



Eldridge Municipal Landfill (within Little Squalicum Park)

#### Want to see these sites in action?



Check out our interactive Google Map with videos, interviews and more info.



Weldcraft Steel 3 & Marine **Marine Services** Northwest **Holly Street I & J** WHY DO THESE CLEANUPS MATTER? 5 Landfill Waterway Bellingham Bay's industrial legacy has left us with a variety of problems and the responsibility to do something about them. By cleaning up pollution from past uses, we create more public access to the bay, provide a better habitat for fish and **Central Waterfront** 6 wildlife, and in turn improves human health for our community for generations to come. **Georgia**–Pacific West 9a WHATCOM MUSEUM PHOTO ARCHIVES (Pulp & Tissue Mill) Whatcom Holly Street Landfill area, 1948. What-8 Georgia–Pacific West (Chlor-Alkali Plant) com Creek in foreground, looking north toward current day hatchery Waterway 9b from the creek's south side. RG Haley 10 ATCOM MUSEUM PHOTO ARCHIVES **Cornwall Ave.** 11 Landfill Site of Eldridge Landfill and current day Little Squalicum Park, 1963. Oeser Wood in upper right.







WHATCOM MUSEUM PHOTO ARCHIVES

From the 1890s to the 1950s this plant made home heating and cooking gas from coal.

# EXPLORING OUR INDUSTRIAL LEGACY

and restoring Bellingham Bay

A self-guided tour of the 13 BELLINGHAM WATERFRONT environmental cleanup sites



Ecology holds a **30 day comment period** on each step where applicable. Ecology oversees those responsible for cleanups, including Port of Bellingham, City of Bellingham and others.

## WHAT'S IN A CLEANUP?

Upland soil, groundwater, and marine sediment get cleaned up through several methods:

**Soil and sediment removal:** The most protective option, but has higher environmental impacts. For example, contaminated soil can be trucked to landfills in Eastern Washington or remediated off-site and reused for fill or capping on land or in the water.

**Capping:** Clean soil, pavement, or infrastructure is placed on top of contaminants to prevent spreading.

**In situ treatment:** Contamination is treated on site through bioremediation by adding nutrients, microbes or other materials — basically doing nature's job, but quicker. Often used for contaminated groundwater.

This material is funded through a Public Participation Grant from the Washington State Department of Ecology. The content was reviewed for grant consistency but is not necessarily endorsed by the agency.

Este material ha sido financiado por una Subvención de Participación Pública del Departamento de Ecología del Estado de Washington. El contenido de la subvención fue revisado para verificar su coherencia, pero no es necesariamente endosado por la agencia.

### **BACKGROUND ON THE SITES**

**RE** SOURCES

Text RESOURCES to 40649 to receive

occasional actions, updates and ways to

re-sources.org | 360.733.8307

keep our waterways clean.

**1. Oeser Wood** Wood treatment beginning in the 1940s contaminated the groundwater and soil with hazardous substances such as PAHs, pentachlorophenol, heavy metals, and dioxins. Oeser continues to treat wood, but now employs stormwater best management practices to avoid re-polluting. Cleanup overseen by the Environmental Protection Agency (EPA) under the Superfund program included removal and relocation of contaminated materials (including in the Little Squalicum Creek Area) as well as capping at the Oeser facility. The cleanup will not be final until Oeser's facility closes.

**2. Eldridge Municipal Landfill** is within Little Squalicum Park, near the lower parking lot of Bellingham Technical College. Burning and burying of waste during its use as a landfill in the 1930s resulted in municipal garbage, and soil and groundwater contaminated with PAHs, heavy metals, and other persistent toxic chemicals. An interim action in 2011 removed the majority of the garbage and contaminated soil. Cleanup is now complete and monitoring is in effect. Wetland restoration and protective fencing are now in place. The area is a very popular off-leash dog park.

