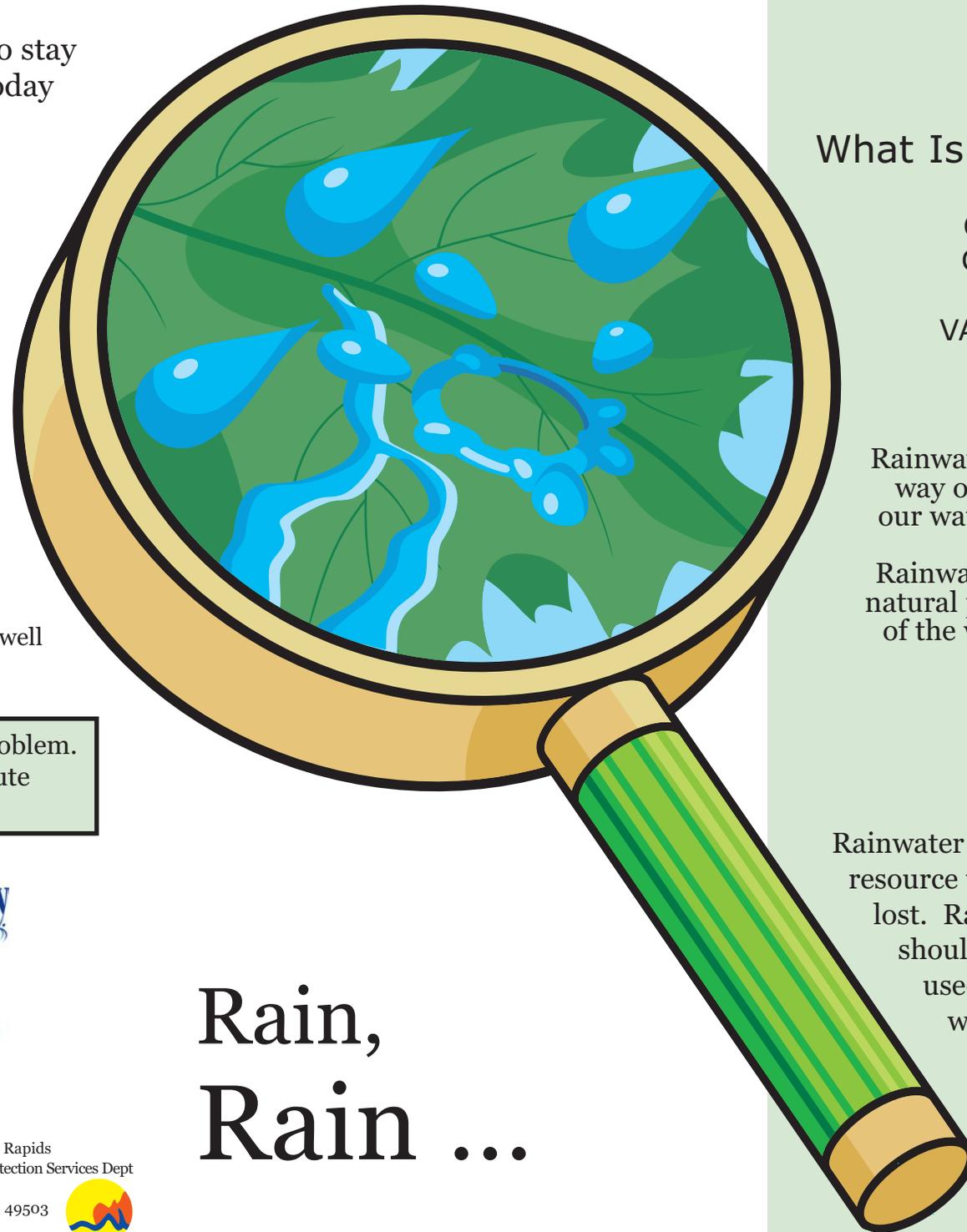


Stormwater Management Systems
Information and Education Program

Center for Environmental Study
528 Bridge St. NW, 1-C
Grand Rapids, MI 49504
616-988-2854
www.cesmi.org



The City of Grand Rapids
Environmental Protection Services Dept
1300 Market SW
Grand Rapids, MI 49503
616-456-3625



What Is Rainwater?

