

# Appendix B - Ecology's Baywide Cleanup factsheets

- Site by Site See the Waterfront get Better
- Focus Puget Sound Fidalgo and Padilla Bays (page 1)
- Focus Puget Sound Fidalgo and Padilla Bays (page 2)
- Focus Puget Sound Fidalgo and Padilla Bays (page 3)
- Focus Puget Sound Fidalgo and Padilla Bays (page 4)
- Focus Puget Sound Fidalgo and Padilla Bays (page 5)
- Custom Plywood Mill Site (Page 1)
- Custom Plywood Mill Site (Page 2)
- Custom Plywood Mill Site (Page 3)
- Custom Plywood Mill Site (Page 4)
- Custom Plywood Mill Site (Page 5)
- Baywide Cleanup Schedule



# By Site Site

# See The Waterfront Get Better

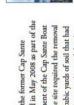


shipyard's basin to be deepened. In conjunction with Avenue mitigation site which includes restoration of the shoreline and habitat improvements for impacts from Project Pier 1. Additionally, contaminated soil will be remediated from the upland areas of the site. removal of contaminated sediments to allow for the the sediment cleanup, the Port is developing the O underwent a major redevelopment - Project Pier 1. Historical contamination resulting from use of the industrial uses, has been cleaned up as part of the site for bulk fuel storage, shipbuilding and other redevelopment. Cleanup actions focused on the In 2008, the Port's Dakota Creek Shipyard



# Porr's Pier 2 Log Haul Our

to the pier. As it has decomposed over time, the wood debris has degraded the marine habitat. Further Historically, part of the Port's Pier 2 was used for log exporting. Hauling and sorting of the logs resulted in investigation will be conducted to determine the level deposition of wood debris in the tidal areas adjacent of cleanup needed.



# Cap Sante Marine

Marine site was completed in May 2008 as part of the Port's ongoing redevelopment of the Cap Sante Boat Haven. Remediation of the site required the removal of approximately 10,000 cubic yards of soil that had enhance the marine habitat and public access within canks that supplied the former fuel dock. As part of the cleanup shoreline restoration was completed to been contaminated by leaking gasoline and diesel nterim action cleanup at the former Cap Sante



# Former Shell Oil Tank Farm

The former Shell Oil Tank Farm operated for many years near the historical shoreline of Fidalgo Bay. As a result of historical operations, site soils and



# Scott Paper Mill

and west were the location of the former Scott Paper Mill and other industrial operations. The industrial uses of the Seafarers Memorial Park and the land immediately south the extent of upland and offshore contamination and to and also to the offshore sediment. Erosion of the shoreline continues to expose wood debris and transport contaminated soil into the marine environment. A cleanup will be integrated into the cleanup plan. Cleanup of the ite began in May 2009 and will be completed in 2011. site resulted in contamination to soils and groundwater restoration and public access enhancements for the parl evaluate alternatives for remediation. Shoreline habitat study of the site was completed in 2008 to delineate



# Custom Plywood Mill

in the south part of the bay, is poised for cleanup. Investigations are under way to see how much mill debris is in the water, and how much contamination exists in Another old mill, the Custom Plywood mill site sediments and upland soils.



# March Point Landfill

summer to see if contamination in old landfill materials is Whitmarsh Landfill, on the southern part of Padilla Bay next to Swinomish tribal lands, will be investigated this The March Point Landfill, formerly known as the a risk in the uplands and to the bay.

# Baywide Sediment Study

A baywide study of sediment contamination was completed

by Ecology to support cleanups in the area. Results of the study are available on the Ecology web site.

