

DEPARTMENT OF  
**ECOLOGY**  
State of Washington

## PUBLIC PARTICIPATION PLAN

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**Port of Vancouver (Cadet/Swan) and NuStar  
Vancouver, Washington**

**Facility Site Number 1026  
Cleanup Site Number 3450**

**Prepared by**  
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**January 2015**

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## INTRODUCTION

Public participation plans promote meaningful involvement during cleanups. This plan describes the tools the Washington State Department of Ecology (Ecology) will use to inform the public and gather input about the Port of Vancouver (Cadet/Swan) and NuStar cleanup site.

## LOCATION AND SITE BACKGROUND

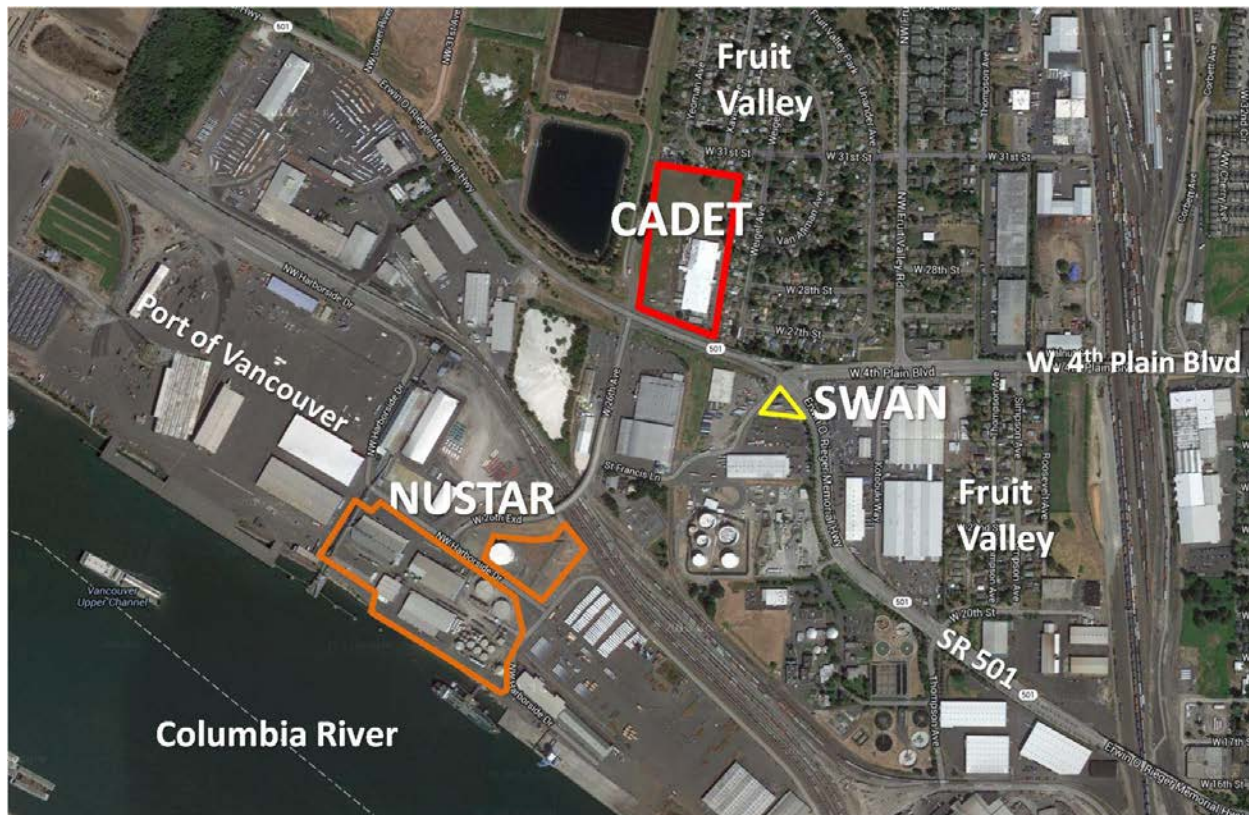
Ecology found three facilities contributed to soil and groundwater contamination at and near the Port of Vancouver and the Fruit Valley Neighborhoods (FVN):

**Cadet Manufacturing Company (Cadet)** at 2500 W. Fourth Plain Blvd.

**Former Swan Manufacturing Company (Swan)** at 2001 - 2501 W. Fourth Plain Blvd.

**NuStar Terminals Services, Inc. (NuStar)** at 2565 NW Harborside Drive

Before 2014, the Cadet and Swan cleanup sites had Facility Site ID# 85381664 and a separate cleanup schedule. You can read more about why the Cadet and Swan site is now aligned with the NuStar cleanup work on page 4. This plan updates the previous public participation plans for the Cadet/Swan and NuStar sites, and combines them into one.