CALM
CLEAR
COOL
VALUABLE

Rainwater is nature's way of renewing our water systems.

Rainwater accesses natural paths as part of the water cycle.

Rainwater is a valuable resource that is often lost. Rainwater should be held and used on the land where it falls.

Rain, Rain ...

Rainwater Path

Rain that falls on natural areas follows steps that ensure clean fresh water.

UPPER STORY:

The intertwined branches of mature trees absorb the full impact of rainfall, breaking up the drops before they reach lower levels of vegetation.

UNDER STORY:

The mid-level, made up of young trees or small tree species, also slows the speed of the raindrops while using and holding rainwater before gently releasing it onto the next layer.

GROUND FLOOR:

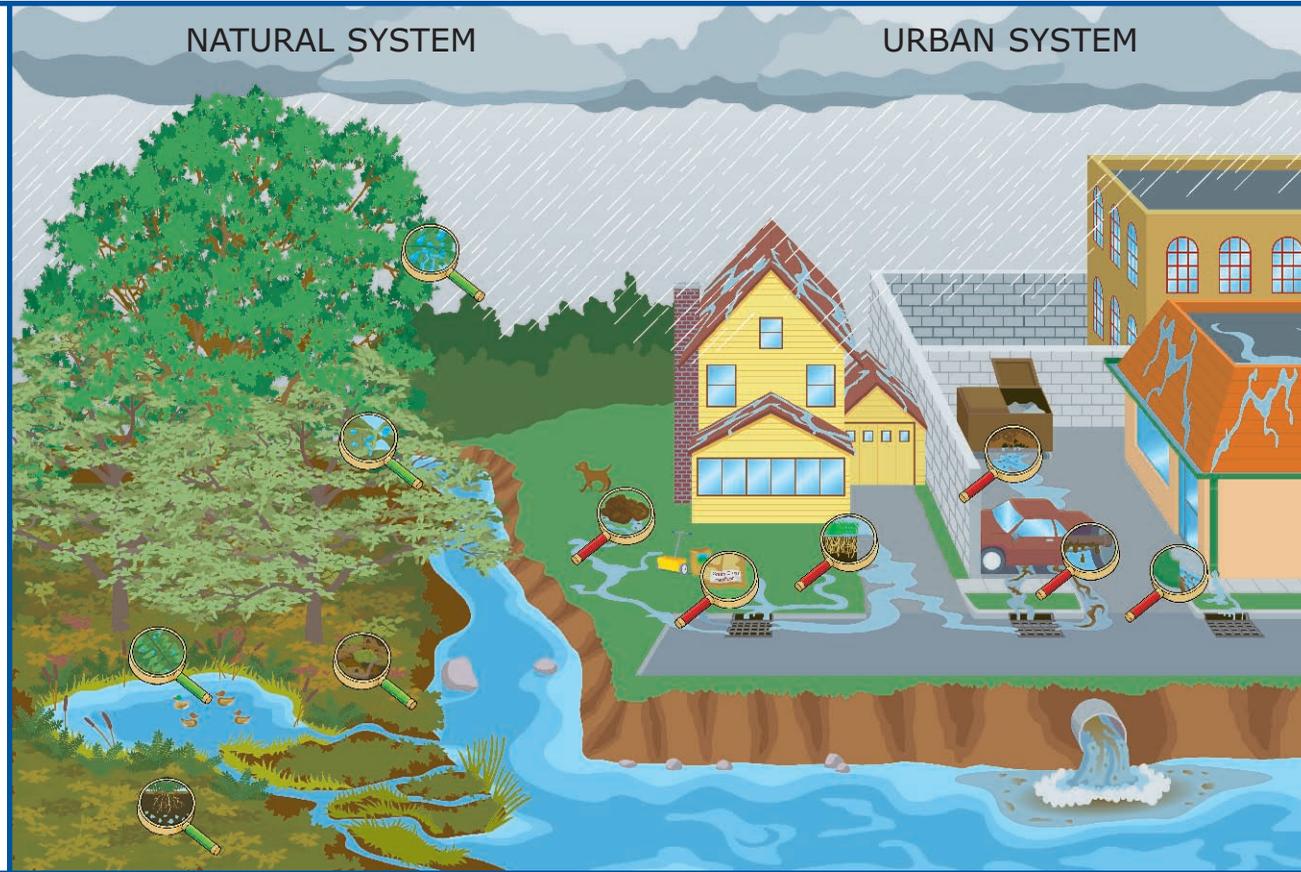
This layer of growth is a soft carpet of mosses, ferns, grasses, wildflowers, shrubs and bushes. It holds water, protecting the soil from washout.