# The Enchantress

The Enchantress was an abandoned tugboat that had sunk

and deteriorated in Fidalgo Bay. The remains of the tug and the sunken debris surrounding the wreck acted to suppress The old causeway crossing Fidalgo Bay, which holds the the marine habitat. The tug was removed in September 2008 to promote a healthier marine environment and nants that may be associated with the vessel. remove the potential for release of other potential Causeway Project

of this study revealed the presence of contamination in the evaluate fish, shellfish, and vegetation in the area. Results City's Tommy Thompson trail, was built with creosote pilings. The Samish Nation completed a study in 2008 of the causeway to study possible contamination, and sediments associated with the creosote pillings

Contact us for more information

Sandra Caldwell (360)407-7209

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Vist the Ecology web site



# Focus Puget Sound Fidalgo & Padilla Bays

A PUGET SOUND INITIATIVE site - Reaching the goal of a bealthy, sustainable Puget Sound now and forever



# Department of Ecology Investigates Sediment Quality in Fidalgo Bay

## Background

Puget Sound, a regional and national treasure, is in trouble – threatened by stormwater runoff, toxics, development, industrial pollution, and many other factors, and struggling under the impact of increasing human population. Recognizing its unique role as an ecosystem and its contribution to our state's economic and human well being, the state established the Puget Sound Initiative – a historic effort under way to restore and recover the Sound by the year 2020. In response to this new directive and armed with state funding, the Department of Ecology's Toxics Cleanup Program is focusing cleanup and restoration efforts on priority in-water and upland sites within one-half mile of Puget Sound. Seven bays have been identified as priority areas for Puget Sound waterfront site cleanup.

Ecology has launched sediment investigations at many of the priority bays. The City of Anacortes overlooking Fidalgo Bay in north Puget Sound has historically supported waterfront industries, recreation, fishing, and



Fidalgo and Padilla Bays - Current Cleanup Sites

remarkably productive fish and wildlife habitat. As part of the Puget Sound Initiative, Ecology is focusing on Fidalgo Bay for priority cleanup. Several waterfront cleanup sites have been Identified, and cleanup and restoration efforts in these areas have begun. Additional cleanup sites or baywide cleanup needs may be identified as Ecology learns more about overall sediment quality and the extent of baywide contamination.

# Contacts for more information:

Technical Questions Chance Asher 360-407-6914 cash461@ecy.wa.gov

Community Involvement Questions

Sandra Caldwell 360-407-7209 saca461@ecy.wa.gov

Media Inquiries Seth Preston 360-407-6848 spre461@ecy.wa.gov

Toxics Cleanup Program Web Site http://www.ecy.wa.gov/programs/tcp/ sites/psi/overview/psi baywide.html

Special accommodations:
If you need this publication in an alternate format, call the Toxics Cleanup Program at (360) 407-7170. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.

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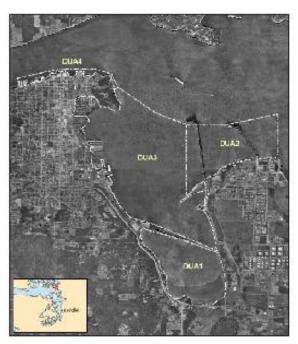
# Focus Puget Sound Fidalgo & Padilla Bays



# Scope of Baywide Sediment Study

The baywide study included areas of Fidalgo Bay that had not been sampled previously, and a short section of the Anacortes waterfront along Guemes Channel.

The Bay was divided for study into four areas: Southern Fidalgo Bay, south of the Tommy Thompson Trail causeway; March Point, near the refinery piers; Northwestern Fidalgo Bay; and the area from the east side of Cap Sante Marine west to the Guemes Island ferry landing.



Four DUAs (Decision Unit Areas) for sediment investigation

# What We Did to Sample Fidalgo Bay

On the floor of the Bay, we sampled sediments down to 10 centimeters, which is the most biologically active layer. We analyzed for the presence of common sediment contaminants and biological toxicity. We also sampled much deeper, to about 13 feet, to understand the sedimentation rate. We also took tissue samples from bottom fish and shellfish throughout the Bay.

We were then able to analyze the chemicals present in sediments, and will be looking more closely at fish and shellfish tissue. Using a type of underwater camera, we looked broadly at the sediment surface to determine what types of plant and animal species are present.



