

STORMWATER FAQ'S

What is stormwater runoff?

Stormwater runoff is water from rain or melting snow that “runs off” across the land instead of seeping into the ground. This runoff usually flows into the nearest stream, creek, river, lake or ocean. The runoff is not treated in any way.

What is polluted runoff?

Water from rain and melting snow either seeps into the ground or “runs off” to lower areas, making its way into streams, lakes and other water bodies. On its way, runoff water can pick up and carry many substances that pollute water.

Some - like pesticides, fertilizers, oil and soap – are harmful in any quantity. Others – like sediment from construction, bare soil, or agricultural land, or pet waste, grass clippings and leaves – can harm creeks, rivers and lakes in sufficient quantities.

In addition to rain and snowmelt, various human activities like watering, car washing, and malfunctioning septic tank can also put water onto the land surface. Here, it can also create runoff that carries pollutants to creeks, rivers and lakes.

Polluted runoff generally happens anywhere people use or alter the land. For example, in developed areas, none of the water that falls on hard surfaces like roofs, driveways, parking lots or roads can seep into the ground. These impervious surfaces create large amounts of runoff that picks up pollutants. The runoff flows from gutters and storm drains to streams. Runoff not only pollutes' but erodes stream banks. The mix of pollution and eroded dirt muddies the water and causes problems downstream.

What is Nonpoint Source Pollution?

This is another term for polluted runoff and other sources of water pollution that are hard to pinpoint. The term “nonpoint source pollution” comes from the federal Clean Water Act of 1987. There, it is used as a catch-all for all kinds of water pollution that are not well-defined discharges (point sources) from wastewater plants or industries.

What causes polluted stormwater runoff?

Polluted stormwater runoff generally happens anywhere people use or alter the land. People going about their daily lives are the number one source of stormwater pollutants. Most people are unaware of how they impact water quality. Some common examples include over fertilizing lawns, excessive pesticide use, not picking up pet waste, using salt or fertilizer to de-ice driveways, letting oil drip out of their vehicles and littering. Developed areas in general, with their increased runoff, concentrated

numbers of people and animals, construction and other activities, are a major contributor to NPS pollution, as are agricultural activities. Other contributors include forest harvesting activities, roadways, and malfunctioning septic systems.

Why do we need to manage stormwater and polluted runoff?

Polluted stormwater runoff is the number one cause of water pollution in Tennessee. In most cases in Tennessee today, stormwater either does not receive any treatment before it enters our waterways or is inadequately treated.

Polluted water creates numerous costs to the public and to wildlife. As the saying goes, “we all live downstream.” Communities that use surface water for their drinking supply must pay much more to clean up polluted water than clean water.

Polluted water hurts the wildlife in creeks, streams, rivers and lakes. Dirt from erosion, also called sediment, covers up fish habitats and fertilizers can cause too much algae to grow, which also hurts wildlife by using up the oxygen they need to survive. Soaps hurt fish gills and fish skin, and other chemicals damage plants and animals when they enter the water.

The quantity of stormwater is also a problem. When stormwater falls on hard surfaces like roads, roofs, driveways and parking lots, it cannot seep into the ground, so it runs off to lower areas. To give you an idea of the difference a hard surface makes, consider the difference between one inch of rain falling onto a meadow and a parking lot. The parking lot sheds 16 times the amount of water that a meadow does!

Because more water runs off hard surfaces, developed areas can experience local flooding. The high volume of water also causes stream banks to erode and washes the wildlife that live there downstream.

How are stormwater and runoff “managed”?

“Best management practices” is a term used to describe different ways to keep pollutants out of runoff and to slow down high volumes of runoff.

Preventing pollution from entering water is much more affordable than cleaning polluted water! Educating state residents about how to prevent pollution from entering waterways is one best management practice. Laws that require people and businesses involved in earth disturbing activities -- like construction and agriculture -- to take steps to prevent erosion are another way to prevent stormwater pollution. There are also laws about litter, cleaning up after pets and dumping oil or other substances into storm drains.

Education and laws are just two best management practice examples. Some BMPs are constructed to protect a certain area. Some are designed to slow down stormwater, others help reduce the pollutants already in it – there are also BMPs that do both of these things.

