



# Cleaning Up Stormwater Runoff

A SERIES OF WATER QUALITY FACT SHEETS ABOUT STORMWATER RUNOFF

**W**hat is stormwater runoff? It is the rain and melting snow that flows off streets, rooftops, lawns, and farmland. The flowing water carries salt, sand, soil, pesticides, fertilizers, leaves and grass clippings, oil, litter, and many other pollutants into nearby waterways. Since these pollutants are washed off a wide area and cannot be traced to a single source, they are called nonpoint source or runoff pollutants.

## *Storm Sewers – Rivers Beneath Our Feet*

In developed areas, much of the land surface is covered by buildings and pavement which do not allow water to soak into the ground. Instead, storm sewers are used to carry the large amounts of runoff from these roofs and paved areas to nearby waterways.

Storm sewers are simply pipes laid underground, often below streets. Inlets or drains located along curbs and in parking areas collect the runoff, which then flows to nearby streams or lakes. A common misconception is that water running off streets goes into a sewage treatment plant. It does not. In fact, stormwater usually receives no treatment. Water that runs off lawns, streets, and parking lots flows directly into lakes and streams.

## *Stormwater is Not Clean Water*

Stormwater runoff carries pollutants that seriously harm our waters:

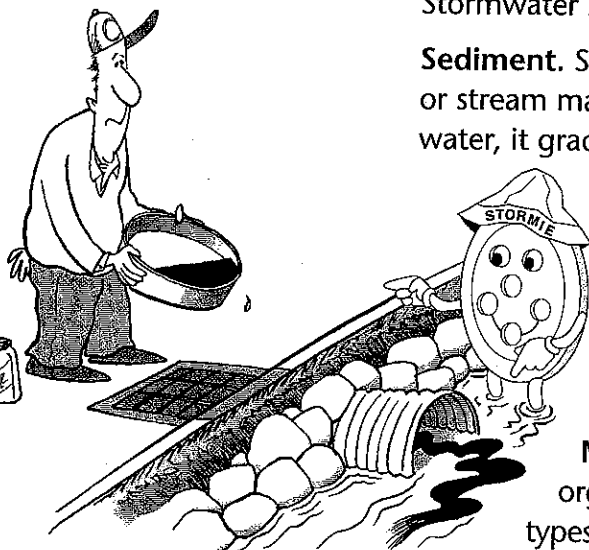
**Sediment.** Soil particles washed off construction sites or farm fields into a lake or stream make the water cloudy or turbid. When sediment settles out of the water, it gradually fills in the stream or lake bed.

**Phosphorus.** This nutrient, often attached to soil particles, fuels the growth of algae and aquatic weeds. These plants are important in providing habitat for fish and wildlife. However, rapid and excessive growth of algae and aquatic plants can degrade water quality and interfere with swimming, boating and fishing.

**Micro-organisms.** Bacteria, viruses and other disease causing organisms make waterways unsafe for swimming, wading and other types of recreation. Some of these organisms, notably Cryptosporidium, are difficult to remove through water treatment and may endanger people who depend on drinking water supplies drawn from lakes or streams.

**Toxic chemicals.** Motor oil, lead from gas and auto exhaust, zinc from roof drains and tires, and pesticides in stormwater runoff may kill aquatic organisms or impair their health, growth or ability to reproduce.

**Did you know that oil dumped into the storm sewer pollutes our water?**



**The Goals of Urban Stormwater Programs are to:**

- Slow down water, decreasing its ability to cause erosion and carry pollutants.
- Reduce the amount of runoff by encouraging water to soak into ground.
- Prevent pollution by reducing the use of toxic chemicals, controlling erosion and by covering outdoor storage piles.
- Remove pollutants by routing runoff through settling ponds, grass filter strips or other treatment devices.

**F**ederally mandated stormwater permits require many industries and cities to control stormwater runoff. Even communities without stormwater permits require erosion controls on construction sites and better stormwater management in new development.

Federal laws also require all farmers who participate in federal programs to develop farm conservation plans that help control cropland erosion, barnyard runoff and other sources of water pollution.

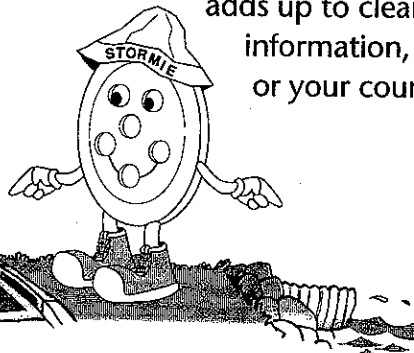
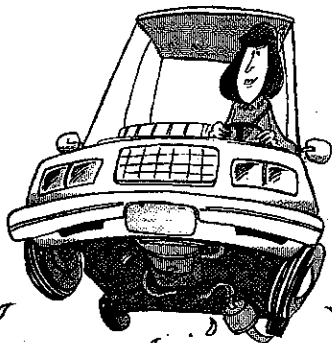
**We Can All Help!**

Each of us contributes to stormwater pollution and each of us can help stop it. Here are some ways you can help:

- Keep pesticides, oil, leaves and other pollutants off streets and out of storm drains.
- Divert roof water to lawns or gardens where it can safely soak in.
- Clean up pet waste – bury it or flush in down the toilet.
- Keep cars tuned up and repair leaks – or better yet, walk, bike or take the bus.



The amount of pollution that you stop may seem small, but together it all adds up to cleaner water for everyone to enjoy. For more information, contact the Department of Natural Resources or your county Extension or Land Conservation office.



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