Field team removes sediment samples

### What Did We Learn?

The analyses focused on finding chemicals that exceeded the state's Sediment Management Standards. These standards identify chemical contaminants that commonly occur at contaminated sites, and are typically screened for the evaluation of sediment health. What we found included chemicals exceeding those standards for mercury, phthalates, and Polycyclic Aromatic Hydrocarbons (PAHs). Dioxins/furans were also detected in some areas in the Bay. Chemical exceedances tended to be in the northwestern part of the Bay, and in Guernes Channel. Southern Fidalgo Bay and the March Point area showed little chemical contamination.

Several locations throughout the Bay failed biological toxicity tests. Biological toxicity tests determine if sediment-dwelling organisms are impacted by the chemical contaminants. Some of these locations also have elevated chemical contaminants while others do not. Areas without obvious chemical contaminants appear to be affected in part by large volumes of decaying wood waste. This wood waste tends to increase overall biological toxicity to the sediment-dwelling

Publication Number 08-09-110 April 2008 2



# Focus Puget Sound Fidalgo & Padilla Bays



organisms and degrade habitat quality for eel-grass beds and natural resources. This, in turn, can impact fish that use these resources for habitat and food.

The northwestern area along the western shore historically supported industrial and other uses including a paper mill, lumber mill, and marina. It is then no surprise that this is an area where Ecology is already overseeing several cleanups in response to previous sampling (see cleanup sites on map). The new baywide information confirms the importance of working hard to clean up those areas of the waterfront that have a history of industrial use.

The extent of contaminants in Guemes Channel will take some more work to understand. It is possible that additional cleanup sites could be identified, but more analysis is needed to be sure.

## What Are the Next Steps?

We are now conducting fish and shellfish tissue analysis to better understand contaminant concentrations that may impact human health. The results also confirm the importance of moving forward aggressively on the cleanup sites that are under way. For example, some of the highest dioxin concentrations were located in areas already designated for cleanup – near the former Scott mill site and the former Custom Plywood mill site. Those cleanups are already moving ahead, and should reduce the potential risk from any contaminants. Ecology may conduct further evaluation, especially in the Guernes Channel area where contaminated samples were found.

# Frequently Asked Questions



What kinds of contaminants were found, and at what levels?

A There were some fairly low levels of mercury contamination found, as well as some petroleum products. Phthalates, which result from use of plastics and other sources, were found in several locations. Dioxins and furans were present in all four areas of the Bay, with more found in the northwestern area.



What are phthalates, and what is their significance in the sediments?

A Phthalates are plasticizers used in PVC products throughout urban commercial and residential neighborhoods in materials such as vinyl flooring and shower curtains. Generally, phthalates reach sediments when plasticized PVC products off-gas. Phthalates stick to fine particles in the air, which are then deposited on soils and surfaces

throughout the watershed. When it rains, the particles wash off surfaces - particularly impervious surfaces like pavement, roofs, and cars - and into storm drains. Some types of phthalates tend to accumulate in sediments at the end of urban stormwater outfalls. Over time, since phthalates don't readily dissolve in water, they tend to build up in sediments. This is especially true in quiet, slow-moving waters. Although phthalates in sediments are toxic to benthic organisms, sediment concentrations pose a minimal risk to larger animals and human health.



What is the risk of mercury and petroleum products to Fidalgo Bay?

A Both mercury and petroleum were found at levels exceeding state standards. It appears that neither mercury nor petroleum are widespread. We are currently focusing cleanup in most areas where these elevated levels were found. Additional investigation

Publication Number 08-09-110 April 2008



# Focus Puget Sound Fidalgo & Padilla Bays



will occur in the other areas where these levels were found. At high enough concentrations, mercury and petroleum can impact animals that live in the sediments. Mercury can impact human health if it is widespread as a contaminant. Some petroleum contamination can also affect human health.

# C

### Where do dioxins come from?

Dioxins and dioxin-like compounds represent a family of chemical compounds. They are by products of human and natural activities, such as combustion and incineration, forest fires, chlorine bleaching of pulp and paper, automobile operation (from leaded fuels), certain types of chemical manufacturing and processing, and other industrial processes. Typically released in very small amounts, dioxins tend to build up in the environment because they break down very slowly. They are found everywhere – in air, soil, and water. Sometimes they are broadly scattered over an area; sometimes a "hot spot" exists where a particular operation took place. Wherever they are, dioxins strongly bind to soil and sediments.

