

## POLLUTION SOURCES

SOURCE	IMPACT	SOLUTION
<b>Pet Waste</b>	<p>Pet waste pollutes waterways and is a human health hazard. Bacteria, viruses, and parasites found in pet waste can be transmitted to humans. When pet waste washes into local waterways, it can cause algae blooms, shellfish bed closings and degraded water quality of our recreational resources.</p>	<ul style="list-style-type: none"> <li>Clean-up after your pets</li> <li>Pick up pet waste with a bag, tie it and place it in the trash</li> <li>Or bury it in a hole that is at least 5" deep and away from gardens, drainage ditches and storm drains</li> </ul>
<b>Litter</b>	<p>Particularly plastic that float, spoil the beauty of creeks and lakes and can be harmful to fish and birds that mistake them for food. Litter clogs storm drains and pipes, increasing the risk of property damage from flooding. Litter empties directly into our waterways.</p>	<ul style="list-style-type: none"> <li>Throw litter where it belongs, in the trash</li> <li>Use recycling bins</li> <li>Participate in volunteer litter clean-ups</li> </ul>
<b>Cigarette Butts</b>	<p>An estimated 4.5 trillion non-biodegradable cigarette butts are littered worldwide every year. Cigarette butts harm aquatic life and wildlife. They have been found in the stomachs of fish, birds, whales, and other marine creatures that mistake them for food. Cigarette butts are composed of cellulose acetate (a form of plastic), that take a long time to decompose. Carelessly discarded cigarette butts can also spark fires.</p>	<ul style="list-style-type: none"> <li>Use an ashtray for cigarette butts</li> <li>Use a can for cigarette butts</li> <li>Keep cigarette butts off the street</li> </ul>
<b>Car Wash Soap &amp; Detergents</b>	<p>All detergents destroy the external mucus layers that protect fish from bacteria and parasites. They also lower the waters surface tension, making pesticides and chemicals more easily absorbed by fish. Some detergents contain phosphates that promote algae growth. When algae decomposes, it uses up the available oxygen that aquatic life needs to survive.</p>	<ul style="list-style-type: none"> <li>Wash vehicles with plain water</li> <li>Use biodegradable and phosphate-free soaps</li> <li>Wash vehicles on a grassy area to let the soap and dirty water soak into the soil</li> <li>Take your car to a commercial car wash, the water drains into the sanitary sewer where it can be treated</li> </ul>

<p><b>Fertilizer</b></p>	<p>Fertilizers contain large amounts of nitrogen and phosphorus, the primary nutrients for algae. As algae decomposes, it uses up the available oxygen that aquatic life needs to survive. Some fertilizers also release ammonia, which is toxic to fish.</p>	<ul style="list-style-type: none"> <li>• Get a FREE soil testing kit from the cooperative extension service. A soil test will tell you the amount, timing, and type of fertilizer to use on your lawn</li> <li>• Put grass clippings back on the lawn to reduce the amount of fertilizer needed</li> <li>• Never fertilize before a rain</li> <li>• Use drop spreaders instead of broadcast spreaders</li> </ul>
<p><b>Yard Waste (grass clippings, leaves, tree trimmings)</b></p>	<p>Yard debris clogs storm drains and drainage ditches which increases the risk of flooding. Large Collections of yard waste can obstruct water flow and cause creek bank erosion. As this organic matter decomposes, it uses up the oxygen aquatic life needs to survive. Decomposing organic matter also creates foul odors and taste in drinking water.</p>	<ul style="list-style-type: none"> <li>• Put grass clippings back on your lawn (they return moisture and nutrients to your lawn)</li> <li>• Compost yard debris and uses as a mulch or soil conditioner</li> <li>• Collect yard waste and put it in bags for trash collection</li> <li>• Do not sweep or blow yard debris into the streets, storm drains or drainage ditches.</li> </ul>
<p><b>Over-Watering the Lawn</b></p>	<p>Over-watering your lawn can wash fertilizers, pesticides, dirt, and grime into local waterways. Fertilizers and pesticides can kill aquatic life.</p>	<ul style="list-style-type: none"> <li>• Fix malfunctioning sprinklers and faucets</li> <li>• Water only when necessary and for appropriate amounts of time</li> </ul>
<p><b>Pesticides</b></p>	<p>While designed to destroy pests, "broad spectrum" pesticides also poison "good bugs," birds, and other wildlife. Pesticides can also seep onto groundwater and contaminate drinking water. Pesticides also destroy soil by killing essential organisms from microbes to earthworms. Many pesticides are also toxic to humans.</p>	<ul style="list-style-type: none"> <li>• Use pesticides sparingly and only as a last resort. Follow the instructions, more is not better</li> <li>• Protect storm sewers and areas not needing treatment</li> <li>• Use non-toxic pesticides</li> <li>• Spot treat areas needing treatment</li> <li>• Practice Integrated Pest Management</li> </ul>

