The Pollution Solution

Several residential activities can result in water pollution. Among these activities are car washing and hosing off driveways and sidewalks, both of which can wash water and result in excessive runoff. Water conserving methods described in this pamphlet can prevent considerable amounts of runoff and conserve water. By taking your car to a commercial car wash and by sweeping driveways and sidewalks, you can further prevent the transport of pollutants to Orange County watersheds. There are some of the common pollutants for which you can be part of the solution.

1. **Pesticides and Fertilizer**
   - **Problem:** The same pesticides that are designed to be toxic to pests on your lawn can easily enter impact on our marine life. The same fertilizer that promotes plant growth in lawns and gardens can also create visible algae blooms, which remove oxygen from the water and can negatively impact aquatic life.
   - **Solution:** Pick up after your pet.

2. **Dirt and Sediment**
   - **Pollution:** Dirt or sediment can impede the flow of the river or stream and prevent water from flowing efficiently. It can also cause erosion, leading to the loss of soil and the destruction of habitats.
   - **Solution:** Protect dirt stockpiles by covering them with a non-adhesive plastic sheet to prevent wind or rain from blowing dirt or sediment into the storm drain system.

3. **Motor Oil / Vehicle Fluids**
   - **Pollution:** Oils from our vehicles leak into the ground and can enter the storm drain system.
   - **Solution:** Fix any leaks and don’t pour oil down the drain. It’s far more expensive to clean up the oil and trash that ends up in our waterways than it is to prevent it in the first place. Come out to one of Orange County’s many locations for Coastal and Inner-Coastal Cleaning-Day, which is held in September.

4. **Pet Waste**
   - **Pollution:** Pet waste can carry bacteria through our waterways and eventually will be washed out to the ocean. This can pose a health risk to swimmers and surfers.
   - **Solution:** Pick up after your pet.

5. **Trash and Debris**
   - **Pollution:** Trash and debris can enter waterways with tons of floating plastic bottles, the size of which is as delicate as the label and keep it off driveways and sidewalks.
   - **Solution:** Never use pesticides or fertilizer within 48 hours of any floating debris, the size of which is as delicate as a dragonfly and keep it off driveways and sidewalks.

6. **Dirt and Sediment**
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7. **Metal**
   - **Pollution:** Metals and other tools present in car wash water can harm important plants, which form the base of the aquatic food chain.
   - **Solution:** Take your car to a commercial car wash where the water is captured and treated at a local wastewater treatment plant.

**Did you know...**

Did you know that litter is made of the pollutants found in our oceans? If we don’t stop litter now, we’ll be saving our oceans from being polluted through the community.

**A TEAM EFFORT**

The Orange County Stormwater Program has teamed with the Metropolitan Water District of Orange County (MWD), the University of California Cooperative Extension Program (UCCE) to develop this pamphlet.

Low Impact Development (LID) and sustainable water use prevents water pollution and conserves water for drinking and reuse. Reducing your water use and the amount of water flowing from your home protects the environment and saves you money.

Thank you for making water protection a priority.

For more information, please visit:
www.ocwatersheds.org/publiced
www.mwdoc.com
www.ucce.berkeley.edu

To report a spill, call the Orange County 24-Hour Water Pollution Prevention Reporting Hotline at 1-877-89-SPILL (1-877-897-7455)

Special thanks to:
The Orange County Stormwater Program for the use of its artwork
The Metropolitan Water District of Southern California for the use of the California-Friendly Plant and Fertile Habitat photos
Runoff, Rainwater and Reuse

Where Does Water Runoff Go?
Stormwater, or water from rainfall events, and runoff from outdoor water use such as sprinklers and hoses flows from homes directly into catch basins and the storm drain system. After entering the storm drain, the water flows untreated into streams, rivers, bays and ultimately the Pacific Ocean. Runoff can come from lawns, gardens, driveways, sidewalks and roads. As it flows over hard, impervious surfaces, it picks up pollutants. Some pollutants carried by the water runoff include trash, pesticides, fertilizers, motor oil and more.

Water Conservation
Pollution not only impairs the water quality for habitat and recreation, it can also reduce the water available for reuse. Runoff allowed to soak into the ground is cleansed as it percolates through the soil, replenishing depleted groundwater supplies. Groundwater provides at least 50 percent of the total water for drinking and other indoor household activities in north and central Orange County. When land is covered with roads, parking lots, homes, etc., there is less land to take in the water and more hard surfaces over which the water can flow.

In Orange County, 60-70% of water used by residents and businesses goes to irrigation and other outdoor uses. Replacing rainwater to irrigate lawns will not only reduce the impact of water pollution from runoff, but it is also a great way to conserve our precious water resources and replenish our groundwater basin.