**6. Central Waterfront** is a 55-acre site that were once tidelands, since filled in for various industrial uses. This site contains four former cleanup sites: Chevron bulk fuel storage and distribution facility, Colony Wharf boatyard, Olivine rock crushing plant, and Roeder Avenue landfill. They were combined into one cleanup site because of intermingling groundwater. Contaminants at the Central Waterfront site include PAHs, heavy metals, and petroleum products. Interim actions were completed in 2013 at the former Chevron facility to prevent fuel products from seeping into the bay and in 2018 at the present day location of the All American Marine building. Final field tests are being conducted to finalize the Engineering design. Cleanup is expected in 2024.

**7.** Holly Street Landfill, a 13-acre site located at the mouth of Whatcom Creek, became a solid waste landfill in the early 1900s. The cleanup was completed in 2005, and included removing waste from both sides of the creek channel as well as restoring historically lost habitat and improving public access at the mouth of Whatcom Creek. The site is now part of a city park and post-construction monitoring continues.

**8.** Whatcom Waterway includes more than 200 acres of underwater land along the downtown Bellingham waterfront, including a former industrial water treatment lagoon. Legacy pollution, largely mercury, lingers from the former Georgia-Pacific plant (GP). GP used mercury in its chlor-alkali plant to produce chlorine and sodium hydroxide for bleaching and pulping wood fiber. Wastewater containing mercury was discharged directly into Bellingham Bay from 1965 to 1971. The first phase of cleanup — capping and dredging in the area adjacent to the Georgia-Pacific West site — was completed in 2016. Additional testing is being conducted to finalize Phase 2 cleanup plans and cleanup is expected to start in 2023.

#### How do we know a cleanup is effective?

All cleanups meet minimum standards set by Ecology based on the future use of the land (public park vs. industry or other uses). If there is contamination leftover, a site's uses will be limited. One site might be clean enough for a shipyard but not clean enough for housing. Many of the cleanup sites have become accessible to the public, like Waypoint Park and the future Cornwall Park.

Monitoring occurs every 5 years to ensure capping and other remedies are functioning. Cleanup plans consider seismic activity and sea level rise paired with high tides.

During the cleanup there are opportunities to restore habitat — such as pocket beaches for young fish, eelgrass bed restoration, or adding native plants.

#### **COMMON CONTAMINANTS**

These persist in the soil and water for a long time, and have the potential to cause harm to people and wildlife.

**Petroleum:** The most common contaminant that originates from storing and using petroleum products such as gasoline or oil on site. Most petroleum products are highly toxic and flammable.

**Polycyclic aromatic hydrocarbons (PAHs):** A group of chemicals released from the incomplete combustion of fossil fuels or other organic materials. Also found in coal tar, crude oil, creosote, and roofing tar. Can harm the skin, liver, immune system or cause cancer.

**Metals** (copper, zinc, cadmium, lead, arsenic, nickel, and mercury): **Mercury** is the greatest concern in the Bay. It's left over from the bleaching process for the pulp and tissue mill operated by Georgia-Pacific. Mercury can cause severe neurological disorders, reproductive, and birth defects. Mercury bioaccumulates, meaning animals at the top of the food chain contain the most.

**Dioxins/Furans:** These are byproducts of some industrial processes, including the historic pulp and paper industry's wood pulp bleaching process. They can also be produced during combustion. Dioxin and furans bioaccumulate in the food chain and can lead to hormone imbalance, immune system suppression, skin irritation and cancer.

water. Mercury, along with high pH (caustic), PAHs, and petroleum hydrocarbons contaminates the soil and groundwater at the site. Two interim actions have removed building materials and soils contaminated with high levels of mercury and the footprint of the former Cell Building was paved. A small section of the site known as the Lignin Parcel is expected to be cleaned up and developed into low income housing in 2023. The remainder of the site will be cleaned up after the Engineering Design for the cleanup is finalized.