**Figure 1. Facilities that contributed to groundwater contamination at and near the Port of Vancouver and Fruit Valley Neighborhoods.**

## **Port of Vancouver facilities (Cadet and Swan):**

The Port of Vancouver (port) is cleaning up soil and groundwater polluted decades ago by chlorinated solvents from the Cadet and Swan factories along Lower River Road. Studies of the area show pollutants in groundwater beneath the facilities, the FVN, the port area, and to the southeast of the facilities.

From 1956 to 1964, Swan made electric heaters at its property and used trichloroethylene (TCE) to clean sheet metal parts. In 1964, Swan moved operations to where the Cadet facility is now. Cadet bought Swan in 1972 and used TCE until 1976.

The port owns the Swan property and has been cleaning it up since 1998. In March 2006, the port acquired the Cadet building and land and took on cleanup responsibility for the Cadet site.

## **NuStar facility:**

NuStar, a tenant of the port, is also cleaning up soil, sediment, and groundwater polluted by chlorinated solvents. Contaminated groundwater beneath this facility moves both to the southwest towards the Columbia River and northeast away from the river. Near-shore river sediment is also contaminated.

NuStar's facility is at the port's Terminal #2, next to the Columbia River. NuStar leases about 18.7 acres. NuStar's terminal receives, stores, and transfers bulk chemicals, jet fuel, and alcohol.

The terminal has been used as a bulk storage facility since 1960 and handled chlorinated solvents until the mid-1990s. Prior to NuStar's operation, historical sampling showed soil, sediment, and groundwater contaminated with chlorinated solvents. NuStar took over the terminal in 2005. Its cleanup efforts are designed to address contamination on, near, or under the property leased from the Port.

## **Contamination**

Studies show the groundwater impacted from these facilities contains TCE, perchloroethylene (PCE), and their breakdown products.

Because the areas of groundwater contamination (called a plume) are very close to each other, they are considered a single, area-wide plume. The port and NuStar share cleanup responsibility for the entire plume (see Figure 2).

### ***What is groundwater?***

Groundwater is found beneath the Earth's surface. It is water that collects, fills, and flows through open spaces between soil and sediment particles, and through cracks in rock.

Groundwater mostly comes from rain, melting snow and ice, or from surface water bodies. Groundwater pumped from outside the project area is the drinking water source for Clark County. It is one of Washington's most vital natural resources so cleanup is important.