# Q

### Do dioxins pose a risk to human health?

A Most of what is known about the health effects of dioxins comes from studies of workers exposed to relatively high dioxin levels. These studies and research with animals indicate that dioxins at high levels are likely to cause cancer in humans and can also cause developmental and reproductive effects.

However, the levels that people are normally exposed to are generally much lower. The possibility of adverse effects from low levels of exposure to dioxins in the general public remains debatable and controversial. This is because we are exposed to different mixtures of dioxins over time and it is difficult to know how toxic the various mixtures are. The health effects associated with dioxins depend on a variety of factors including the level of exposure, when someone was exposed, and how long and how often they were exposed to dioxins. It is also a challenge to measure or observe the effects, if any, from exposures to the general public at these low background levels.

Dioxins exist throughout the environment and almost every living creature including humans has been exposed to dioxins. Because dioxins are so widespread, we all have some level of dioxins in our bodies. In general most human exposure to dioxins comes from the fat in our food, mostly meat and dairy products. In the case of Fidalgo Bay, it is unlikely that exposure would increase significantly from occasional recreational activities.

# 0

### How can we learn more about dioxin risk?

A More data is needed to better understand the risks to our health from low levels of exposure to dioxins. As more tissue analyses from this sediment study are completed, we will consult with state and county health officials to determine whether any fish and shellfish consumption limits should be established.

# Q

### What is the source of the contaminants in Fidalgo Bay?

A number of contaminants were found in Fildalgo Bay. They originated from a number of different sources. Ecology does not yet know all of the sources of the contaminants found in the recent sediment study. Dioxins were detected throughout the bay. Historic industrial use of the waterfront is a likely source. Dioxins come from activities including combustion and incineration, forest fires, chlorine bleaching of pulp and paper, certain types of chemical manufacturing and processing, and other industrial processes. Phthalates occur almost everywhere from road runoff, tires, brakepads, plastic products, and municipal wastewater treatment plants. Petroleum is associated with marinas and road runoff. Many metals are associated with shipyard operations. We have not identified any known source of mercury in Fidalgo Bay. Mercury may be from natural sources.

Publication Number 08-09-110 April 2008 4



# Focus Puget Sound Fidalgo & Padilla Bays





How might I be exposed to the contaminants?

A Exposure takes place, basically, through three routes: eating, breathing, and skin contact. For example, eating bottom fish and shellfish can result in dioxin, mercury, and carcinogenic PAH exposure. Skin contact with highly contaminated sediments can result in exposure to contaminants as well. For dioxin particularly, the primary pathway for exposure is diet, especially meat and dairy products.



When will we know more? When will the study be completed?

A Ecology is analyzing bottom fish and shellfish samples to provide better information about the health of the bay and potential human health risk. We plan to have those results by the end of July 2008. Once the results are available we will work with local and state health agencies to identify and communicate potential health risks to Fidalgo Bay communities. We will be back later this spring to talk with the community about the overall study results and what they mean for residents.

## References for more detailed information on contaminants:

- Washington State Sediment Management Standards: http://www.ecy.wa.gov/programs/tcp/smu/sed\_chem.htm
- Puget Sound Initiative priority bays link: http://www.ecy.wa.gov/puget\_sound/index.html
- MTCA Cleanup link: http://www.ecy.wa.gov/programs/tcp/cleanup.html
- Dioxin link: http://www.ecy.wa.gov/pubs/0104010.pdf
- Phthalates link: http://www.ecy.wa.gov/programs/tcp/smu/phthalates/phthlates\_hp.htm

Publication Number 08-09-110 April 2008 5





# **Custom Plywood Mill Site**

**Toxics Cleanup Program** 

February 2011

# Interim Action Cleanup Plan Available for Public Review and Comment



A PUGET SOUND INITIATIVE Site

Reaching the goal of a healthy, sustainable Puget Sound.

