

# STORMWATER

is **NOT** treated!

# STORMWATER

is a **DIRTY** word!



# STORMWATER POLLUTION

# SIMPLE SOLUTIONS



Polluted stormwater runoff flows directly into where we fish, where we swim, and what we drink!

## What goes in here ...

### Stormwater runoff

is rainwater that flows over land and ultimately into waterways. Hard surfaces like driveways, roofs, streets, and parking lots prevent stormwater from naturally soaking into the ground.



## ... ends up here!



*Courtesy of Erin Whittle*

**Pollution** like pet waste, fertilizers, pesticides, grass clippings, litter and motor oil are carried by stormwater runoff into local waterways — **untreated!**

**Polluted stormwater runoff is the biggest source of water pollution, but you can make a difference!**

*Connect the drops... YOU are the solution to stormwater pollution!*

**STORMWATER POLLUTION** is caused by human activities that occur on land and wash into our waterways when it rains. Polluted runoff harms fish, plants, wildlife, and humans. Fortunately, we can adopt simple solutions that will protect our waterways, our health, and our environment.

**PET WASTE** contains bacteria that can make humans sick and close waterways to swimming, fishing, and shellfishing, as well as nutrients that cause algae blooms.

- Always clean up after your pet on any public property, have the means to do so at all times, and dispose of pet waste in a closed trash can. It's the LAW! (*\$250 fine*)
- Don't forget to clean up pet waste in your own yard to prevent bacteria and nutrients from harming waterways and public health
- Use a covered litterbox for outdoor cats
- Don't flush pet waste down the toilet (*CFPUA Ordinance*)

### VEHICLE & PRESSURE WASHING SOAPS

destroy the natural oils on fish that protect them from harmful bacteria and help them move through water. Soaps and chemicals cause harmful algae to grow, which uses up oxygen that fish need to survive.

- Wash your car on the grass - the soapy, dirty water will be cleaned naturally by the soil. It won't harm the grass!
- Use a commercial car wash - dirty water goes to a wastewater treatment plant or is recycled on-site
- If you wash vehicles or boats or pressure wash on pavement, use plain water

**VEHICLE/BOAT FLUIDS** are toxic in water and harm fish, wildlife, and waterways.

- Recycle vehicle batteries, motor oil, and other fluids at an auto parts store or a suitable collection facility
- Keep vehicles and boats maintained
- Clean up any leaks or spills immediately

**SEDIMENT** also known as "dirt", creates muddy water, buries fish eggs, and harms aquatic life.

- Re-seed or add mulch to bare soil or landscape beds
- Install plants to hold down soil and prevent erosion
- Collect sediment off of paved surfaces; don't hose off
- Report construction site violations: *1.800.STOPMUD*

**FERTILIZERS** contain nutrients that cause algae to grow in water, which uses up oxygen and kills fish and aquatic life. Nutrients cause "dead zones" in waterbodies.

- Grasscycle! Leave grass clippings on the lawn - they conserve soil moisture and are a natural fertilizer
- Save money! Learn the exact nutrients your lawn needs by getting a free soil test from NHC Cooperative Extension, 798-7679, Oleander Drive
- Keep fertilizer off pavement; don't fertilize before rain

**PESTICIDES** are toxic chemicals that kill bugs, weeds, or fungus. However, pesticides are very harmful to humans, animals, and beneficial insects.

- Install native plants; they are adapted to the area and naturally resist pests and diseases
- Use natural methods to control pests or weeds (i.e., weed by hand, add mulch, use ladybugs, plant marigolds, etc.)
- Use pesticides as a last resort; never before it rains

**YARD WASTE** (*pinestraw, leaves, and grass clippings*) clogs storm drains, causes flooding, and pollutes our waterways with too many nutrients.

- Don't blow or leave yard waste in a street, storm drain, ditch, or waterway. It's the LAW! (*\$250 fine*)
- Grasscycle! Leave grass clippings on the lawn to conserve moisture and act as a natural fertilizer
- Compost yard waste; use in the landscape and garden
- Contain waste for City Yard Waste Collection Service

**LITTER** is ugly and clogs storm drains. Wildlife mistake litter for food and eat it or become entangled in it. Cigarette butts are litter too!

- Place litter, gum, and cigarette butts in the trash
- Reduce, reuse, recycle, and refuse

**HOUSEHOLD HAZARDOUS WASTE (HHW)** such as paint, cleaners, and electronics have toxins and heavy metals that shouldn't end up in our waterways.