LEAF LITTER:

Fallen leaves, branches and plant matter form a giant sponge, holding moisture and releasing it slowly into the soil.

SOIL:

The soil layer provides moisture and nutrients for plant and tree roots. The moist soil remains cool even on the hottest days and is vital to nature's rainwater drainage system.



Stormwater Path

Rain that falls directly to the ground and runs off hard surfaces to the storm drains picks up speed and contaminants.

ROOF RUNOFF:

Stormwater collects tar, gravel, bird droppings and heat as it runs off rooftops.

THICK LAWN CARPETS:

Stormwater cannot be absorbed into the lawn because the dense root structures act like thick door mats, holding dirt and contaminants that runoff into the road and storm drains.

GARBAGE LEAKS:

Garbage spills and discarded trash are carried into the drains.

VEHICLE DISCHARGES:

Fuel, oil, and antifreeze emissions along with metals and rubber are picked up by the swiftly moving water and carried into the storm drains.

ANIMAL WASTE:

Pet waste remains on top of the lawn carpet until it is washed into the waterways.

FERTILIZERS/CHEMICALS:

Using products to green our gardens and lawns can lead to disastrous effects in the waterways. Excess product causes the water to become toxic.

What You Can Do To Help:

Invite rainwater into your yard—give your everyday activities an extra thought and try these ideas. Use Nature as a model!

To Use Rainwater on Site:

- * Minimize use of concrete or asphalt by substituting gravel, paving stones or turf stones.
- * Direct water from roof drains and gutters to vegetated areas on your property.
- * Install a rain barrel to collect roof runoff. Use it to slowly soak your landscapes.
- * Use trees, shrubs and other deep rooted plants to hold and use water on your property.
- * Reduce the amount of lawn by adding berms, and flower, herb, native plant, decorative grass, vegetable and rain gardens.

In Your Landscape:

- * Stop soil erosion by planting vegetation on all bare areas.
- * Minimize or eliminate the use of fertilizers and pesticides on your lawn.
- * Use phosphorus free fertilizer when possible.
- * Bag or compost yard wastes.
- * Sweep and collect (don't wash) fertilizer and grass clippings off driveways and walkways.
- * Aerate your lawn to increase absorption.
- * Create buffers of plants between waterways and hard surface areas to help filter out pollutants.

Vehicle Tips:

- * Keep your vehicles tuned up and repair all leaks.
- * Wash your car on the lawn or on gravel.
- * Use phosphorus free detergents when washing your cars (windows and siding too!).

Hazardous Chemicals:

- * Never pour used oil, paint thinners, and other pollutants into storm drains or on the ground.
- * Clean up spills quickly.
- * Properly use and store all household chemicals.
- * Take household hazardous wastes to a recycling/collection center.

General:

- * Walk your dog in areas of vegetation and bury or flush pet wastes.
- * Clean litter from the street and stormdrains in front of your home.
- * Use salt for snow and ice control sparingly. Choose magnesium or calcium chloride alternatives when possible.
- * Report any pollution, illegal dumping or soil erosion to the proper authorities.
- * Help build awareness of stormwater pollution issues by sharing this information.