



Targeted Constituents

● Significant Benefit		◐ Partial Benefit		○ Low or Unknown Benefit	
◐ Sediment	◐ Heavy Metals	○ Floatable Materials	◐ Oxygen Demanding Substances		
◐ Nutrients	◐ Toxic Materials	◐ Oil & Grease	○ Bacteria & Viruses	○ Construction Wastes	

Description

Reduce pollutants from cars, trucks and other personal vehicles in order to protect natural streams and creeks. Pollutants, such as detergents and dirty washwater, must always be prevented from directly discharging to streams, creeks, ditches and storm drains. In addition, pollutants should be prevented from running off the land and impervious surfaces due to precipitation and stormwater.

Approach

Washing personal vehicles (cars, trucks, vans, motorcycles) has a very high potential for polluting streets, storm drains, streams, creeks, wetlands and other natural water bodies. Vehicles accumulate the various products and emissions generated by gasoline and diesel fuel combustion (particularly in the engine area and underneath the frame).

- Vehicles contain large amounts of fluids that leak slowly from the engine, or may escape from a rupture, or spill during a vehicle collision. Fluids such as engine oil, transmission fluid, radiator coolant, battery acids, and brake fluid all have special properties due to their chemical formulation. All of these fluids are poisonous to plants, trees, insects, wildlife, fish, etc. and must be reduced as much as possible.
- Vehicles contain moving parts which wear down. Small pieces of the tires are continually being worn down and left on the streets and roadways. Brakes and brake pads are designed purposely to erode and grind in a way to minimize vehicle maintenance. Small pieces of the brake pads (containing asbestos and metals) are continually being worn down and deposited on streets and roadways.
- Detergents are harmful to fish and other aquatic life. Many cleaning substances are toxic to aquatic life and result in fishkills. Reduce or eliminate the use of detergents and cleaners while washing vehicles. Wash vehicles on lawns or grassy areas to reduce direct discharge of washwater to curbs, inlets, ditches and other waterways.

Prohibition to Discharge

Due to federal mandates, the City of Knoxville has adopted a Stormwater and Street Ordinance to prohibit discharge of chemicals and manmade materials into creeks, streams, ditches, swales, pipes, storm drains, and parts of the city drainage system. See the BMP entitled RH-01, Non-Stormwater Discharges to Storm Drains, for a complete list of allowable discharges; anything else is strictly prohibited. This prohibition includes all types of automotive fluids, whether discharged directly into a stream or storm drain, or discharged indirectly upon the ground surface. In addition to fines and legal action from the City of Knoxville, the state government (TDEC) can also assess

Vehicle Washing

severe penalties for polluting waters of the state (defined as any blue-line stream on a USGS quadrangle topographic map) or any storm drainage system that leads to waters of the state.

It is legal to discharge water when washing individual cars on residential property. This is one of the allowable discharges listed in RH-01 (Non-Stormwater Discharges to Storm Drains) and also in the Knoxville Stormwater and Street Ordinance. It is also legal to discharge water when holding a carwash event over a period of two days or less, for the purpose of charity, nonprofit fundraising, or similar noncommercial purpose. However, it is illegal to discharge washwater or rinsewater that adversely affects the water quality of a creek or stream, even if otherwise allowable according to ordinance.

It is suggested that city residents minimize the amount of soap and detergents that are used in washwater. Extremely dirty or grimy vehicles should generally be cleaned using a commercial carwash, which is required to treat all washwater and rinsewater to certain standards. Some detergents and soaps may actually harm automotive paint and wax finishes, such that many vehicle manufacturers recommend washing with water only. Commercial carwashes generally mix a waxing agent in the rinsewater that is beneficial to some automotive paints.

A carwash or commercial vehicle washing facility is strictly prohibited from discharging water into streams, creeks, ditches, pipes, culverts or storm drains. This includes, but is not limited to: automobile dealers, automotive repair shops, industrial or commercial plants with vehicle washing stations, construction sites, or any location that is not a personal residence.

City residents may want to wash vehicles on lawns or other pervious ground surfaces, or at least direct the discharge of washwater and rinsewater into grassy areas. Avoid discharging large amounts of chlorinated city water directly to storm drains or streams. Reduce the amount of chlorinated water by turning off the hose when not needed. Relatively small amounts of chlorinated water can be toxic to the fish and other aquatic organisms, especially during dry weather.

Detergents affect the gill membranes of fish and adversely affect other aquatic life. Minimize the use of detergents, and dispose of soapy water indoors in a sink or drain. Even phosphate-free, biodegradable soaps have been shown to be toxic to fish before the soap degrades. Avoid the use of solvents and other toxic chemicals.

Do not wash engines, undercarriages, transmissions or automotive parts near streams, creeks, storm drains, ditches, or impervious surfaces such as driveways and streets. Carefully control and dispose of engine washwater in a manner that does not pollute Knoxville streams or the environment. Dirty engines and undercarriages should generally be cleaned at well-equipped commercial facilities to prevent pollution.

Related BMPs

Consult the following list of related BMPs for disposal options and other guidance:

Table AM-01-1	Quick Reference for Disposal Alternatives
AM-14	Vehicle and Equipment Washing
RH-01	Non-Stormwater Discharges to Storm Drains
RH-03	Vehicle Maintenance and Repair

References

30, 31, 33, 34, 35, 98, 99, 103, 113, 138 (see BMP Manual Chapter 10 for list)