
City of Texarkana, Arkansas
Storm Water Pollution

STORM WATER GUIDE

What is Storm Water Pollution?

Stormwater can provide a toxic discharge which can enter into a lake, river or coastal water system. As storm water flows or snow melts, it picks up debris, chemicals - such as fertilizers and pesticides - dirt, wildlife excrement, cigarette butts and other pollutants. This stormwater is usually discharged to a lake, stream, river, creek, wetland, or coastal water, potentially polluting our fresh drinking water supply with a variety of harsh hazardous elements.

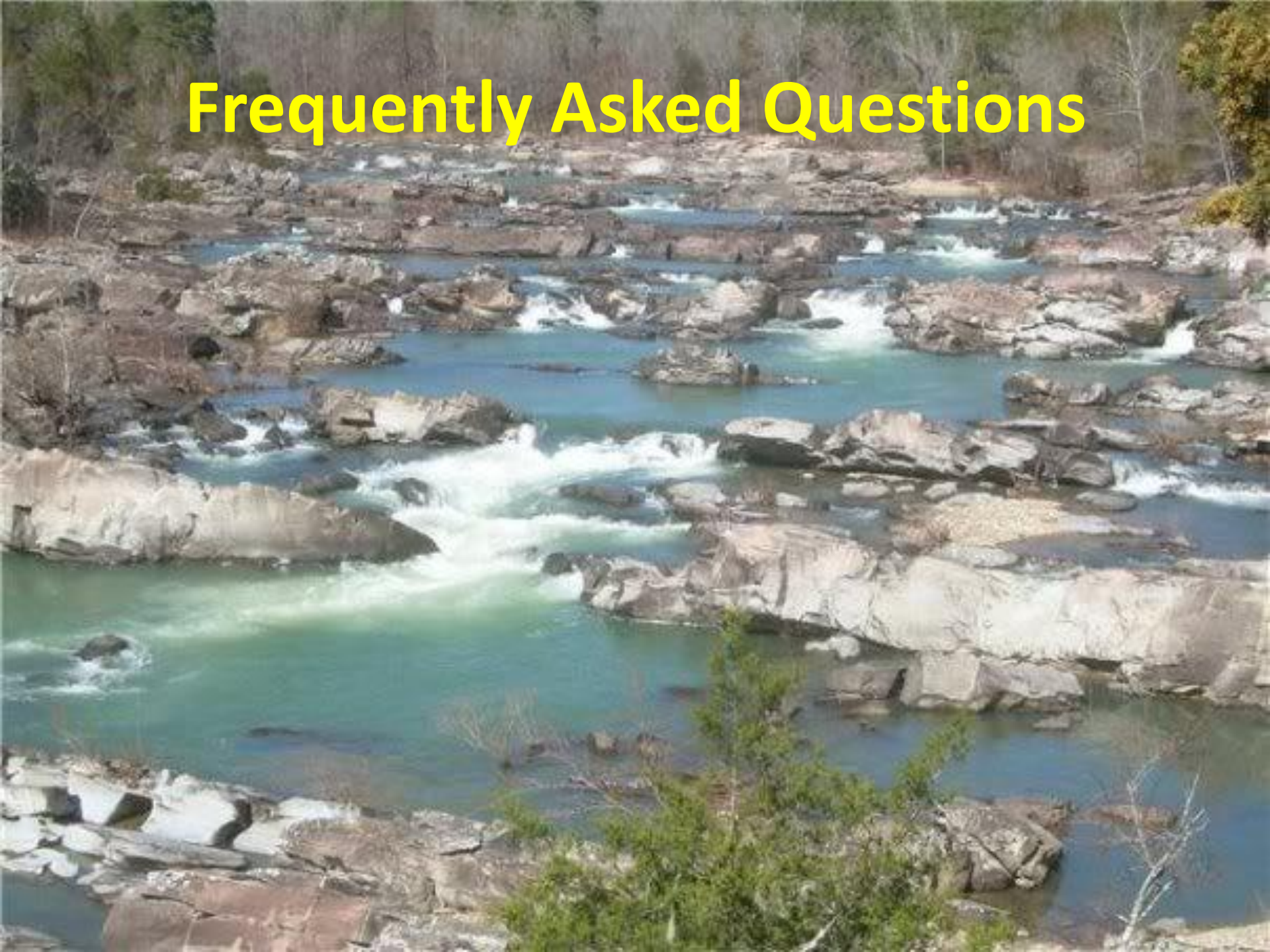
Oxygen-robbing runoffs such as phosphorous and nitrogen can choke the life from fresh water lakes.


