

Stormwater Runoff 101



What is Stormwater Runoff?

Stormwater runoff occurs when precipitation from rain and home irrigation and water use flows over the ground. Impervious surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground. The following information is provided as a public service of the Public Works department of Palmetto Bay.

Why is Runoff a Problem?

Stormwater can pick up debris, chemicals, dirt, and other pollutants that likely will flow into a storm sewer system or directly to a body of water. Anything that enters a storm sewer system is discharged, untreated, into the water bodies we use for swimming, fishing, and drinking water.

The Effects of Pollution

Polluted stormwater runoff can have many adverse effects on plants, fish, animals, and people.

- **Sediment** can cloud water and make it difficult or impossible for aquatic plants to grow. Sediment also can destroy aquatic habitats.
- **Excess nutrients** can cause algae blooms. When algae die, they sink to the bottom and decompose in a process that removes oxygen from the water. Fish and other aquatic organisms can't exist in water with low dissolved oxygen levels.
- **Bacteria & other pathogens** can wash into swimming areas and create health hazards, often making beach closures necessary.
- **Debris** such as plastic bags, six-pack rings, bottles, and cigarette butts, washed into waterbodies can choke, suffocate, or disable aquatic life including ducks, fish, turtles, and birds.
- **Household hazardous wastes** like insecticides, pesticides, paint, solvents, used motor oil, and other auto fluids can poison aquatic life. Land animals and people can become sick from eating diseased fish and shellfish or ingesting polluted water.



Polluted stormwater often affects drinking water sources. This, in turn, can affect human health and increase drinking water treatment costs.



Stormwater Pollution Solutions

Residential - Recycle or properly dispose of household products that contain chemicals, such as insecticides, pesticides, paint, solvents, and used motor oil and other auto fluids. **Do not** pour them onto the ground or into storm drains.

Lawn Care - Excess fertilizers and pesticides applied to lawns and gardens wash off and pollute streams. In addition, yard clippings and leaves can wash into storm drains whereby contributing excessive nutrients and organic matter to streams.

- **Do not** overwater your lawn. Consider using a soaker hose instead of a sprinkler.
- Use pesticides and fertilizers sparingly and apply them in the recommended amounts only. Use organic mulch or safer pest control methods whenever possible.
- Compost or mulch your yard waste. **Do not** leave it in the street or sweep it into storm drains or streams.
- Cover piles of dirt or mulch being used in landscaping projects.

Residential Landscaping

Permeable Pavement: Traditional concrete and asphalt don't allow water to soak into the ground. Instead these surfaces rely on storm drains to divert unwanted water. Permeable pavement systems allow rain to soak through, whereby reducing stormwater runoff.



Rain Barrels: You can collect rainwater from rooftops in mosquito-proof containers. The water can be used later on lawn or garden areas.

Rain Gardens and Grassy Swales: Specially designed areas planted with native plants can provide natural places for rainwater to collect and soak into the ground. Rain from rooftop areas or paved areas can be diverted into these areas rather than into storm drains.

Vegetated Filter Strips: Filter strips are areas of native grass or plants created along roadways or streams. They trap the pollutants stormwater picks up as it flows across driveways and streets.

Commercial

Dirt, oil, and debris that collect in parking lots and paved areas can be washed into the storm sewer system and may eventually enter local waterbodies.

- Sweep up litter and debris from sidewalks, driveways, and parking lots, especially around storm drains.
- Cover grease storage and dumpsters. Keep them clean to avoid leaks.
- Report any chemical spill to the local hazardous waste cleanup team. They'll know the best way to keep spills from harming the environment.



For additional information, please contact the Public Works Administrative Assistant via e-mail at kbada@palmettobay-fl.gov or by calling 305-969-5011.