A Pollutant Loading Assessment (PLA) for the Green-Duwamish Watershed

The Washington State Department of Ecology and the U.S. Environmental Protection Agency (EPA) have been working together since 2001 to identify, cleanup and control sources of pollution to the Lower Duwamish Waterway (LDW). The LDW is the last five miles of the Duwamish River before it enters Puget Sound. Existing data and models indicate that LDW sediments could still fail to meet target levels after cleanup because of pollutant concentrations in sediment coming from the Green-Duwamish River Watershed. To determine ways to reduce ongoing sources of pollution in the entire watershed, Ecology and EPA are developing a Pollutant Loading Assessment (PLA). The PLA will:

- Develop a watershed-based model to evaluate the cumulative effects of pollution.
- Assess the relative contribution of pollutants from sources and pathways in the watershed.
- Help prioritize efforts to control the release of pollutants in the watershed.

The PLA model and future monitoring data will support cleanup and water quality decision-making in the Green-Duwamish watershed.

Pollutants in the Green-Duwamish

Water, sediment and fish tissue in the Green-Duwamish Watershed contain pollutants that harm aquatic life and interfere with fish and shellfish harvesting uses. These pollutants are identified in Washington's 303(d) list, which is prepared under the Clean Water Act. Contaminants found in the list include

- Heavy metals.
- Toxic organic compounds such as polychlorinated biphenyl (PCBs), solvents, and petroleum products.
- Polycyclic aromatic hydrocarbon (PAHs).
- Dioxin and Furans.

WHY IT MATTERS

Ecology and EPA's efforts to restore water quality in the Green/Duwamish watershed are aimed at protecting human health and the environment.

Contaminants found in water, sediments, and fish tissues may pose a threat to people, fish and wildlife.

EPA's in-waterway cleanup will significantly improve sediment quality in the Lower Duwamish Waterway, but the success of the cleanup relies in part on cleaner sediments from upstream depositing over time.

A Pollutant Loading Assessment model will help us understand the relationship of water, sediment and fish tissue quality to the overall health of the Green-Duwamish watershed and determine ways to reduce ongoing sources of pollution.

Contact

Joan Nolan
425-649-4425
joan.nolan@ecy.wa.gov

Special accommodations

To request ADA accommodation including materials in a format for the visually impaired, call the Water Quality Program at 360-407-6600. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

LDW Superfund Site Cleanup—A long-term project

The Lower Duwamish Waterway became a Superfund Site in 2001. In 2013, EPA published the LDW Proposed Plan for cleanup. The final cleanup plan, called a Record of Decision (ROD), is anticipated in late 2014. There have been Early Action Areas in the LDW that have been and continue to be cleaned up.

Ecology uses its Source Control Strategy to lead efforts to control existing, ongoing sources of contamination to the LDW. Ecology is revising the 2012 draft LDW Source Control Strategy in response to public comments. A revised Source Control Strategy is expected to be available in 2015.

Development of the PLA

Ecology and EPA plan to use an inclusive outreach and involvement process during development of the PLA.

Ecology is establishing a Technical Advisory Committee (TAC) of governments, public and non-profit organizations to support the PLA development. TAC members will provide expertise on existing data and tools, help to develop the model, and coordinate with related efforts.

Ecology will host workshops with interested parties to allow broad participation in development of the PLA. Interested parties may opt to receive project updates and provide feedback on key topics of the PLA modeling tool. To be added to the Interested Parties list contact Joan Nolan (see page 1 for contact information).

A Steering Committee of representatives from Ecology's and EPA's water and cleanup programs will consider the input and recommendations of the TAC and Interested Parties groups when making project decisions.