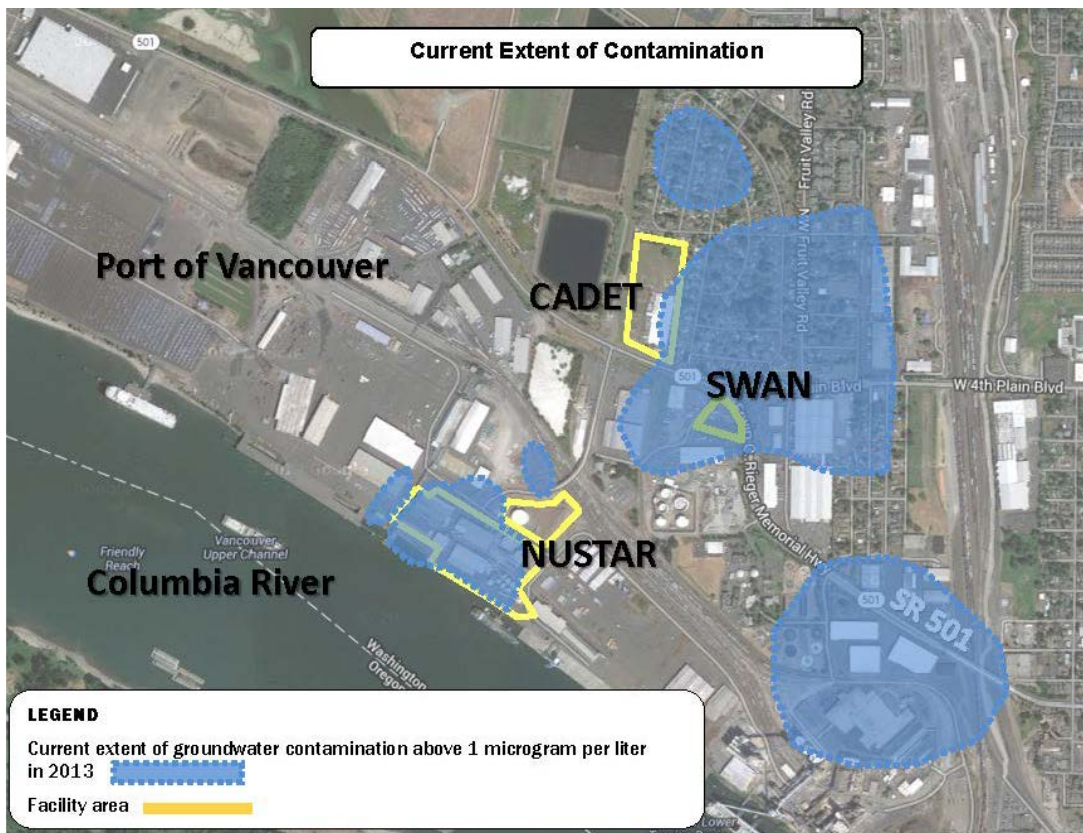
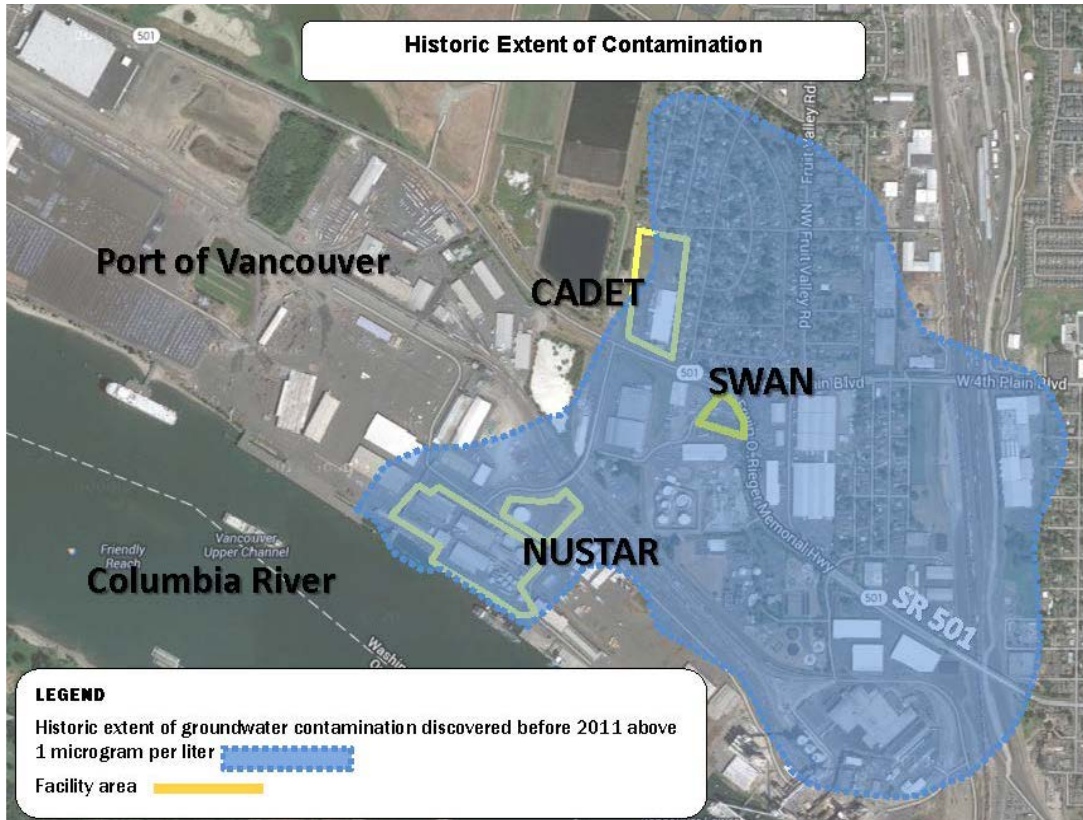


