

Cleanup Settlement Account

Fiscal Year 2016 Annual Report



Publication and Contact Information

This report is available on the Department of Ecology's website at <https://fortress.wa.gov/ecy/publications/SummaryPages/1609173.html>

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Report to the Legislature on Cleanup Settlement Account

Toxics Cleanup Program
Washington State Department of Ecology
Olympia, Washington

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Purpose of Report

This report is required by RCW 70.105D.130 (7): “The department shall provide the office of financial management and the fiscal committees of the Legislature with a report by October 31st of each year regarding the activity within the cleanup settlement account during the previous fiscal year.”

This is the fourth annual report for this account. This report covers the financial activity from July 1, 2015 through June 30, 2016. It also includes background on each cleanup project and accomplishments through the fiscal year (FY) 2016.

The following cleanup projects are currently funded through the Cleanup Settlement Account:

- B&L Woodwaste (Tacoma), Louisiana Pacific Trust
- Everett Smelter (Snohomish County)
- Golden King Mine (Chelan County)
- Lilyblad (Tacoma)
- Monte Cristo Mine (Snohomish County)
- Tacoma Smelter Plume (Pierce, King and Thurston County)
- Van Stone Mine (Stevens County)
- Harper Estuary (Kitsap County)

The following cleanup projects were funded in past years through the Cleanup Settlement Account:

- BNSF Skykomish Natural Resource Damages (King County)
- City Parcel Site (Spokane County)
- Cholette Mine (Stevens County)

Introduction

Cleanup Settlement Account continues to help protect human health

The mission of the Washington Department of Ecology is to protect, preserve, and enhance Washington's environment. The Department fulfills its mission by promoting the wise management of the state's natural resources for the benefit of current and future generations.

The mission of the Toxics Cleanup Program is to protect human health and the environment by preventing and cleaning up pollution and supporting sustainable communities and natural resources for the benefit of current and future generations.

This report to the Washington Legislature describes how Ecology uses the Cleanup Settlement Account to move forward with cleanup efforts that are important for the state's environment and people.

Under the Model Toxics Control Act (MTCA), Ecology oversees cleanup work performed by liable parties or conducts cleanups and recovers its costs for the work. However, this isn't feasible when a company declares bankruptcy or does not have the financial means to pay the full cleanup cost.

The Legislature created the Cleanup Settlement Account in response to a problem – money recovered from a bankrupt party or a party with a limited ability to pay was not likely to cover all cleanup costs. The account not only created a repository but also allowed for the state to use interest on deposited funds for more cleanup activities.

Thanks to the Legislature's action, Ecology and the Attorney General's Office can now agree to settlements in which the liable party contributes money for future cleanup work in exchange for settling its liability. Cleanup settlements may also help fund future natural resource restoration work at a particular site.

The following pages contain the ways Ecology puts these settlements and funds to use. Several of these key cleanup projects are in process. One such example is the Asarco bankruptcy court settlement. We are fully engaged in cleanup work within the areas encompassed by the Tacoma and Everett smelter plumes. We are replacing soil in residential yards, child-care facilities and parks. We are also sampling other properties and educating people about potential health impacts.

This work is possible because the Legislature recognized a problem and created the Cleanup Settlement Account. This valuable tool helps us work together for a healthier environment, to improve the quality of life for our communities, and create a more vibrant economy for current and future generations of the State of Washington.