Detention ponds, built to temporarily hold water so it seeps away slowly, fill up quickly after a rainstorm and allow solids like sediment and litter to settle at the pond bottom. Then, they release the water slowly. These ponds are one constructed BMP example. Green roofs, storm drain grates, filter strips, sediment fences and permeable paving are other examples.

Why all the recent fuss about stormwater?

The federal Clean Water Act requires large and medium sized towns across the United States to take steps to reduce polluted stormwater runoff. The law was applied in two phases. The first phase addressed large cities. The second phase, often referred to as "Phase II," requires medium and small cities, fast growing cities and those located near sensitive waters to take steps to reduce stormwater. In Tennessee, Phase II laws take effect in 2003.

These laws require chosen cities to do six things:

- 1) Conduct outreach and education about polluted stormwater runoff.
- 2) Provide opportunities for residents to participate and be involved in conversations and activities related to reducing polluted stormwater runoff.
- 3) Detect illicit discharges (e.g. straight piping or dumping).
- 4) Control construction site runoff.
- 5) Control permanent (post-construction) runoff.
- 6) Perform municipal housekeeping (e.g. take steps to prevent runoff from city buildings and activities.)

If it only affects streams and creeks, why should I care?

Streams and creeks feed into rivers, lakes and the ocean. We all drink water, so we are all affected when our water is polluted. When water treatment costs rise, the price of drinking water goes up. If you like to fish, swim or boat, you may have heard or been affected by advisories warning you not to swim, fish or boat in a certain area because of unhealthy water or too much algae. Money made from tourism and water recreation can also be impacted, as are businesses and home flooded by stormwater runoff. When we pollute our water, everyone is affected!

What is a stormwater fee and why do I have one?

The state does not charge residents for stormwater management. Stormwater fees are one way municipalities can choose to raise funds to perform the six steps required by the federal government. Cities can levy fees based on a variety of standards, but one of the most common methods is to base them on the amount of impervious surfaces (surfaces like concrete and roofs, where water can't seep

into the ground) on a property. In these cases, property owners with more impervious surfaces pay more than those with less impervious surfaces. In Johnson City, taking steps to reduce the amount of impervious surfaces – by installing a green roof, permeable paving or cisterns that collect rainwater runoff – can reduce the fee applied to a specific property.

How does this benefit the average taxpayer?

When our water is polluted, we all pay in one way or another. Damage from urban flooding can raise merchant prices and insurance rates. Sediment and pollution laden water takes more money to treat before it can be used for drinking water. Tourism and recreation businesses suffer along with residents when swimming, fishing and boating are curtailed. Shellfish become more expensive and harder to harvest when shellfish beds close. And the list goes on. Because everyone plays a role in creating the pollution in stormwater runoff, we all have a role in cleaning it up

What can I do to reduce the amount of stormwater pollution I contribute?

If you own a car, maintain it so it does not leak oil or other fluids. Be sure to wash it on the grass or at a car wash so the dirt and soap do not flow down the driveway and into the nearest storm drain.

If you own a yard, do not over fertilize your grass. Never apply fertilizers or pesticides before a heavy rain. If fertilizer falls onto driveways or sidewalks, sweep it up instead of hosing it away. Mulch leaves and grass clippings and place leaves in the yard at the curb, not in the street. Doing this keeps leaves out of the gutter, where they can wash into the nearest storm drain. Turn your gutter downspouts away from hard surfaces, seed bare spots in your yard to avoid erosion and consider building a rain garden in low-lying areas of your lawn

If you have a septic system, maintain it properly by having it pumped every three to five years. If it is an older system, be sure it can still handle the volume placed on it today. Never put chemicals down septic systems, they can harm the system and seep into the groundwater.

Pet owners should pick up after their pets and dispose of pet waste in the garbage.

Keep lawn and household chemicals tightly sealed and in a place where rain cannot reach them. Dispose of old or unwanted chemicals at household hazardous waste collections sites or events.

Never put anything in a storm drain.

Don't litter.

How else can I help reduce stormwater pollution in my area?

Participate in the next stream cleanup in your area. Storm drain stenciling events – where the destination of storm water is clearly marked on the drain – are a fun way to let your neighbors know the storm drain is only for rain. Attend public hearings or meetings on the topic so you can express your concerns. Report stormwater violations when you spot them (423-975-2700). Keep learning about polluted stormwater runoff and tell a friend!