



Source control in

Lower Duwamish cleanup

Keeping pollution out of the Lower Duwamish has been a regional priority for nearly 50 years

In the 1960s, raw sewage that once flowed daily into the river was conveyed to King County's newly built West Point Plant for treatment. The county established the first program in the nation to regulate the disposal of wastewater generated by many businesses and industries. By the 1970s, King County was partnering with the City of Seattle, the Port of Seattle and other cities, local sewer utilities, and government agencies to support programs preventing new and ongoing sources of pollution from degrading our regional water bodies.

Because of these efforts, water and sediment quality in the Duwamish River is much healthier than it was a generation ago. Still, our work must continue. Water and sediment quality in the river remains threatened by ongoing sources of pollution, so attention to source control will remain an important part of a long-term strategy to clean up and protect the Duwamish River.

The challenges ahead

Because of strict water quality laws and regulations under the federal Clean Water Act, effluent from industrial processes and sewage discharges pose a lower environmental impact than they did decades ago. Today, one of the larger threats to our waterways is from stormwater runoff. Often referred to as a "non-point" source of pollution, it can't be traced to any specific person, business or residence, which makes it very challenging to control.

Stormwater contains contamination from pesticides, fertilizers, automotive fluids, livestock and pet waste, and many other common household products that get into our waterways. Other challenges include soaps, lotions, pharmaceuticals and cosmetics that go down our drains and can't easily be removed during the wastewater treatment process.



Superfund and source control – two sides of the cleanup coin

In 2001, the U.S. Environmental Protection Agency (EPA) designated a five-mile segment of the Lower Duwamish as a Superfund site due to the presence of historically contaminated sediment deposits resulting from more than a century of heavy industrial use. The EPA is currently evaluating 11 alternatives to clean up these sediments and is expected to propose a cleanup plan in 2012.

"Source control" refers to pollution prevention programs that prevent new and ongoing sources of pollution from getting into the river and harming the environment. For a busy working waterway like the Lower Duwamish, source control is a top priority to prepare for the Superfund cleanup and to help prevent recontamination.

Getting started on the cleanup while stepping up our source control efforts is the quickest way to restore the Lower Duwamish Waterway, improve the environment and protect the health of people who live and work in nearby communities.



King County

Department of Natural Resources and Parks
Wastewater Treatment Division

Since the 1960s, regional source control efforts have reduced flows of industrial waste and sewage into the Lower Duwamish by 98 percent, or 27 billion gallons per year

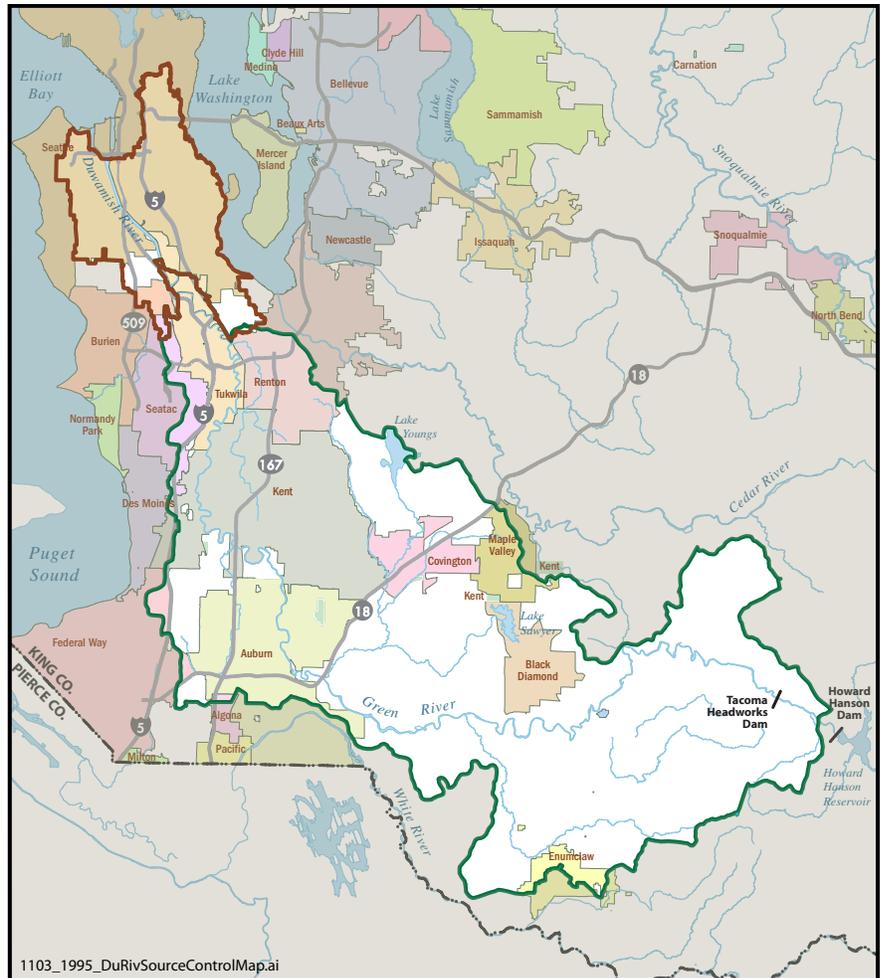
Water—and everything in it—flows downhill