Cleanup Site Overview

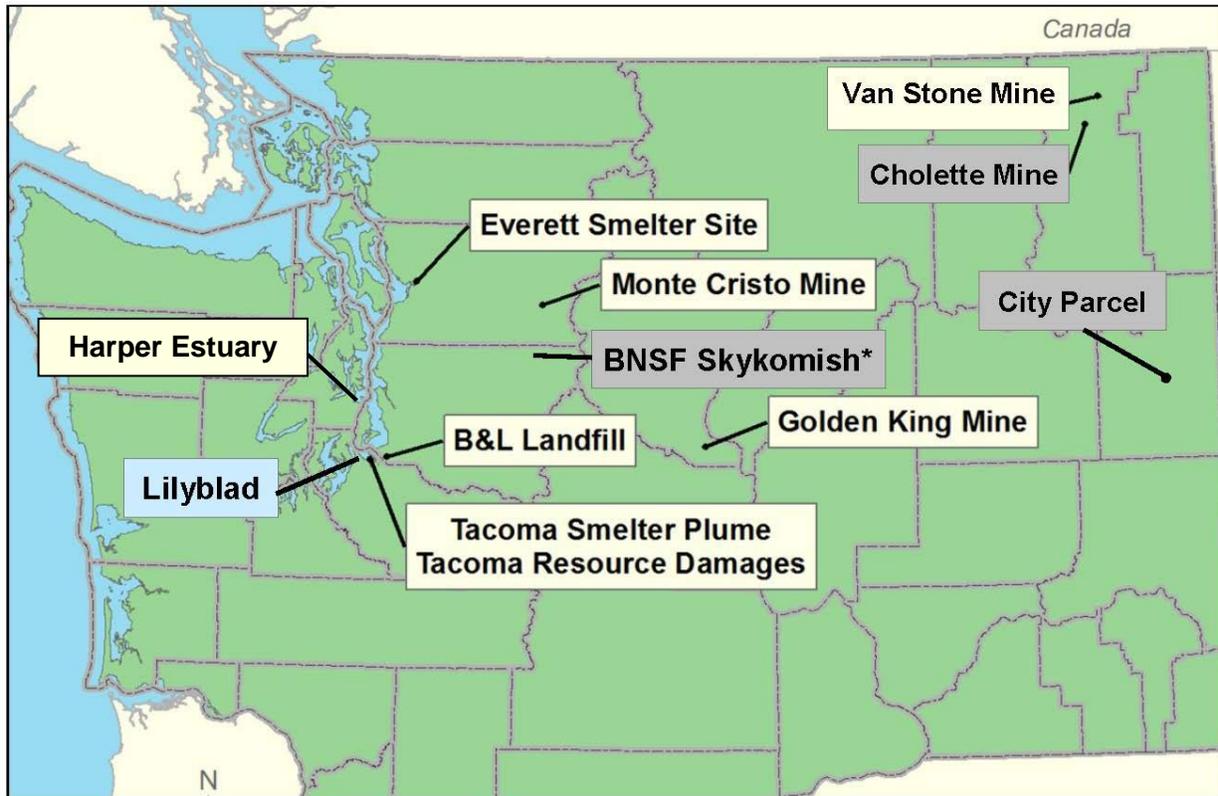


Figure 1: Cleanup Sites

*Ecology used this settlement to fund a portion of the cleanup. If Ecology determines there are future site costs, we will make a budget request from the Model Toxics Control Act Accounts.



Cleanup Settlement Account

During the 2008 legislative session, the Legislature approved Senate Bill 6722 which created the Cleanup Settlement Account. Ecology requested this legislation to create an interest-bearing account in the state treasury to manage money from settlements or court orders in cases of bankruptcy, limited ability to pay, or natural resource damages. This account ensures that settlement funds are linked to specific site cleanup activities or damages to natural resources.

Ecology needed this new account because we anticipated several large settlements. Although large settlements and court orders are rare, they do pose a unique problem for the state. By accepting the settlement funding, the state agrees to manage the funds and use them as intended in the settlement agreement or court order. However, the funds recovered from a bankrupt party, or a party with a limited ability to pay, typically do not cover the entire cost of cleanup. Therefore, it is important to set aside the funds from the settlement for that particular cleanup, even if it could take several years to accomplish.

The Cleanup Settlement Account allows the State to retain interest earned on funds in the account. Without this interest, the state will not have the full amount of money required to complete the work. The State Toxics Control Account (STCA) does not retain interest earnings and there is no other appropriate interest-bearing account into which the State can deposit these funds.

Settlement Summary

The following is a summary of settlements, by site, which the State originally deposited into the Cleanup Settlement Account before earning any interest or making any expenditures. The table on page 5 shows activity in the account after the State deposited the settlement into the account.

Table 1: Original Settlement Summary

Settlement	Amount
Burlington Northern Sante Fe - Skykomish Site [^]	\$ 5,050,000
City Parcel Site*	\$ 270,000
Louisiana Pacific - B & L Woodwaste Site	\$ 1,000,000
Lilyblad Petroleum Site	\$ 800,000
Asarco - Natural Resource Damages**	\$ 8,236,782
Asarco - Tacoma Smelter Plume	\$ 94,554,730
Asarco - Everett Smelter Site	\$ 33,888,476
Asarco - Monte Cristo Mine	\$ 6,471,758
Asarco - Van Stone Mine	\$ 3,530,050
Asarco - Cholette Mine*	\$ 353,005
Asarco - Golden King Mine	\$ 470,673
Asarco Subtotal	\$ 147,505,474
Total Settlement Funding	\$ 154,625,474

*Sites not covered in the report because no further cleanup work is needed.

** This includes \$4.1 million for Maury Island Open Space and \$4.1 million for Harper Estuary.

[^]Ecology used this settlement to fund a portion of the cleanup. If Ecology determines there are future site costs, a budget request will be made from the Model Toxics Control Act Accounts.

Cleanup settlement account remaining balance

As of June 30, 2016

Table 2: Remaining Balance

Cleanup Settlement Site	Fund Balance
Louisiana Pacific - B&L Woodwaste site	\$ 1,083,000*
Lilyblad Petroleum Site	\$ 33,000
Asarco - Natural Resource Damages	\$ 3,682,000
Asarco - Tacoma Smelter Plume	\$ 32,865,000**
Asarco - Everett Smelter Site	\$ 8,612,000
Asarco - Monte Cristo Mine	\$ 2,964,000
Asarco - Van Stone Mine	\$ 2,246,000
Asarco - Golden King Mine	\$ 481,000*
Remaining Fund Balance June 30, 2016 ***	\$ 51,966,000
Loans Receivable	
State Efficiency and Restructuring Account Loan	\$ 14,861,000
Total Point Ruston Sediment Capping and Shoreline Restoration Loan	\$ 6,068,000
Aquatic Lands Enhancement Account	\$ 3,034,000
State Toxics Control Account	\$ 3,034,000
Local Toxics Control Account	\$ 13,041,000

* The Cleanup Settlement Account retains interest. Settlements that increased from the last report had no or few expenditures and earned interest.