- Contact county government or visit *Earth911.com* for dates/locations of collection events and HHW facilities.

# THINGS YOU CAN DO IN YOUR OWN BACKYARD

The following best management practices (BMPs) can be used on your property to clean and slow down polluted runoff and allow it to soak into the ground, as nature intended.

## RAIN BARRELS & CISTERNS



are designed to capture and store rainwater from your roof to irrigate your yard, garden and house plants. Several rain barrels can be connected together to store additional water. A tight lid and screen will prevent mosquitoes from breeding. Cisterns store larger amounts of water and can be buried underground.

## NATIVE PLANTS

are adapted to the region's weather and soil conditions. Native plants provide nectar, pollen, berries and seeds for birds and wildlife. These plants help filter runoff, prevent erosion, reduce flooding, provide habitat and beautify your yard. Native plants eliminate the need for toxic pesticides, fertilizers, and excess watering.



## HABITAT GARDENS



have plants that attract birds, butterflies, beneficial insects, and wildlife. Habitat gardens should have sunlight, shelter, food sources, and water. Habitat gardens are especially important for wildlife in urban areas where natural resources tend to be more limited. Plants in a habitat garden soak up polluted stormwater.



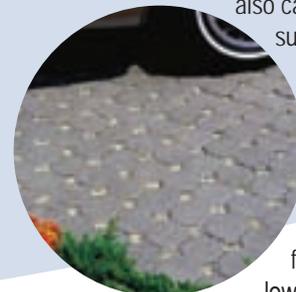
## RAIN GARDENS

are shallow depressions designed to capture runoff and allow it to soak into the ground. Rain gardens are placed between sources of runoff (i.e. roofs, driveways) and runoff destinations (i.e. storm drain, street, creek). They are planted with native trees, shrubs, and perennials which clean runoff, provide habitat, and beautify your yard.

*Photo courtesy Maplewood, MN*

## TREES

soak up and clean polluted runoff, improve air quality, provide food for wildlife, prevent erosion, increase property values, and help cool the climate. They save money by reducing heating and cooling costs in homes and buildings. Trees are also important for shading pavement to help cool runoff before it flows into waterways.



## PERVIOUS SURFACES

also called porous or permeable surfaces, allow runoff to soak into the ground instead of running into waterways. Pervious surfaces reduce runoff, recharge groundwater, and lessen flooding. They can be used for driveways, walkways and low flow parking areas.



## BACKYARD WETLANDS

should be located in a naturally-occurring wet area on your property. Wetlands temporarily store, filter, and clean polluted runoff, replenish groundwater, provide wildlife habitat, and help prevent flooding. They should have plants that thrive in wet conditions and attract insects and wildlife that prey on mosquitoes and other pesky insects.



## RE-ROUTE YOUR DOWNSPOUT

Downspouts on homes and buildings often drain rainwater directly onto pavement. This allows polluted runoff to flow straight to our waterways.

There is a solution! You can help our creeks out if you **re-route your downspout** and let water soak in, instead of running off! It's simple, here's what to do:



Redirect downspouts away from pavement to landscaped areas like lawns, flower beds, and rain gardens.

If a downspout can't be turned, attach a flexible gutter extension or a splash block underneath which can re-route rainwater to a landscaped area.

Redirect downspouts into rain barrels and collect free rainwater for your landscape, garden, and house plants.



## BUFFERS

are areas of native trees, shrubs, and grasses located next to a waterway. Buffers act as filters to clean polluted runoff before it reaches a waterway. They also stabilize shorelines, prevent erosion, and provide habitat and travel corridors for wildlife. Buffers can also provide privacy and increased property values for homeowners.

## GET THE FREE GUIDE!

### The Citizen's Guide to Protecting Wilmington's Waterways

Learn how to install these BMPs in your own yard. The guide contains photos and native plant lists too!

To download, visit [www.wilmingtonnc.gov/stormwater](http://www.wilmingtonnc.gov/stormwater) and click on "Publications & Videos".



## MORE INFORMATION?

### City of Wilmington Stormwater Services

[wilmingtonnc.gov/stormwater](http://wilmingtonnc.gov/stormwater)  
910.343.4777



### Report Stormwater Pollution

CALL 910.341.1020 (Hotline)  
CLICK [wilmingtonnc.gov/reportstormwaterpollution](http://wilmingtonnc.gov/reportstormwaterpollution)