

What is stormwater runoff?

Stormwater runoff occurs when rain or melting snow flows over the ground. Surfaces like driveways, sidewalks, and streets prevent storm water from soaking into the ground.

How does stormwater runoff become pollution?

Debris, chemicals, dirt, and other pollutants that have not been properly disposed of can mix into the storm water that flows to a lake, stream, river, wetland, or coastal water. Anything that enters a storm drainage system is discharged into the waterbodies we use for swimming, fishing and providing drinking water.

What are some the effects of stormwater pollution?

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

- Sediment can cloud the water and make it difficult or impossible for aquatic plants to grow which can lead to the destruction of aquatic habitats.
- It can cause algae to die which decreases the oxygen level. Fish and aquatic organisms cannot live in water with low oxygen levels.
- Polluted storm water often effects drinking water sources and swimming areas. This can affect human health and increase drinking water costs.



What Can I Do To Prevent Stormwater Runoff Pollution?

- **Never** dump anything down storm drains or in streams.
- Plant vegetation in bare spots in yards.
- Sweep up driveways, sidewalks, and gutters.
- Compost your yard waste.
- Use fertilizers and pesticides sparingly. Follow label directions and learn how to prevent pest problems.
- Consider a rain garden to capture runoff from downspouts or direct downspouts away from paved surfaces.
- Wash your car at a car wash, not your driveway.
- Keep a check on motorized vehicles for leaks and recycle motor oil.
- Pick up after your pet
- Schedule a septic tank inspection and have it pumped regularly.

“Only Rain Down the Drain”



After the Rain...

A Citizen's Guide to Stormwater Drainage



City of Douglas

Water/Wastewater Department

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Stormwater Pollution Solutions

Recycle or properly dispose of household products that contain chemicals such as insecticides, pesticides, paint, solvents, and used motor oil/auto fluids. When walking your pet, pick up pet waste and properly dispose of it.

Lawn Care - Excess fertilizers and pesticides wash off and can pollute streams. Yard clippings and leaves can wash into storm drains and contribute organic matter to streams.

- Don't overwater your lawn. Use a soaker hose instead of a sprinkler.
- Limit your use of pesticides and fertilizers. Use organic mulch or safer pest control methods whenever possible.
- Cover piles of dirt or mulch used in projects.
- Compost or mulch yard clippings.
- Create your own rain garden by specially designing a plant area that catches water from roof tops to allow the water to collect and soak into the ground.



Septic Systems - Leaking and poorly maintained septic systems release pathogens that can be discharged into nearby water bodies.

- Inspect your system every 3-5 yrs.
- Don't dispose of household hazardous waste in sinks or toilets.

Auto Care - Washing your car and degreasing auto parts at home sends detergents and other contaminants through the storm sewer system. Auto fluids should never be dumped into storm drains.

- Use a commercial car wash or wash the car in the yard so water is soaked into the ground.
- Repair leaks and dispose of auto fluids and batteries at drop off or recycling locations.



Commercial - Dirt, oil, and debris that collects in parking lots and paved areas can be washing into the storm sewer system and eventually enter waterbodies.

- Sweep up litter and debris from sidewalks, driveways and parking lots, especially around storm drains.
- Cover grease storage and dumpsters and keep them clean to avoid leaks.
- Report any chemical spill to the local authorities.



Automotive Facilities - Uncovered fuel stations allow spills to be washed into storm drains. Cars waiting to be repaired can leak fuel, oil, and other harmful fluids.

- Clean up spills immediately and properly dispose of cleanup materials.
 - Provide cover over fueling stations and design or retrofit facilities for spill containment.



Properly maintain fleet vehicles to prevent oil, gas, and other discharges from being washed into local waterbodies.

- Install and maintain oil/water separators.

Construction - Erosion controls that aren't maintained can cause excessive amounts of sediment and debris to be carried into the storm water system. Construction vehicles can leak fuel, oil, and other harmful fluids that can be picked up by storm water.

- Divert storm water away from exposed areas of construction sites.
- Install silt fences, vehicle mud removal areas, vegetative cover, and other sediment and erosion controls and properly maintain them.
- Prevent soil erosion by minimizing disturbed areas during construction projects and see and mulch bare areas as much as possible.



Agriculture - Lack of vegetation on streambanks can lead to erosion. Overgrazed pastures can also contribute excessive amounts of sediment to local waterbodies. Excess fertilizers and pesticides can poison aquatic animals and lead to destructive algae blooms. Livestock in streams can contaminate waterways with bacteria, making them unsafe for human contact.

- Keep livestock away from streambanks and provide them a water source away from waterbodies.
- Store and apply manure away from waterbodies and in accordance with a nutrient management plan.
- Vegetate riparian areas along waterways.
- Rotate animal grazing to prevent soil erosion in fields.
- Apply fertilizers and pesticides according to label instructions to save money and minimize pollution.

Forestry - Improperly managed logging operations can result in erosion and sedimentation.

- Conduct pre-harvest planning to prevent erosion and lower costs.
- Use logging methods and equipment that minimize soil disturbance.
- Plan and design skid trails, yard areas, and truck access roads to minimize stream crossings and avoid disturbing the forest floor.
- Construct stream crossings so that they minimize erosion and physical changes to streams.
- Expedite re-vegetation of cleared areas.

Education is essential to changing people's behaviors. Signs and markers near storm drains warn residents that pollutants entering the drains will be carried untreated to a local waterbody.