Figure 2. Historic and Current Extent of Contamination

## Earlier Cleanup

### Port of Vancouver (Cadet and Swan):

The port has done many cleanup actions to reduce groundwater contamination:

- From 1998-1999, the port **excavated and treated** about 13,800 cubic yards of TCE-contaminated soil from Swan.
- From 2002-2004, the port completed a source area **groundwater treatment program** to reduce contamination at Swan. The program injected chemicals into shallow groundwater to break down pollutants into non-toxic substances.
- By 2003, Cadet set up a system that used **air sparging and soil vapor extraction** beneath the Cadet facility. This system injected air into polluted groundwater, turning it into soil vapor. Extraction wells pulled these vapors from the soil so they could be treated. Based on the success of this cleanup action, the system was shut down in 2011.
- By 2004, Cadet put in **soil vapor vacuum systems** in six homes in the FVN to protect indoor air from vapor intrusion. Based on the success of the overall cleanup efforts, Ecology approved removal of these systems from 2011 – 2013.
- By 2005, Cadet put in eight **groundwater recirculating treatment wells** in the FVN. Cadet and the port used the wells to reduce contaminant levels in the groundwater. Based on the success of overall cleanup efforts, Ecology approved removal of these systems from 2010- 2012.
- In May 2009, the port began running a **new groundwater pump and treat system**. The system removes pollutants from groundwater using **air stripping**. This system continues to operate.

### NuStar:

NuStar has and continues to use a variety of interim soil and groundwater cleanup actions:

- In 2000, a predecessor to NuStar built a **groundwater pump and treat** system and **soil vapor extraction** system. The system pumped groundwater from extraction wells, and cleaned and filtered the water before pumping it back into another series of wells. Before the water was put back into the ground, an oxidizing agent was added to help break down pollutants. The soil vapor extraction system was made up of eight extraction wells used to clean shallow soil. These systems continued through 2005.
- In 2008, NuStar began a groundwater cleanup method called **enhanced bioremediation**. This uses modified vegetable oil to improve the ability of naturally occurring micro-organisms (bacteria) to break down pollutants in groundwater. Based on the success of this method, NuStar expanded the treatment area in 2011. Pollutant concentrations in groundwater have greatly decreased. This is still being used today.
- In 2008, NuStar installed another **soil vapor extraction** system made up of 18 extraction wells. NuStar expanded the system in 2011, adding 34 more wells. It continues to operate.

NuStar and the port continue to monitor groundwater through Ecology-required sampling and analysis programs.

### **Legal Agreements for Cleanup and Aligning Cleanup Schedules**

Ecology has agreed orders (legal agreements) with the port and NuStar for the cleanup of soil, sediment and groundwater associated with the three facilities. In early 2014, minor amendments were made to each agreed order to align project cleanup schedules.

This allowed the port and NuStar to do a joint feasibility study (FS) that compares cleanup options for a coordinated cleanup of the area-wide plume. This assures an effective and efficient cleanup of the area.

The port and NuStar will also create a joint preliminary draft cleanup action plan, which will describe the recommended final cleanup. We will use this document to develop the public review draft cleanup plan. Ecology will enter into a legal agreement with the port and NuStar for the final cleanup work. These documents will be used to direct the final cleanup.

### **CURRENT ACTIVITY**

Ecology will hold a public comment period for the documents listed below in early 2015:

- An **agreed order**, which is a legal agreement that requires the Port of Vancouver and NuStar Terminals Services, Inc. to prepare a joint draft Cleanup Action Plan.
- **Remedial investigation (RI) reports**, which describe the nature and extent of contamination. There are three RI reports, one for each facility: NuStar Terminals Services, Inc., Cadet Manufacturing, and the former Swan Manufacturing.
- A **feasibility study (FS)** describes the contamination and compares cleanup options for the area-wide groundwater plume.
- This **updated public participation plan**, describes the tools Ecology will use to inform the public and gather feedback. This plan has been updated to include all three facilities.