## **Ecology Wants Your Input!**

The Department of Ecology is asking for your comments on an Interim Action Cleanup Plan for a site on Puget Sound. The Custom Plywood Mill Site is one of several properties located on the waterfront in Anacortes. Ecology is conducting the cleanup for a portion of this Site under the state's Puget Sound Initiative. It is located on the west shore of Fidalgo Bay, near 35th Street in Anacortes. The property can be seen from the water and from the Tommy Thompson hiking trail.

You are invited to comment on documents for the interim action at the Custom Plywood Mill Site. These include:

- Draft Remedial Investigation (RI)/Feasibility Study (FS)
- Draft Cleanup Action Plan (CAP) and Engineering Design Report for the upland cleanup
- State Environmental Policy Act (SEPA) Checklist and Mitigated Determination of Non-Significance for this action

Ecology will accept comments from February 15 to March 17, 2011. See the box on the right for details about where to review documents and submit comments. An open house will be held on February 24 from 4:30-6:30 pm at the City Council Chambers, located at 6th Street and Q Avenue in Anacortes.

# Site Background

The northern part of the Custom Plywood Mill Site is currently used for temporary boat storage. The rest of the property is vacant with abandoned building remnants and debris. Wetlands

### Comments Invited

### February 15 to March 17, 2011

### Send comments to:

Hun Seak Park - Site Manager WA Department of Ecology Toxics Cleanup Program PO Box 47600 Olympia, WA 98504-7600 Phone: (360) 407-7189

E-mail: HunSeak.Park@ecy.wa.gov

### Open House and Public Meeting: February 24, 2011

4:30-6:30 pm, presentation at 5:15 pm City Council Chambers 6th Street and Q Avenue Anacortes, WA 98221

## To review documents:

## Anacortes Public Library

1220 10th Street Anacortes, WA 98221 Phone: (360) 293-1910 Hours: Mon-Thurs 11am-8 pm Fri. 11am-5pm, Sat-Sun noon-5pm

### WA Department of Ecology

### Headquarters

300 Desmond Drive SE Lacey, WA 98503 By appointment only: Contact Carol Dorn, Carol.Dorn@ecy.wa.gov or (360) 407-7224

### Ecology's Website

http://www.ecy.wa.gov/programs/tcp/ sites/custom\_ply/custom\_ply\_hp.htm

Facility Site ID #: 6858



# **Custom Plywood Mill Site**

are present on the Site. The property has historically been a sawmill and wood box factory and then a plywood mill. Mill features included:

- Hog-fuel boiler (which burned wood scraps to produce energy).
- Drum and tank storage area.
- Transformer yard.
- Above-ground storage tanks containing fuel oil, gasoline, diesel and propane.
- Phenol formaldehyde resin and caustic storage tanks (for making plywood glue).
- Machine shop and metal shop.
- Area for spraying paint and oil.

## Investigation of Contamination

The Draft RI was prepared by the current property owner under an Agreed Order with Ecology. The RI describes the nature and extent of contamination in upland soil and groundwater, and sediments in the inwater portions of the Site.

Soils in the upland portion of the Site have elevated concentrations of arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, zinc, oil-range petroleum hydrocarbons, dioxins, and furans

Groundwater beneath the Site does not meet drinking water standards due to tidal influence. It also has elevated concentrations of arsenic, copper, and nickel. Marine sediments are contaminated with dioxins and wood debris and some biological test failures also occured

### Feasibility Study

The Draft FS evaluates possible cleanup options for the upland and in-water

portions of the site. It evaluates four cleanup options for the upland portion of the Site and five options for the in-water portion of the Site. Ecology's proposed cleanup actions are described below.

### What Will Cleanup Look Like?

The Interim Action Workplan, Draft CAP, and Engineering Design Report describe the cleanup in detail. In summary, the cleanup is divided as follows:

### Upland Cleanup (cleanup begins 2011)

- Remove pilings and other structures, where needed, to allow excavation.
- Excavate contaminated soil up to 15 feet below ground surface in affected
- Dispose of contaminated soil, pilings and structures off-site.
- Mitigate impacts to existing upland
- Start groundwater monitoring and institutional controls

### In-Water Cleanup (cleanup begins 2012)

- Remove pilings and other marine structures, where needed, to allow excavation.
- Excavate and dredge contaminated sediment up to 6 feet below sediment-water interface in the nearshore and inter-tidal areas up to 2 feet below sediment-water interface in shallow offshore areas.
- Dispose of contaminated sediment off-site.
- Place a thin-layer cap on nondredged areas for enhanced natural recovery.