STORMWATER: A PRIMER

Stormwater is funneled directly from storm drain systems into our waterways with no treatment.

Stormwater run off from a construction project is another problem source.

Frequently Asked Questions



What is stormwater?

- Stormwater is water from rainfall or snowmelt that doesn't evaporate or infiltrate into the ground, but instead runs off, either into the storm drain system or directly into our rivers, streams and lakes. Increased amounts of impervious surfaces, such as rooftops, driveways and parking lots, increase the amount of stormwater runoff.

Isn't stormwater treated?

- Oftentimes not. In many cases, stormwater is funneled directly from the storm drain system into rivers, streams and lakes without being treated.

Why is stormwater a growing problem?

- The increasing and rapid rate of urbanization. Development and construction severely alter the hydrological functioning of the landscape. Soils are compacted by construction equipment and grading. Trees and vegetation are replaced by extensive areas of impervious surface, such as roofs and pavement. Compacted soils cannot infiltrate water as effectively, impervious surfaces prevent water from being absorbed into the ground, and there is less vegetation to soak up, store, and evaporate water. The result is that less water is absorbed into the ground and more runs off as stormwater.

What pollutants are in stormwater?

- Heavy metals and toxic chemicals, including oil and pesticides, which wash off streets, driveways, lawns, and fields. Nutrients, especially phosphorous and nitrogen, from landscaping, leaking septic systems, and agriculture. Sediment, the largest pollutant load in urban settings, results in high turbidity water, which is harmful to aquatic life.

What problems does stormwater cause?

Prevents groundwater recharge:

- Stormwater runs off, instead of seeping into the ground and recharging natural ground water aquifers that people depend on for drinking water and stream recharge.

Human health:

- Stormwater picks up bacteria, chemicals and pathogens that can cause illness. In areas with combined sewer systems, it can also overwhelm water treatment systems, causing raw sewage overflows.

Aquatic wildlife health:

- The health of fish, aquatic birds and other marine animals is threatened by nutrient-laden stormwater, which causes bay-choking algae growth and low levels of dissolved oxygen, and erosion and sedimentation that can destroy aquatic habitat.

Recreation:

- Swimming, fishing and boating on local water bodies can be dangerous and unpleasant due to pollution. In Washington, D.C., swimming in all rivers and streams is illegal due to stormwater pollution.

Aesthetics:

- Physical characteristics of water bodies, such as color and smell, can be affected by stormwater pollution, and litter from streets is carried directly into lakes and streams by the storm drain system.

Increased volume and velocity:

- Stormwater volume increases can overwhelm stormwater systems, resulting in flooding, sewage releases, and property damage, and in conjunction with increased velocity, results in streambed erosion and large sediment deposits.

Increased temperature:

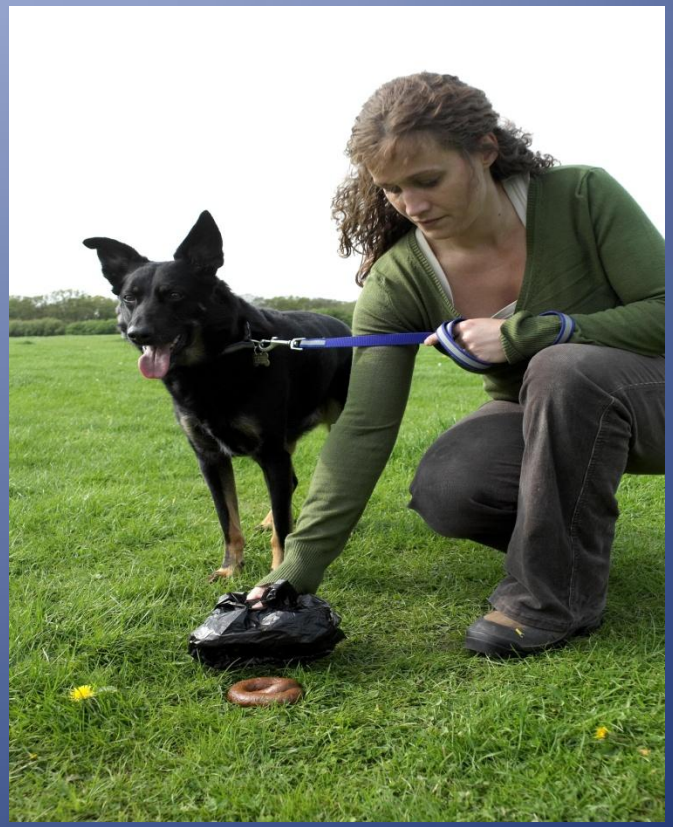
- Impervious surfaces warm the stormwater running off them, affecting stream biology, physiology and aquatic life, which are highly sensitive to temperature changes