The PLA model

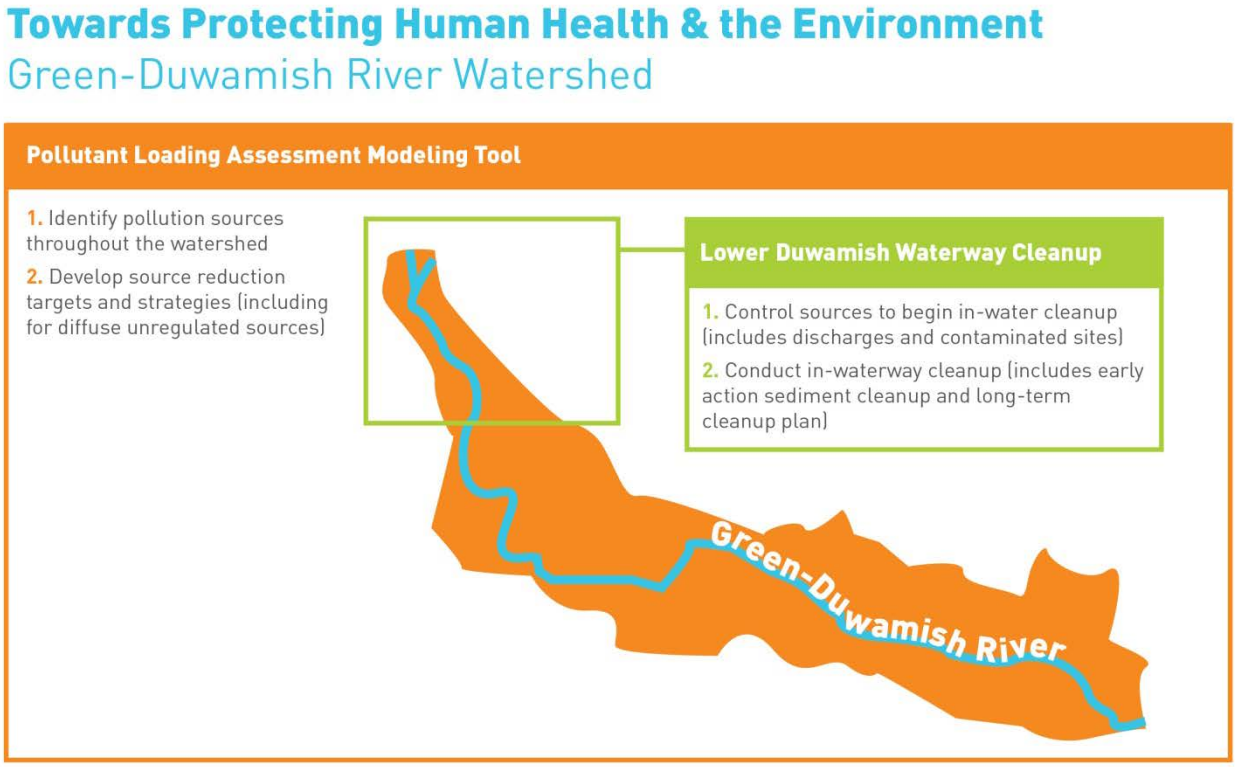
Ecology and EPA have completed an evaluation of data and environmental models currently available for the Green-Duwamish watershed, including the LDW. Based on this evaluation, we have identified a recommended technical approach: a comprehensive, computer-based modeling tool for the Green-Duwamish River watershed. The model will be used to examine what is polluting the river and where it comes from. A *Technical Approach* document, available at www.ecy.wa.gov/geographic/GreenDuwamish/pla.html, summarizes the existing information and recommended modeling approach.

The PLA model will help us achieve the following objectives:

- Understand the relationship between sediment, water and fish tissue quality.
- Identify the cumulative pollutant loading of toxic chemicals from the greater watershed area.
- Predict bioaccumulation of pollutants in the food web.
- Predict how pollution management actions could improve sediment, water and fish tissue concentrations.
- Improve the effectiveness of LDW cleanup and source control efforts.

Support and enhance current efforts to clean up the Lower Duwamish Waterway

Ecology will continue to implement its Source Control Strategy for the LDW. The Green-Duwamish Watershed PLA will complement the LDW source control activities.



The PLA will provide information to help identify actions to improve water quality, but it is not a Total Maximum Daily Load (TMDL, or water cleanup plan). The PLA is part of an interim strategy for improving water quality that includes source control and in-waterway cleanup. After completing the PLA, Ecology will evaluate whether or not to prioritize development of TMDLs for the Green-Duwamish River in the near-term.

More information

For more information about the LDW, the PLA and efforts to improve overall watershed health, be sure to visit the following resources:

Green-Duwamish Watershed basin overview and links to other resources
www.ecy.wa.gov/geographic/GreenDuwamish/index.html

Green-Duwamish Watershed Pollutant Loading Assessment
www.ecy.wa.gov/geographic/GreenDuwamish/pla.html