### **SITE CLEANUP PROCESS**

Washington's Model Toxics Control Act (MTCA) requires that cleanups meet standards that are safe for both human health and the environment. For more information on MTCA, please visit Ecology's website at <http://www.ecy.wa.gov/biblio/ftc94129.html>.

Toxic sites are cleaned up in stages, described below. Each stage has a related report or plan that the public is welcome to review and comment on.

**Remedial Investigation & Feasibility Study (RI/FS)** - The RI looks at the extent and type of pollution on the site. It also looks at possible human health and environmental impacts. The FS identifies and evaluates different cleanup options.

**Interim Actions** - Ecology may allow Interim Actions to partly clean up a site before the final cleanup plan is complete.

**Cleanup Action Plan (CAP)** - The CAP describes the cleanup methods and how they will meet Ecology's cleanup standards. The Remedial Investigation and Feasibility Study provide the data and analysis to write a CAP. The CAP also takes into account public comments and concerns.

**Cleanup** - Cleanup removes contaminants from the site, contains them on the site, or treats them to make them less toxic. Based on the information in the RI/FS, Ecology selects a cleanup action and develops a legal agreement to conduct cleanup.

**Delisting** - Ecology keeps track of toxic cleanup sites on the Hazardous Sites List. Once cleanup is complete, the public will have a chance to comment before Ecology takes a site off the list.

You can find more information about toxic cleanups on Ecology's website:  
[http://www.ecy.wa.gov/programs/tcp/cu\\_support/cu\\_process\\_steps\\_defns.htm](http://www.ecy.wa.gov/programs/tcp/cu_support/cu_process_steps_defns.htm).

## **PUBLIC PARTICIPATION ACTIVITIES AND RESPONSIBILITIES**

The purpose of this public participation plan is to promote public understanding and participation in the cleanup. This section of the plan describes how Ecology will share information and receive public comments on cleanup activities. Ecology will use the following public involvement activities during the cleanup:

### **Formal Public Comment Periods**

Comment periods are the primary method Ecology uses to get feedback from the public on proposed cleanup decisions. Comment periods usually last 30 days. WAC 173-340-600 requires them at key points during the investigation and cleanup process, before final decisions are made. During a comment period, the public can comment in writing. Ecology can only take verbal comments during a public hearing.

After comment periods, Ecology reviews all comments and may respond in a document called a responsiveness summary. Ecology considers whether a document or decision needs to be changed or revised based on public input. If there are major changes, Ecology may hold a second comment period. If there are no major changes, Ecology finalizes the draft document(s).

### **Public Meetings and Hearings**

Ecology may hold public meetings at key points during the investigation and cleanup. Ecology also may offer public meetings for actions expected to be of particular interest to the community. Ecology will also hold a public meeting if ten or more people request one. These meetings will be at places and times convenient to the public.

### **Information Repositories**

These are places where the public can read and review site information, including public comment period documents. Ecology has two repositories for this site:

- Vancouver Community Library, 901 C Street, Vancouver, WA 98663 (360) 906-5106.



- Washington State Department of Ecology, 300 Desmond Drive SE, Lacey 98516. Please call (360) 407-6365 for an appointment.
- You can also review documents on Ecology's website at: <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3450>.

### **Site Register**

Ecology's Toxics Cleanup Program uses its bimonthly Site Register to announce public meetings and comment periods, and many other activities. To receive the Site Register by email, contact Seth Preston at (360) 407-6848 or [Seth.Preston@ecy.wa.gov](mailto:Seth.Preston@ecy.wa.gov). You can also read it on Ecology's website at [http://www.ecy.wa.gov/programs/tcp/pub\\_inv/pub\\_inv2.html](http://www.ecy.wa.gov/programs/tcp/pub_inv/pub_inv2.html).

### **Mailing List**

Ecology's mailing list for this site includes neighboring landowners and businesses, public agencies, and other known interested parties. Ecology's Southwest Regional Office maintains the list and will update it as needed. Please contact Diana Smith at (360) 407-6255 or [Diana.Smith@ecy.wa.gov](mailto:Diana.Smith@ecy.wa.gov) if you would like to have your address added to or deleted from this mailing list.

