

## Urban Runoff: Polluting the Water

Urban and Suburban areas contain large areas of pavement and rooftops called impervious surfaces.

In nature most rain and snowmelt seeps into the ground but water cannot soak into ground that has been paved over. The water does not just disappear, however. Instead, it runs over the pavement until it drains into a lake, river or stream. **The more paved ground there is, the more runoff is created.**



In nature only about **10 percent** of all precipitation becomes runoff. However in developed areas **55-100%** of all precipitation will be runoff depending on the amount of impervious surface area. As the runoff washes along the ground, it picks up

chemicals, dirt and other debris that may be lying on the surface.

This pollution travels with the water into storm drains then into lakes, streams and rivers. Some of this water can make it back into the water supply, and this makes purifying drinking water more complicated — and expensive.

**Chemicals that are often found in Urban Runoff include:**

- ◆ Oil
- ◆ Antifreeze
- ◆ Nutrients
- ◆ Pesticides and fertilizers
- ◆ Detergents/soap



*Oil and antifreeze that leaks from vehicles or is poured directly onto the street ends up in the local lakes, rivers and streams.*

## Urban Runoff: Contributing to Flooding



**Runoff from urban and suburban areas can change the natural geography and hydrology of a stream.**



As water travels over paved surfaces, it picks up speed.

Runoff cannot soak into the soil because of pavement, so there's more water flowing into streams.

- ◆ The higher speed and volume of water creates more powerful currents which speeds up erosion along stream banks. These banks become unstable threatening roads, bridges and homes.
- ◆ The unstable banks and the additional volume and speed of the runoff makes it more likely flash floods will occur.
- ◆ Since groundwater is reduced and precipitation drains quickly streams are likely to dry up between precipitation events. This makes an area more susceptible to drought.
- ◆ Runoff from streets is hot and causes the temperature of rivers and creeks to rise affecting fish and recreation.

## But What Can I Do?

### Quick Steps to Reducing Urban Runoff

**Everyone can make a difference.**

1. **Wash your car at a Car Wash** — When you wash your car on pavement the soap and cleaning chemicals drain to the stream. Carwashes drain to a wastewater treatment facility.
2. **Proper disposal of automotive products** — It's illegal to dump used motor oil down the drain. Take it and other chemicals — like antifreeze and brake fluid — to places that can recycle or correctly dispose of these products.



3. **Follow the instructions on lawn care products** — Plants can only use so much fertilizer or pesticides. Adding extra won't help them; the excess just washes away with the rain
4. **Pick up after your pet** — Pet waste washed into streams often carries harmful bacteria. Try flushing or burying animal waste instead of just leaving it on the ground.

5. **Let the grass grow!** — Plants help slow erosion and filter runoff. If you live near a river or stream try leaving a three-foot-wide buffer of plant life on the banks. It helps slow erosion, and it's less grass to cut!



6. **Get the trash out of the streams** — Some people dump trash and yard waste in streams. This can pollute the water.

*Does this look familiar? Not only is dumping garbage in a stream unsightly, it's unhealthy.*