**10. RG Haley** was used for lumber, coal, and wharf operations from the mid-1800s to the mid-1900s. Various companies treated wood on the property until 1985, including the most recent company, RG Haley. Contaminants at the site include PAHs, petroleum products, dioxins, furans, and wood-treating chemicals. An interim action occurred in 2013 to keep oil from seeping into the bay and the final Engineering Design Report was completed in 2022. Cleanup is expected to occur in 2024 or 2025. RG Haley and the adjacent Cornwall Avenue Landfill site will be developed into a waterfront city park.

**11. Cornwall Avenue Landfill** has been used for log milling, storage, and wood disposal . Between 1954-1965, the site was used as a municipal landfill. Groundwater and sediments contain a variety of contaminants, such as PAHs and petroleum products. An interim action to help prevent rainwater from carrying contaminants to the Bay was conducted by placing stabilized dredged sediment on top of the landfill, currently under a white plastic covering you can see from the trail to Boulevard Park. The final Engineering Design Report is expected in 2022 with cleanup starting soon after.

**3.** Weldcraft Steel & Marine is an approximately 2.5-acre site with sediment, soil and groundwater contaminated with metals, tributyltin, and petroleum products. The current tenant, Seaview Boatyard North, is not responsible for the contamination. In 2006, an interim action cleanup was conducted for the sediment portion of the site. The sediments were dredged and disposed of in a permitted landfill. A draft Cleanup Action Plan (CAP) is anticipated in 2022 or later for public review. The CAP is anticipated to include plans for environmental capping, groundwater treatment and monitoring to ensure cleanup meets state standards.

**4. Marine Services Northwest**, located in the Squalicum Harbor Inner boat basin, is the site of a boatlift whose past boatyard practices led to contamination of the sediment. Historically, scraping and sandblasting toxic paint off boats was done directly over the water. This site is waiting for a Remedial Investigation before the cleanup process can progress.

**5.** I & J Waterway is a 3.1-acre site on the waterfront at the terminus of I & J Streets contaminated with PAHs, heavy metals, dioxins and furans from a variety of sources and historic practices over the past century. The site includes contaminated marine sediments in the waterway and nearby ship-berthing areas. The preferred cleanup alternative presented in the 2015 RI/FS involves capping and removing contaminated sediments. Additional field testing to address data gaps is occurring to finalize the engineering design for the cleanup action. Cleanup is expected in 2024.

**9.** Georgia-Pacific West is a 74-acre cleanup site that consists of contaminated soil and groundwater from the former Georgia-Pacific (GP) pulp and tissue mill. A Remedial Investigation was completed in 2013. The site was then split into two Remedial Action Units (RAUs), based on two separate and distinct areas and types of contamination.

**A GP West Pulp and Tissue RAU** contains metals, low pH, petroleum products, dioxins and furans that exceed state cleanup standards. An interim action conducted in 2012 removed the majority of petroleum contaminated soils. The final cleanup was completed in 2016 and included soil removal, soil capping, groundwater monitoring, and property use restrictions. The property now houses the restored Granary building, Waypoint Beach, bike pump track, and beer garden.

**B** GP West Chlor-Alkali RAU is where mercury was used to produce chlorine and sodium hydroxide from salt

**12. South State Street Manufactured Gas Plant** operated from the 1890s to the 1950s. The plant burned coal to make gas for heating and cooking. Contaminants include PAHs and petroleum products, and are found in the site's soils, sediment, and groundwater. The site is part of Boulevard Park. The final engineering design is expected in 2022 and cleanup to occur soon after.

**13.** Harris Avenue Shipyard has been used since the 1900s for shipbuilding, fish processing, and other industrial activities. The site consists of contaminated sediment, soil, and groundwater. Contaminants of concern include heavy metals, PAHs, and petroleum products. The current tenant is not responsible for the contaminated soil and sediments were removed along with the carpenter building and wood pier, including over 500 toxic creosote treated pilings. Final Cleanup Engineering Design is expected in 2023 with cleanup to occur sometime after that.