** The remaining balance reflects the cleanup costs and loans taken from the account. The Tacoma Smelter Plume project anticipates spending around \$30 million on cleanup costs through the 2015-2017 biennium.

*** This amount reflects expenditures posted through the June 30, 2016.

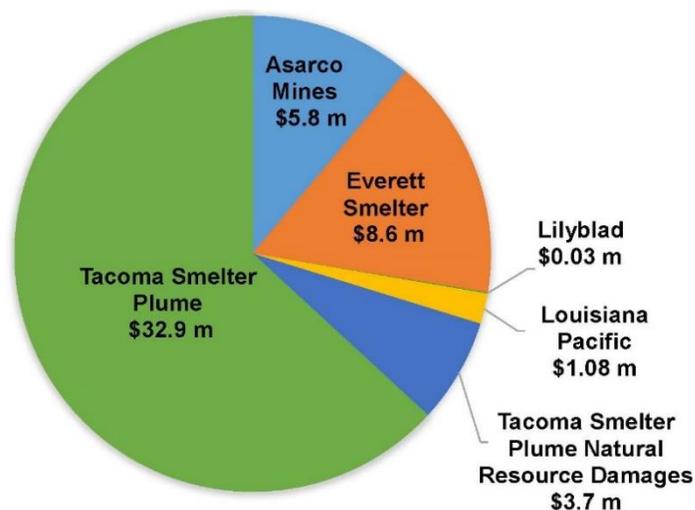


Figure 2: Cleanup Settlement Account Cash (millions), as of June 30, 2016.

Cleanup Settlement Account

Fund transfers: State Efficiency and Restructuring Account (SERA)

Fiscal year 2011 \$39,480,000 transfer

In the 2010 supplemental budget, the Legislature authorized the transfer of \$39.48 million from the Cleanup Settlement Account to the State Efficiency and Restructuring Account (SERA). The Legislature provided a payback provision in the budget requiring that the SERA repays the funds over an eight year period with an interest rate that is five tenths of a percent higher than the interest rate the funds would have earned without the transfer.

2015-17 biennium repayment appropriations

Loan Receivable FY 2016	\$ 5,078,000
Outstanding Loan as of June 30, 2016	\$14,861,000
Loan Receivable FY 2017	\$ 5,078,000

Repayments: Point Ruston sediment capping and shoreline restoration

Fiscal year 2012 \$7,200,000 appropriation

In the 2012 supplemental budget, the Legislature appropriated \$7.2 million from the Cleanup Settlement Account to the Washington Department of Natural Resources (DNR) for the Point Ruston Sediment Capping and Shoreline Restoration project. The funding is for completing sediment capping and shoreline stabilization on aquatic lands located adjacent to the Asarco cleanup site in Commencement Bay.

The funding is restricted, to be used only if DNR enters into agreements with the U.S. Environmental Protection Agency or the land owner, Point Ruston LLC, to fully relieve the state from any further liability or contributions relating to the cleanup of these aquatic lands. This appropriation from the Cleanup Settlement Account is a loan payable over an eight year period. Half will come from the Aquatic Lands Enhancement Account (ALEA) and half from the State Toxics Control Account (STCA). The repayment interest is five-tenths of one percent higher than what the funds would have normally earned on deposits in the state treasury.

2015-17 biennium repayment appropriations

Aquatic lands enhancement account

Loan Receivable FY 2016	\$ 643,000
Outstanding Loan as of June 30, 2016	\$3,034,000
Loan Receivable FY 2017	\$ 643,000

State Toxics Control Account

FY 2016	\$ 643,000
Outstanding Loan as of June 30, 2016	\$3,034,000
Loan Receivable FY 2017	\$ 643,000

Maintaining positive balances in MTCA accounts

The Capital Budget authorized two loans totaling \$23 million repaid with interest in the 2015-17 biennium budget to balance the MTCA Accounts. The State transferred one of these loans for \$13 million from the Cleanup Settlement Account to the Local Toxics Control Account (LTCA) in January 2016. The State scheduled the second loan of \$10 million for June 2017. LTCA must repay the loans with interest in three equal repayments in FY 2019, FY 2020, and FY 2021.

Local toxics control account

There are no repayments appropriated in the 2015-17 biennium.

Outstanding Loan as of June 30, 2016	\$13,041,000
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Asarco Settlement

Asarco's legacy in Washington

Contamination from smelters and mines

The American Smelting and Refining Company (Asarco) was founded in 1899, with refineries and smelters across the United States and Mexico. Asarco operated two smelters, a landfill, and four mines in Washington, leaving a legacy of contamination.

The *Everett smelter* operated from 1894 to 1912, and a neighborhood was later built over the site. In 1990, Ecology discovered high levels of arsenic and other heavy metals in soil and groundwater.



