

Clean Streets, Clean Water

How roadway pollution affects our local waterways

Streets, roads, highways and bridges are a significant source of pollutants to our local waterways. Contaminants from vehicles, activities associated with road/highway construction, litter and pet wastes are washed to the storm sewer along with rainwater and snowmelt to nearby waters, negatively impacting water quality and aquatic life in nearby streams, lakes, rivers and of course, the Chesapeake Bay.

What is Nonpoint Source Pollution?

Nonpoint source pollution refers to pollution resulting from many sources as opposed to one. In the case of stormwater runoff, rainwater and snowmelt become contaminated as they wash over impermeable surfaces, picking up dirt, dust, debris, metal deposits, automotive fluids, etc., from various sources. The polluted runoff then flows directly into nearby waterways to include the Bay. In most areas, stormwater runoff enters these waters without ever being cleaned of pollutants. Common contaminants in runoff from streets, roads, highways, and bridges include:



- **Sediment:** natural and human induced erosion around roadways and bridges can weaken the structures and leave soil exposed to the elements. Soil particles settle in nearby waters, preventing sunlight from reaching aquatic plants/life.
- **Heavy Metals:** metals produced by vehicle exhaust, tire wear and tear, engine parts, brake linings, weathered paint, and rust are toxic to aquatic life and can negatively impact water quality.
- **Oils and Grease:** leaking oils and grease from vehicle engines, spills at fueling stations, and improperly discarded used oil and grease can be transported directly to surface waters via roadway runoff.
- **Debris:** food containers, lawn clippings, pet waste, and litter lead to both unsightly and polluted waters. Pet waste in particular has the potential to increase nutrients in estuaries to a dangerous level, leading to eutrophication of the estuary. Eutrophication refers to an over enrichment of minerals and nutrients that induces excessive plant and algae growth, resulting in oxygen depletion of the water.

- **Road Salts:** road salts have become a major pollutant in urban and rural areas. Snowmelt containing salt has the potential to introduce high levels of sodium, chloride, and other minerals into nearby waterways causing harmful changes to water chemistry and killing aquatic life.
- **Fertilizers, Pesticides and Herbicides:** if applied improperly, these chemicals (harmful to both human and aquatic life) can easily be carried into rivers, streams, lakes and bays contributing to poor water quality.

Recognizing Runoff Pollution

Erosion gullies on land cleared of vegetation are a sign of sediment runoff. Iridescence (rainbow colors) in runoff water may be a sign of spilled petroleum products washing off roads. Other signs of runoff pollution include obvious changes in streams or rivers downstream from the construction, such as bank erosion, muddy or oily water, and sandbar formation.

How can I help?

The same best management practices used at GSFC can easily be implemented outside of the Center to lessen the risk of water degradation by roadway pollution.

- Dispose of trash in the proper receptacle; reuse and recycle where feasible.
- Pick up litter; plan or participate in a cleanup event.
- When tending to your lawn, bag clippings or use them as mulch in your lawn; do not blow/sweep them into the street or storm drain.
- Do not hose down your driveway/sidewalk into the street.
- Use a drip pan when working on your vehicle and dispose of materials properly; automotive fluids (motor oil, gasoline and antifreeze for example) can contaminate water and harm aquatic life.
- Never dispose of liquids or solids into street side storm sewer inlets; they are meant for rain and snowmelt ONLY!



Visit the following websites for more information on roadway pollution and lessening your contribution to stormwater pollution:

<http://www2.erie.gov/environment/index.php?q=what-goes-down-must-come>
<https://www.epa.gov/nps/nonpoint-source-roads-highways-and-bridges>
<https://chesapeakestormwater.net/stormwater-and-watersheds/>

Check out some of our past environmental bulletins on similar topics [here](#).





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