### **Fact Sheets**

Ecology will mail fact sheets to people and groups interested in this cleanup. Fact sheets will announce comment periods and public meetings. Ecology also may mail fact sheets with updates on cleanup progress.

### **Newspaper Display Ads**

Ecology will place ads in *The Columbian* to announce public comment periods and public meetings for the site.

### **Ecology Website**

Information related to this site and materials available for public comment will be posted on Ecology's web site at: <https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=3450>.

### **Plan Update**

Ecology may update this Public Participation Plan as the project moves forward. The public will have a chance to comment on any major changes to the plan.

### **Contacts**

If you have questions about this plan or the Port of Vancouver (Cadet/Swan) and NuStar cleanup site, please contact:

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## GLOSSARY

**Agreed Order:** A legal agreement between Ecology and a Potentially Liable Person (see below) to conduct work toward a cleanup.

**Air Sparging:** A cleanup process that removes contaminants from groundwater. It moves contaminants into the overlying soil gas. It is almost always used in combination with soil vapor extraction to create a system.

**Air Stripping:** A cleanup process that removes contaminants from soil and groundwater.

**Cleanup:** Actions that deal with a release or threatened release of hazardous substances that could affect public health or the environment. Ecology often uses the term "cleanup" broadly to describe response actions or phases of cleanup, such as the Remedial Investigation/Feasibility Study.

**Contaminant:** Any hazardous substance that does not occur naturally or is found at greater than natural background levels.

**Enhanced Bioremediation:** A cleanup process that uses a type of vegetable oil to improve the ability of naturally-occurring bacteria to break down pollutants in groundwater.

**Groundwater:** Water found beneath the earth's surface that fills spaces between materials such as sand, soil, or gravel. In some areas, groundwater occurs in large enough amounts to be used for drinking water, irrigation and other purposes.

**Groundwater Recirculating Treatment Wells:** A cleanup process that removes contaminants from groundwater. Contaminated groundwater is pumped by these wells where a compound is added that breaks down the contaminant to make it non-toxic. The treatment compound and clean groundwater are then injected back into the ground where more cleanup occurs.

**Information Repository:** A file containing site information and reports for public review. It is usually located in a public building convenient for local residents, such as a public school, city hall, or library.

**Model Toxics Control Act (MTCA):** A law passed by Washington voter initiative in 1988. Its purpose is to find, investigate, and clean up places where hazardous substances have been released. It defines Ecology's role and encourages public involvement in cleanup decisions.

**Potentially Liable Person:** Any individual(s) or company(s) potentially responsible for, or contributing to, the contamination problems at a site. Whenever possible, Ecology requires PLPs to clean up sites.

**Risk:** The probability that a hazardous substance, when released into the environment, will cause an adverse effect in the exposed humans or living organisms.

**Sediments:** Settled particles located at the bottom of a lake, river or in wetlands. Sediment(s)

also includes settled particulate matter exposed by human activity (e.g., dredging) to the biologically active aquatic zone or to the water column.

**Soil Vapor Extraction:** SVE systems pump contaminated soil gas (gas in between soil particles that contains contaminant vapors) from soil that is beneath the ground's surface. The solvent vapors are then removed from the soil gas using an above-ground carbon absorption process. The contaminant-laden carbon is disposed of off-site.

**Soil Vapor Vacuum System:** By 2004, Cadet installed soil vapor vacuum systems in six homes in the Fruit Valley Neighborhood north of Fourth Plain Boulevard. The systems prevented trichloroethylene (TCE) and other solvent vapors moving from groundwater into indoor air.

**Site:** Any area where a hazardous substance, other than a consumer product in consumer use, has come to be located.

**Toxicity:** How much harm a substance causes to living organisms, including people, plants and animals, at a certain concentration.

**Vapor Intrusion:** Vapor intrusion occurs when volatile chemicals move from soil and groundwater up through the ground and into indoor air.

**Voluntary Cleanup Program:** An option for cleaning up hazardous waste sites. The program allows a party to clean up a site independently with technical assistance and written opinions from the Department of Ecology on the cleanup.