Figure 3: Asarco Cleanup Sites

The *Tacoma smelter* operated far longer—from 1890 to 1986—and the Town of Ruston grew up around it. Air emissions from the smelter contaminated over 1,000 square miles of soil in the Puget Sound region.

The former *mines* are in remote areas of Chelan, Stevens, and Snohomish counties. Remaining mine tailings pose a threat to local ecosystems, polluting waterways and soil.

The *B&L Woodwaste Landfill* site, on the border of Fife and Milton, has arsenic contamination. Slag from the Asarco plant leached arsenic into groundwater, threatening a nearby wetland.

The 2009 Asarco bankruptcy settlement

Washington becomes part of the nation's largest environmental settlement in history.

In 2005, Asarco declared bankruptcy, largely due to environmental liabilities from its nearly 100 cleanup sites across the country. The State of Washington joined the federal government and other states in a suit against Asarco that spanned four years.

In November 2009, Asarco paid out a \$1.79 billion settlement. The settlement covered past and future cleanup costs, as well as interest earned over the four years. Washington's share, deposited into the Cleanup Settlement Account in December of 2009, was \$188.5 million—nearly 90 cents for every dollar claimed.

Years of planning and a vision for cleanup set the stage for a successful settlement.

A key to Washington's success was having management plans in place for both smelter sites, and a clear vision for how to manage the risk from "area-wide" arsenic and lead contamination. From 2001-2003, the Area Wide Soil Contamination Task Force developed recommendations that Ecology used as the basis for its management strategies. These included soil cleanup for the most highly contaminated areas, a focus on protecting children, and broad-based education and outreach—all pieces now funded by the settlement.

State of Washington Asarco settlement breakdown

Smelter cleanups comprise the largest cleanup costs.

Of the \$188.5 million received by the state, \$22 million went to a trust to pay for the B&L Woodwaste Landfill cleanup, and the remainder went to the two smelter sites and four mine sites (see figure 4 below).

An additional \$19 million of settlement funds reimbursed the State Toxics Control Account for past cleanup costs for the Everett Smelter and Tacoma Smelter Plume. It also provided \$8.2 million for natural resource damages from the Tacoma smelter.



Photo 1: Asarco 50th anniversary

The majority of the settlement will cover soil cleanup and outreach work for the two smelter sites. Everett cleanup costs are high due to deep, concentrated contamination close to the former smelter property. The Tacoma Smelter Plume contamination is shallower and less concentrated, but covers a much larger area.