# **Custom Plywood Mill Site**

### **Sediment Investigation**

Previous investigations in Fidalgo Bay identified sediment contamination near the former Custom Plywood Mill Site. The purpose of this study was to understand contaminants including Dioxins levels near the Site, and determine background concentrations in Fidalgo and Padilla Bays.

Ecology collected and analyzed surface sediment and clam tissue samples from the Custom Plywood Mill Site.

The results indicate that the Custom Plywood Mill Site is a likely source of some of the sediment dioxin contamination throughout Fidalgo Bay. Ecology is using the data to determine what cleanup is needed.

### State Environmental Policy Act (SEPA) **Checklist and Determination**

SEPA makes sure that environmental values are considered during agency decisionmaking. Ecology prepared a SEPA checklist to identify potential environmental impacts of the project on the surrounding environment. Ecology determined that any impacts during cleanup actions can be mitigated (Mitigated Determination of Non-Significance). The checklist and determination are both available for public comment

### Why This Cleanup Matters

# Protecting and restoring Puget Sound

Governor Gregoire and the Legislature established the Puget Sound Initiative to protect and restore Puget Sound. Ecology has identified several baywide areas as high-priority cleanup areas, including Port Gamble, Dumas Bay, Padilla and Fidalgo

Bays, Port Angeles, Budd Inlet, and Port Gardner Bay.

This work includes cleaning up 50-60 sites within one-half mile of the Sound, including the Custom Plywood Mill Site. These cleanup actions will help to reduce pollution and restore habitat and shorelines in Puget Sound.

For more information about other cleanup sites, go to: http://www.ecy.wa.gov/programs/tcp/sit es/sites information.html

### What Happens Next?

Once the public comment period ends on March 17, Ecology will review and consider all comments. Cleanup documents may be modified based on your comments. The Public Participation Plan has been updated and has more information about the cleanup process and how you can get involved. Ecology will notify you about future cleanup work and public comment periods.

For information about other Ecology public comment periods, meetings, and other events, please visit Ecology's public events calendar at: http://apps.ecy.wa.gov/pubcalendar/ calendar.asp.



# **Custom Plywood Mill Site**

# Come to the Open House Feb. 24

A community open house and meeting will be held from 4:30-6:30 pm on Thursday, February 24, 2011.

Come learn about the plan to clean up the Custom Plywood Mill Site and how it fits into an overall plan of restoring the health of Fidalgo Bay.

## Open House & Meeting Location:

City Council Chambers 6th Street and Q Avenue Anacortes, WA 98221

> We hope you can join us, and welcome your comments

What can you do?

- Read about the cleanup in this handout.
- To get more detailed information, review the supporting documents at the locations listed on page one.
- Write down your comments and questions. Send them to the Department of Ecology at the address shown on page one.

We appreciate your comments and concerns. Thank you.



The Custom Plywood Mill Site is located on the west shore of Fidalgo Bay near 35th Street in Anacortes, WA. Pictured to the left in the foreground (upland area) are remnants of the former press pits used during past industrial operations. In the background are old concrete building structures in the shoreline area of the Site.

The upland cleanup will result in the removal of structures, pilings and contaminated soils. In-water work will address the near-shore and sub-tidal areas at the old Custom Plywood Mill Site.

Department of Ecology site photo archives

4





Toxics Cleanup Program PO Box 47600 Olympia, WA 98504-7600

## Help with other languages and formats?

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# Custom Plywood Mill Site, Anacortes Skagit County, WA

Ecology Seeks Public Comment on Draft Site Cleanup Documents

Public Comment Period: February 15 to March 17, 2011

Open House: February 24, 2011 Anacortes City Council Chambers 4:30 – 6:30 pm, presentation at 5:15 pm

Facility Site ID #: 6858



Map source: Google maps 2010