The entire Green-Duwamish Watershed Basin encompasses about 500-square miles of land that stretches from south Seattle to a wide area of south King County. The 32-mile area around the lower part of the watershed is referred to as the Lower Duwamish Drainage Basin.

Water from snow melt, rain, runoff or stormdrains eventually reaches the Green and Duwamish rivers, carrying with it whatever pollutants it picks up along the way.

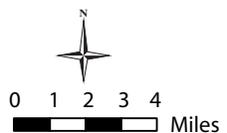
As our region grows, so will our need to be vigilant about controlling pollution generated by people and businesses throughout this area to protect our waterways and the health of the people who use them. Improved source control in the 32-square-mile lower basin will be very important to reducing the amount of sediment recontamination in the Lower Duwamish after the Superfund cleanup. Source control throughout the basin will be important to ensure that the river stays clean to the largest extent possible.

The Washington Department of Ecology (Ecology) is the lead state regulatory agency that coordinates source control work in the Lower Duwamish. King County, the City of Seattle, EPA, Port of Seattle and others work independently and jointly with Ecology on source control activities. Over the past several years, dozens of studies, projects, programs and services have been initiated throughout the Duwamish watershed to keep pollution out of the waterway.



Upper Green-Duwamish Watershed

- — — — — King County Boundary
 - — — — — Watershed Boundary
 - — — — — Lower Duwamish Drainage Basin Boundary
- areas that drain to the Duwamish River through either the combined sewer system and/or storm drain system*



Source Control at Work in the Lower Duwamish Watershed— Many Activities are Under Way

Water Quality Permits and Regulations: State and federal laws establish permit conditions that keep tons of pollutants out of our water bodies each year by regulating the disposal, discharge and treatment of stormwater and wastewater from businesses, residents and municipalities. The state Department of Ecology administers these permits through regional water quality programs.

Business Inspections and Source Tracing: King County and the City of Seattle have invested millions of dollars to trace pollution sources and have inspected thousands of business to make sure they don't send contaminated runoff or discharges to the Duwamish.

Industrial Waste Disposal Regulations: King County's Industrial Waste Program directly regulates businesses to protect regional water quality by controlling the disposal of industrial wastewater and requiring many types of businesses to adequately treat their wastewater before discharging it to the sanitary sewer system.

Stormwater and Combined Sewer Overflow (CSO) Control: King County and the City of Seattle are currently engaged in controlling overflows of stormwater and sewage that occur in the Duwamish and elsewhere during heavy rains. King County's CSO control investments in the Lower Duwamish (about \$100 million) have decreased CSO volumes by 90 percent since 1988. Five of the 11 CSOs in the Duwamish are controlled and King County has plans to control remaining Duwamish CSOs. Over the next few years, Seattle will invest \$31.7 million on stormwater and drainage improvements to control pollution in the Duwamish, and \$10 million on CSO Control.



Source Control Efforts Outside the Lower Duwamish Watershed also Protect Lower Duwamish Water Quality

U.S. Department of Agriculture Best Management Practices Program for Agriculture and Forestry: This program promotes good stewardship of our farms and forests to help control erosion and reduce the entry of bacteria, nutrients and pesticides into waterways that ultimately flow into the Duwamish River.

Air Quality Regulation: Some airborne substances and particulates can end up settling into our waterways. The Puget Sound Clean Air Agency monitors and regulates businesses to control air pollution while offering education and incentives to get people to change behaviors and practices that cause air pollution.

Environmental Hotlines: The Department of Ecology, King County and the City of Seattle maintain dedicated hotlines for residents to report spills, overflows, illegal dumping or other concerns about water quality.