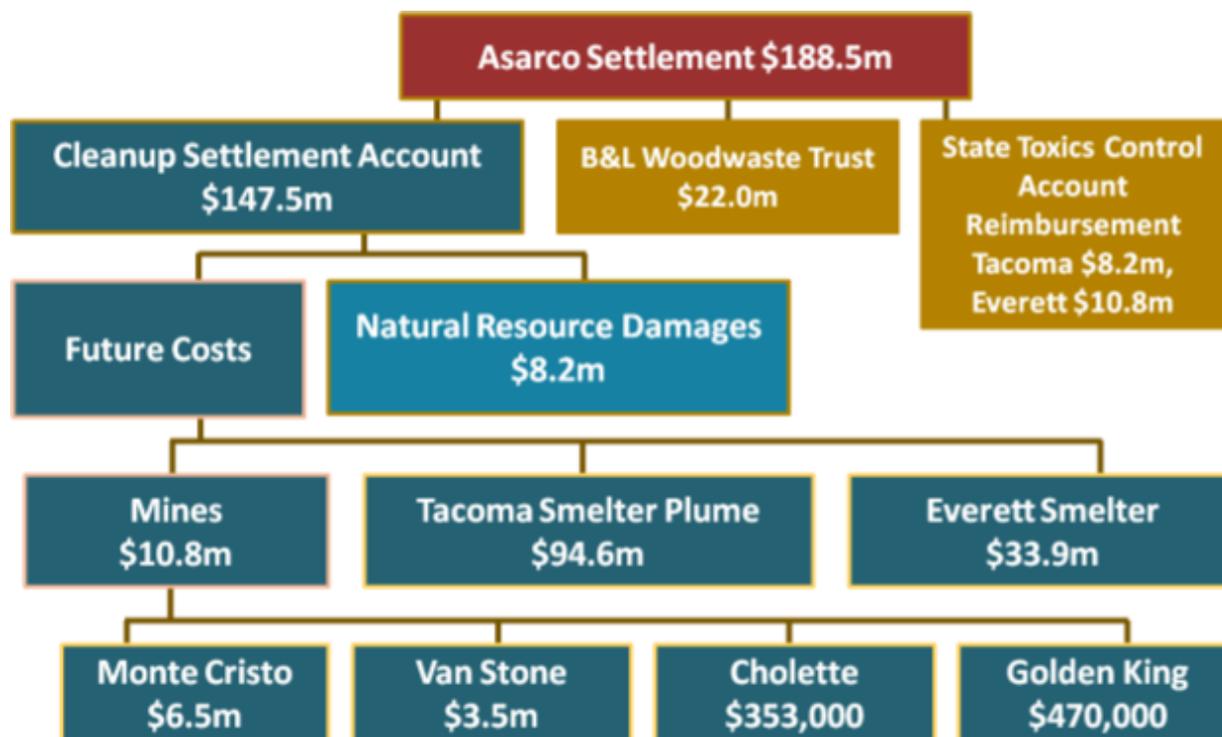


Figure 4: Asarco Settlement breakout

Everett Smelter

Everett smelter at a glance

Total settlement: \$33.9 million

County: Snohomish

Total size: 1.1 square miles

Cleanup focus: Soils and groundwater

The Everett smelter operated from 1894 to 1912 in northeast Everett. Smelter operations caused widespread arsenic and lead contamination of soil and groundwater. Particles from the smokestacks settled on surface soils over a 1.1 square mile area (map on right).

Ten-year settlement plan

In 2000, Ecology developed a cleanup plan for the Everett Smelter using public input. On receiving the Asarco settlement, Ecology created a ten-year plan (pie chart on page 10) based on the original cleanup plan and input from the community. The plan addresses two areas impacted by the Everett Smelter operations—the mostly residential uplands area on the west side of the site, and the mostly industrial lowlands area east of East Marine View Drive, bordering the Snohomish River.

Ecology's plan includes:

- **Residential soil sampling and cleanup program:** This voluntary program provides free sampling and cleanup of accessible soils down to 2-3 feet.
- **Education and outreach:** This program serves both the general community and homeowners participating in the cleanup program.
- **Lowlands investigation and cleanup:** Ecology is investigating soil, surface water and groundwater contamination in the lowlands area. Ecology will remove or contain contamination and do long-term monitoring.
- **Park cleanup program:** Ecology will work with the City of Everett to remove accessible contaminated soils from areas of city parks. This program protects children, park workers, and other park users.

Cleanup focuses on those most at risk

The Everett Smelter cleanup protects residents who are most at risk. People who live in the cleanup area are most likely to come into contact with contaminated soil while working or playing in their yards. Children are especially vulnerable. We began sampling and cleanup in areas closest to the former smelter site and will move outwards. We will remove soil with higher levels of contamination first to protect those most at risk.

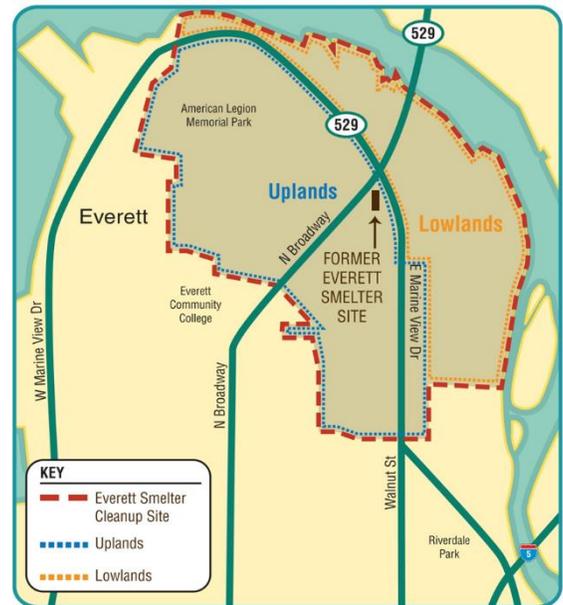


Figure 5: Everett Smelter site

Accomplishments through fiscal year 2016

Yard sampling and cleanups continue

In FY 16, Ecology removed contaminated soil from 22 residential properties (approximately 5 acres). We also implemented a landscape care program to help owners care for the new lawns and landscaping during the first year after cleanup. It includes one-on-one consultations, organic fertilization and a workshop.

Ecology sampled the soil in the Everett Housing Authority's Baker Heights community, approximately 10 acres of residential property. We added properties that require cleanup to the waiting list. We will cleanup these properties as funding becomes available.



Photo 2: Contractors put up protective fencing in a yard in Everett

City park cleanups begin

We started cleanup work at the American Legion Memorial Park and Evergreen Arboretum in 2015 and continued through early 2016. Ecology worked closely with the City of Everett to design a cleanup plan for the Wiggums Hollow Park and the Viola Oursler Overlook. Ecology will schedule these cleanups if and when funds become available.

Cleanup options developed for the lowlands area

Ecology held a public comment period and public meeting for the Remedial Investigation (RI) and Feasibility Study (FS) in the fall 2015. These reports summarized the areas of contamination and evaluated cleanup options. Ecology finalized a supplemental RI and FS for the Lowlands area. We then developed a draft Cleanup Action Plan (CAP) using the RI/FS report. Ecology will hold a public comment period for the draft CAP in the fall 2016.

Additional funding is needed to continue with cleanup and sampling

Funding for the Everett Smelter cleanup is running low. The State initially estimated cleanup of the Everett Smelter site to cost around \$64 million. We dedicated \$33.9 million of the 2009 settlement funds to the Everett Smelter cleanup. We will spend the remaining settlement funds over the next two biennia.