<p><b>Erosion</b></p>	<p>In North Carolina, erosion is our biggest water quality problem. Sediment smothers fish eggs, clogs fish gills, and kills beneficial aquatic life. In addition, phosphorus in fertilizer attaches to loose &amp; exposed soil particles, which easily wash into waterways. Exposed soil is also susceptible to wind erosion, allowing sediment to enter waterways.</p>	<ul style="list-style-type: none"> <li>• Plant native plants &amp; ground cover to prevent erosion (roots anchor loose soil in place)</li> <li>• Bare spots in lawns should be reseeded or resodded</li> <li>• Exposed soil in gardens or natural areas should be covered with some type of mulch such as pine straw, pine bark, or cedar</li> </ul>
<p><b>Illicit Discharges (household hazardous wastes, paint, motor oil, antifreeze, yard waste, etc.)</b></p>	<p>When these materials are illegally dumped into storm drains and on the ground, they are transported through the storm drain system to local waterways. These products can severely affect aquatic life causing fish kills, algae blooms and oil slicks. (5 quarts of motor oil can contaminate 250,000 gallons of water)</p>	<ul style="list-style-type: none"> <li>• Dispose of products properly, the landfill accepts many items; paint, thinner, motor oil, antifreeze, etc.</li> <li>• Buy products wisely select non-toxic alternatives</li> <li>• Donate used paint to non-profit agencies</li> </ul>
<p><b>Dirt, Oil, and other Debris on Driveways &amp; Sidewalks</b></p>	<p>Many products can provide nutrients that promote the growth of algae. These algae blooms deplete the sunlight available to aquatic life. As algae decomposes, it uses up the available oxygen that aquatic life needs to survive. Oil can contaminate drinking water.</p>	<ul style="list-style-type: none"> <li>• Keep vehicles tuned-up, leaks fixed, and tires inflated properly</li> <li>• Place absorbent material where cars park frequently</li> <li>• Clean-up spills with kitty litter or sawdust and put in the trash</li> </ul>
<p><b>Poorly Maintained Dumpsters</b></p>	<p>Liquid wastes can drip out, leach into groundwater, and enter creeks. Un-bagged trash is easily carried to storm sewers and waterways by wind or rain. Open or overfilled dumpsters easily allow wind or rain to carry trash to the waterways. Trash and debris clog storm sewers and waterways, which may cause flooding. Dumpsters in poor conditions attract flies &amp; rodents.</p>	<ul style="list-style-type: none"> <li>• All materials in dumpsters should be bagged or in containers</li> <li>• Get lids to cover dumpsters</li> <li>• Build roofs over dumpsters</li> <li>• Limit dumpster access to trained personnel</li> </ul>
<p><b>Silt &amp; Sedimentation from Construction Sites</b></p>	<p>Sediment collects in drinking water reservoirs, leaving less room for water storage. Sediment and grit also smother bottom dwelling aquatic life, clog fish gills, and block sunlight needed by underwater plants.</p>	<ul style="list-style-type: none"> <li>• Innovative and site-specific Best Management Practices (BMP)</li> <li>• Stricter monitoring and education programs</li> </ul>

<b>Kitchen Grease</b>	Kitchen grease can clog sanitary sewer lines, which can cause a sanitary sewer overflow into the environment. When this happens, this overflow sewage water can wash into local waterways causing water quality problems.	<ul style="list-style-type: none"><li>• Put kitchen grease in a container, seal it, and dispose of it in the trash</li></ul>
<b>Restaurant &amp; Custodial Waste Water</b>	Mop water, floor wax, cleaning agents, and painting equipment wash water can kill plant life when emptied on the grass. The plant life holds the soil in place preventing erosion. Wash water that enters storm drains is toxic to aquatic life and can render water unusable for drinking.	<ul style="list-style-type: none"><li>• Restrict use of cleaning agents to trained personnel</li><li>• Contain and dispose of wash water properly (DO NOT POUR DOWN STORM DRAINS)</li><li>• Only specific non-hazardous agents may be discharged into sanitary sewer system upon approval</li></ul>