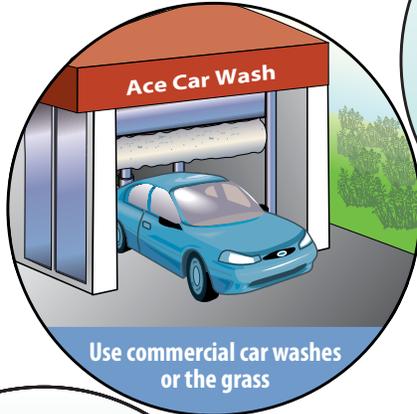
Household Hazardous Waste Collection Program: King County operates three collection sites in Seattle and Bellevue and the City of Seattle operates two, making it easy for residents to properly dispose of unused and unwanted waste too toxic for drains or garbage cans. The King County Wastemobile also makes stops throughout the county to collect unwanted hazardous household products.

Business and Residential Outreach: King County trains business owners to safely handle and discard chemicals, which helps protect workers and the environment. Other programs show developers and construction contractors how to minimize runoff, erosion and control stormwater.

Need more detail? Check out our Source Control Report on the Web at www.kingcounty.gov/duwamishcleanup or call 206-684-1280.

We all have a role in source control

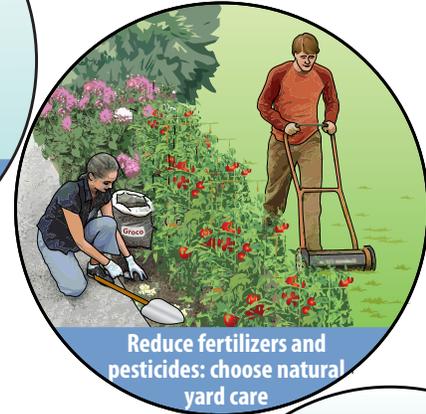
Protecting water quality begins with each of us, and if we all take just a few simple actions at home, it can all add up to make a really big difference.



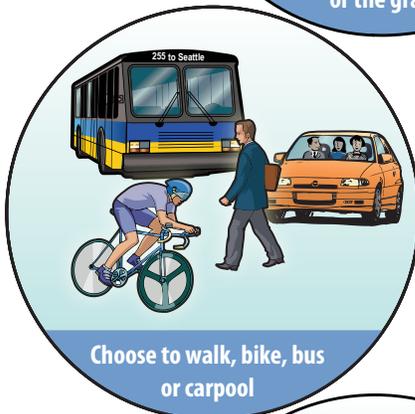
Use commercial car washes or the grass



Put trash in a trash can, not the toilet



Reduce fertilizers and pesticides: choose natural yard care



Choose to walk, bike, bus or carpool



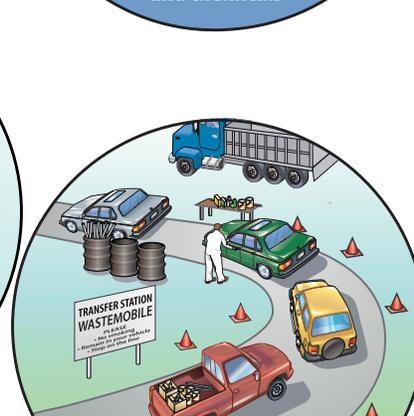
Choose natural, simple products. Avoid fragrances, phosphorus and chemicals



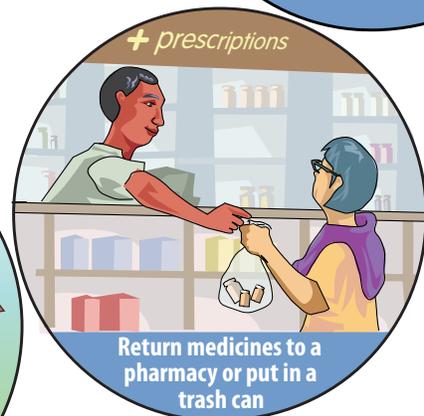
Pick up pet waste and throw in trash can



Keep cars maintained; fix leaks



Take hazardous waste to a disposal facility



Return medicines to a pharmacy or put in a trash can

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Get more details about Lower Duwamish Cleanup

King County, the Port of Seattle, the City of Seattle and Boeing formed the Lower Duwamish Waterway Group in 2001 to work with the EPA on a plan to clean up the Lower Duwamish. In 2010, the EPA released a feasibility study that describes in detail 11 potential alternatives to clean up the waterway in order to reduce risks to people and the environment. The EPA is expected to propose a cleanup plan in 2012.

To learn more, visit www.ldwg.org or call 206-684-1280.