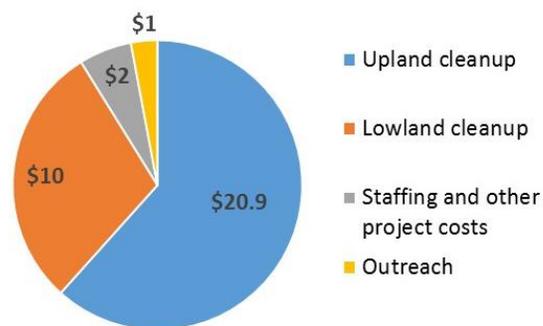


Figure 6: Everett Smelter spending breakdown.

We will need additional funds to complete sampling and cleanup in the Uplands area and cleanup in the Lowlands area. Ecology does not have enough remaining funds to sustain the residential cleanup. Ecology will focus on sampling remaining properties to determine the areas needing cleanup, and finalizing cleanup plans for the Lowlands. The plan for continuing Everett Smelter Plume work is to include cleanup projects in Ecology's Clean Up Toxics Sites – Puget Sound capital budget request each biennium. Puget Sound cleanups have traditionally been funded from the Model Toxics Control Act Accounts.

Tacoma Smelter Plume

Tacoma Smelter Plume at a glance

Total settlement: \$94.6 million

Counties: Pierce, King, Thurston

Total size: Over 1,000 square miles

Cleanup focus: Surface soils

The Tacoma smelter operated from 1890 to 1986, on the border of north Tacoma and Ruston. Its smokestack emissions dispersed arsenic, lead, and other heavy metals across a 1,000 square mile area now called the Tacoma Smelter Plume.

Settlement spending plan

Using lessons from early cleanup work, Ecology developed a plan for the Asarco settlement (figure below). It has four main strategies:

- **Yard cleanups:** Soil sampling and cleanup for existing residential yards in areas of highest contamination (map on right).
- **Soil Safety Program:** Continue sampling and cleaning up school, childcare, park, and camp play areas.
- **Outreach and education:** Continue “Dirt Alert” programs at health departments in King, Pierce, and Thurston counties.
- **Technical assistance:** Work with local governments and developers to encourage voluntary cleanup during grading.

Cleanup protects those at greatest risk

Ecology’s cleanup programs address both geographic areas and populations at greatest risk. Yard cleanups started in neighborhoods with the highest arsenic levels. Meanwhile, the Soil Safety Program reduces the potential for exposure in the places where many children regularly spend time.

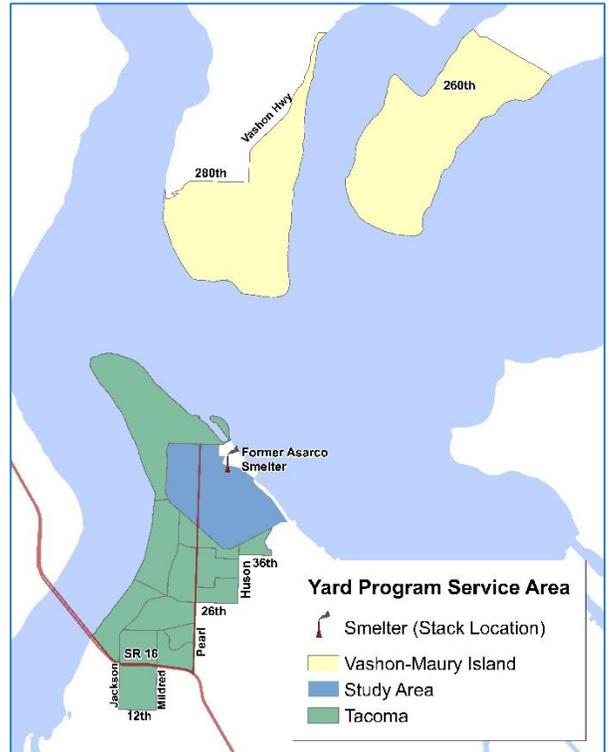


Figure 7: Residential Yard Sampling and Cleanup Program

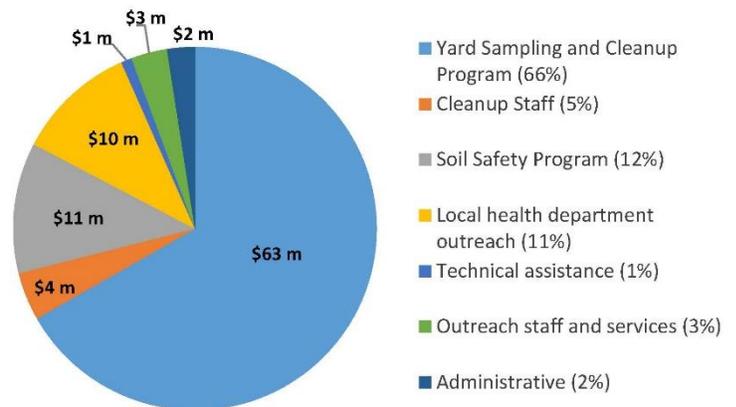


Figure 8: \$94.6m Tacoma Smelter Plume settlement breakdown

Accomplishments through fiscal year 2016

Yard sampling continues

Through FY 2016, we completed sampling on a total of 3,097 yards, with 667 on Vashon-Maury Island and 2,358 in the Tacoma area (see figure 7, previous page). We sampled 72 properties in the Study Area to confirm that they qualify for soil replacement.