What is Low Impact Development (LID)?
Low Impact Development (LID) is a method of development that is sustainable. It mimics the natural hydrologic functions of a non-urbanized environment. LID provides a flexible and sustainable pollution prevention approach to water management.

New housing regulations now require implementation of LID in larger new developments and encourage implementation of LID in other existing developments. This is to ensure that our urban areas continue to function as part of the ecosystem and continue to have the capacity to absorb and carry water and reduce your water bill.

Options for Rainwater Harvesting and Reuse
Rainwater harvesting is a great way to save money, prevent pollution and reduce potable water use. To harness your rainwater, simply redirect the runoff from your roofs and downspouts to rain barrels. Rain barrels are another option; these reduce runoff as well as encourage infiltration.

Downspout Disconnection/Redirection
Disconnecting downspouts from places running to the gutter prevents runoff from transporting pollutants to the storm drain. Once disconnected, downspouts can be redirected to redirects rain gardens or other vegetated areas, or connect to a rain barrel.

Rain Barrels
Rainbarrels capture rainwater flow from roofs for reuse in landscape irrigation. Capacity of rain barrels needed for your home will depend on the amount of roof area and rainfall received. When purchasing your rain barrel, make sure it includes a screen, a spigot to spout water for use, an overfill hose to prevent excess water to run off and a connector if you wish to connect multiple barrels to add capacity of water storage.

Rain Gardens
Rain gardens allow runoff to be directed to a landscaped area. Vegetation and rocks in the garden allow the flow of water to slowly infiltrate into the soil. Plants and soil particles will absorb pollutants from the roof runoff. By utilizing a native plant palette, rain gardens can be maintained all year with minimal additional irrigation.

Water Conservation
Some systems. Rain gardens are another option; these reduce runoff as well as encourage infiltration.

Before modifying your yard to install a rain garden, please consult your local building and planning departments to ensure that your garden plan follows pertinent building codes and ordinances. Besides codes and ordinances, some home owner associations also have guidelines for yard modifications. If your property is in an area or includes properties please refer to professional advice before proceeding with changes.

For Information on how to disconnect a downspout or to install and maintain a rain barrel or rain garden at your home, please see the Los Angeles Rainwater Harvesting Program. A Homeowner’s Guide, called “How-To Guide, November 2009 at www.lannairwaterharvesting.org”

Other Water Conservation and Pollution Prevention Techniques

Native Vegetation and Maintenance
“California Friendly” plants or native vegetation can significantly reduce water use. These plants often require less fertilizers and pesticides, which are two significant pollutants found in Orange County waterways. Replacing water thirsty plants and grass types with water efficient natives is a great way to save water and reduce the need for potentially harmful pesticides and fertilizers.

Please see the California Friendly Garden Guide produced by the Metropolitan Water District of Southern California and associated Southern California Water Agencies for a catalog of California friendly plants and other garden resources at www.beawise.com/Gardensoft.

Free Weed Yards
Weeds are water thieves. They often reproduce quickly and rob your yard of both water and nutrients. When watering your yard by hand it is possible if you use herbicides to control the weeds, use only the amount recommended on the label and never use it if rain forecast is within the next 48 hours.

Soil Amendments
Soil amendments such as green waste (e.g. grass clippings, compost, etc.) can be a significant source of nutrients and can help keep the soil near the roots of plants moist. However, they can cause algal blooms if they get into our waterways, which reduces the amount of oxygen in the water and impacts aquatic organisms. It is important to apply soil amendments more than 48 hours prior to predicted rainfall.

Irrigate Efficiently
Smart Irrigation Controllers
Smart Irrigation Controllers have internal clocks and weather stations that will turn off the sprinklers if there is not enough rainfall to sustain the plants. If it is raining, too windy or too cold, the water in your sprinkler system will automatically shut off.

Check with your local water agency for available rebates on irrigation controllers and smart timers.

• Aim your sprinklers at your lawn, not the sidewalk – by merely adjusting the direction of your sprinklers, you can save water, prevent water pollution from runoff and greatly reduce water bills.

• Set a timer for your sprinklers. Learn about the flow rates to play fields within a few minutes. Set a timer for your sprinkler, which when water begins running off your property will tell you when to set your water for this duration every time.

• Water at Sunrise – Watering early in the morning will reduce water loss due to evaporation. Additional water can be used as the early morning in the water will be to the lawn as the water at night.

• Water by hand – instead of using sprinklers, consider watering your yard by hand. Hand- watering can control the amount of water you can apply and prevent any water that does not go onto your lawn, and water carries pollutants into our waterways.

• Fix leaks – Nationally, households waste one billion gallons of water a year to leaks. Fix that potential waste to save the amount of water of a house for a year. If your garden hose is leaking, replace the hose with one that is drip tight, which will help save water. This is important because the longer the hose is damaged, the more water escapes.