Erosion:

- One of the worst results of increased volume and velocity is erosion. Erosion not only results in property and stream bed damage, it also can result in loss of fish and wildlife habitat and reduced water quality and clarity from down stream deposits of the eroded soil.


STORMWATER MANAGEMENT:
HELPFUL SUGGESTIONS

TRUTH ABOUT H2O



- Who would have thought that something as simple as washing a car, changing the oil in a car, bathing a dog outdoors or making a garden could produce water pollution? The idea may seem farfetched, but that's exactly what happens when things like oil and grease, soaps and fertilizers are washed off roads, bridges, parking lots, rooftops and other impermeable surfaces by runoff from rain or melting snow.

- Most of us assume that the runoff goes through storm drains and into a water treatment plant, but that's not the case. As it flows over these surfaces, the water picks up dirt and dust, rubber and metal deposits from tire wear, antifreeze and engine oil that has dripped onto the pavement, pesticides and fertilizers, discarded cups, plastic bags, cigarette butts, pet waste and other litter. These contaminants are carried into our lakes, rivers, streams and oceans.

Nonpoint Source Pollution

- The result of such runoff is called nonpoint source (NPS) pollution because it comes from many varied sources. Stormwater runoff rivals or exceeds discharges from factories and sewage plants as a source of pollution throughout the United States. Roads, highways and bridges are a source of significant contributions of pollutants to our nation's waters.

- Some of the contaminants found commonly in stormwater discharges include heavy metals, such as copper, zinc and lead, which have been shown to cause health and reproductive problems in pregnant women and children, as well as oxygen-robbing nutrients, such as phosphorus and nitrogen, which can choke the life out of streams, rivers, ponds and lakes. Additionally, stormwater is a major source of bacterial contamination in coastal zones, leading to beach closings and diseased shellfish populations. Lastly, high flows of rushing floodwater scour stream banks and beds, destroying habitat for aquatic life.

Using Stormwater

- Because humans create stormwater pollution, humans can reduce or prevent it through stormwater management, which aims to reduce the number of pollutants and to raise public awareness that stormwater is a valuable water resource rather than a waste product.

- Stormwater is generally not high quality, but with some treatment and preventative measures, it can be used for toilet flushing; car washing; irrigation of parks, lawns, playing fields and gardens; and fire extinguishing systems. It can also be used to supply hydrants; artificial lakes and wetlands for recreation; industrial cooling towers; and to recharge aquifers.

Improving Stormwater Management

- Reduce fertilizer use on gardens and lawns.
- Don’t release used oil or grease into the environment, and clean up spilled brake fluid, oil, grease and antifreeze.
- Do not hose them into the street where they can eventually reach local streams and lakes.
- Pick up dog and animal feces from your yard or when walking your dog or pet.
- Don’t wash your car where the detergent water can run into the lake.
- Keep litter, pet wastes, leaves and other debris out of the lake environment.
- Control soil erosion on your property by planting ground cover and stabilizing erosion-prone areas.

Reduce Runoff Pollution

- The need to protect our environment has resulted in a number of pollution-control laws, regulations and programs at federal, state and local levels.
- For example, in 1987, Congress established the Nonpoint Source Management Program under the Clean Water Act.
- These programs recommend where and how best to use management practices to prevent runoff from becoming polluted.
- The programs also explain where the runoff is polluted, to reduce the amount that reaches surface waters.
- We all can play a hand in preventing runoff pollution by getting involved. It is up to us to take the steps necessary to keep our waters clean — regardless of the weather.


Do Your Part Help Keep Our Rivers, Streams and Lakes Clean
Complaints Can Be Phoned In To
870-779-4971 for A Construction Site
903-798-3870 for A Commercial Business