Around 1,115 yards are slated for soil replacement. This includes 715 yards in the Study Area and 400 more yards that we identified through recent soil sampling efforts. As Ecology continues sampling, we expect to find at least 50 more yards that qualify for soil replacement.



Photo 3: Contractors removed the top 12 inches of contaminated soil at Baltimore Park in Tacoma.

Eighty-six more yards completed in FY 2016

Ecology has completed soil replacement on a total of 147 yards. In FY 2016, we replaced soil on 86 yards. Of those yards, 71 were in Tacoma and 15 were on Vashon-Maury Island. We also met with 105 more homeowners to discuss soil replacement and re-landscaping plans for 2016 & 2017.

Soil Safety Program replaces soil at three more parks in Tacoma

In FY 2016, Ecology replaced soil at Baltimore Park, Optimist Park, and Fort Nisqually in Point Defiance Park. 2016 also marked the ten-year anniversary of the Soil Safety Program. Since 2006, we have sampled more than 1,000 child play areas including schools, parks, childcares, camps, and multi-family housing. We replaced soil or posted signage at 86 childcares, 25 schools and 24 parks.

Dirt Alert outreach efforts continue to promote healthy actions

Local health departments in Pierce, King and Thurston Counties have Dirt Alert programs. The program goals are to raise awareness about arsenic and lead, educate the public about reducing soil exposure, and encourage healthy actions to manage risk. During FY 2016, across the three programs, outreach staff tested soil at 226 homes, talked to 8,915 people at events, and reached over 15,000 families through mailings.

Increased outreach to real estate community

In FY 2016, Ecology and the local health departments in Pierce and King Counties conducted outreach to the real estate community, including buyers, sellers and new residents. In Tacoma, we piloted an effort to mail information packets to new residents. These packets included past sampling and soil replacement records, health impacts, and healthy actions.

We also met with the Tacoma-Pierce County Association of Realtors and Seattle King County Association of Realtors to discuss ways to inform buyers of soil contamination within the Plume. In FY 2017, we will continue to develop strategies to ensure buyers are informed of the potential for soil contamination before purchasing a home.

Other work supported by the Tacoma Smelter Plume project

Ecology's staff provides oversight and technical assistance for other projects funded by appropriations from the Asarco settlement. These projects deal with soils impacted by the former Tacoma smelter. Our role is to ensure contaminated soils are properly managed.

Ruston tunnel

In the 2013-2015 biennium, the Legislature set aside \$400,000 of the Asarco settlement for the closure of the Ruston Tunnel. Ecology and the City of Ruston are negotiating an interagency agreement to complete this project.

The tunnel connected Ruston Way to Tacoma, under the former Asarco plant (photo to the right). Today, a new road goes around the tunnel and the old tunnel is filled with contaminated soils. The next step is to fill the remaining space to make it stable. The final step is to seal the tunnel.

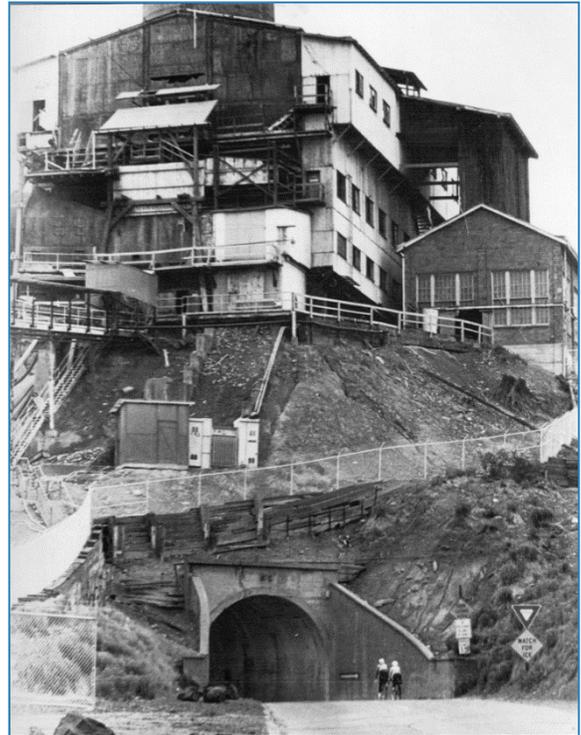


Photo 4: Ruston Tunnel under the former Asarco plant. Photo courtesy of Sherri Forch

Point Defiance trail

In 2013-2015, the Legislature also set aside \$5 million of the Asarco settlement for the Point Defiance Trails Project. The Trails Project completes a 7-mile waterfront trail connecting Ruston Way to Point Defiance Park.

In FY 2016, Tacoma Metro Parks started construction and spent \$3,319,657 out of the \$5 million set aside in the Cleanup Settlement Account.

Part of the funding was used for soil management during trail building, including soil excavation, testing, erosion and sediment control.



Photo 5: Point Defiance Trails Project during construction

Maury Island Open Space Acquisition

Maury Island Open Space

Funding Source: Tacoma Smelter Plume natural resource damage settlement

County: King

Maury Island is in a highly-contaminated area of the Tacoma Smelter Plume (pages 11-12). Ecology has found high levels of arsenic and lead in forest soils on Vashon-Maury Island. The Maury Island Open Space site, in the King County Parks system, includes 265-acres and about one mile of shoreline (see figure 9). King County is working under Ecology oversight to clean up arsenic and lead at the site.

King County site acquisition

In the 2010 supplemental budget, the Legislature appropriated \$15 million to assist King County in acquiring the site. The appropriation included:

- \$4.1 million from the Cleanup Settlement Account.
- \$10.9 million from the State Toxics Control Account.

This funding came from the portion of the Asarco bankruptcy settlement that provided compensation for damages to natural resources from the Tacoma Smelter Plume.

Maury Island Open Space Site (Maury Island Natural Area)

King County calls this site the Maury Island Natural Area. The natural area includes pure madrone forests and other habitats that support endangered species in Puget Sound, such as Chinook Salmon, Orca, and Bull Trout. The site's nearly one mile of shoreline is the longest undeveloped stretch of shore in King County. When combined with the County's nearby 320 acre Maury Island Marine Park, the two properties represent the largest public holding of protected marine shoreline in Puget Sound.

Accomplishments through fiscal year 2016

King County is addressing soil contamination at the site under Ecology's formal cleanup program. In FY 2013, King County and Ecology entered into a legal agreement that requires the county to investigate the site and develop a cleanup plan. King County conducted a remedial investigation study that sampled soils throughout the site and reported findings in 2014.

Using data from the remedial investigation, King County is working to produce a feasibility study that provides a range of cleanup options. A selected cleanup option will be implemented with a Cleanup Action Plan. Additional interim work will include revegetation and trail maintenance in areas of the site to prepare for future public use.

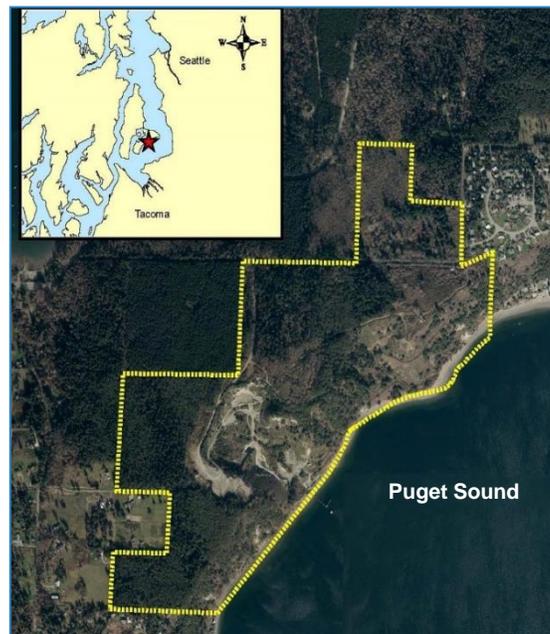


Figure 9: Map of Maury Island Open Space

Harper Estuary

Harper Estuary

Funding Source: Tacoma Smelter Plume natural resource damage settlement

County: Kitsap

The Harper Brick and Tile Company operated at the site until the 1930s, when it was demolished. In the 2013-2015 and 2015-2017 bienniums, Ecology contracted with Washington Department of Fish and Wildlife (WDFW) to lead restoration efforts for the Harper Estuary restoration project.

State and local governments are partnering on this project to restore tidal processes in the Harper Estuary. The estuary has degraded due to fill, debris, and bulkheads from the abandonment of the Harper Brick and Tile Company factory. Working together we completed a restoration design to restore the estuary habitat.



Photo 6: Harper Estuary

Restoration design efforts

After completing studies to inform options, we started work preparing design drawings and documents for restoration. We have focused on developing design options for estuary restoration and public access to the shoreline, permit applications, and pre-construction coordination. Some examples of the documents and efforts we completed include:

- Identifying public and small watercraft shoreline access options and locations
- Receiving federal, state and local government permits for construction
- Preparing 100 percent design drawings for construction
- Assembling bid documents for contractor selection

Gathering public input

Throughout this process, we gathered feedback from the community members and the Suquamish Tribe to help guide our efforts. WDFW and Kitsap County hosted several community meetings to share progress on draft restoration designs, discuss public access, and identify reasonable alternatives to a formal boat landing. At the meetings, they also provided updates on the restoration project timeline, property ownership, and information on a future bridge to fully connect Harper Estuary and Puget Sound.

Next steps

After receiving a permit for construction, WDFW started the bid process for selecting a contractor for construction. Work is scheduled to begin in fall 2016. Ecology is contracted with WDFW to spend the remaining \$4.1 million of Tacoma Smelter Plume Natural Resource Damage settlement funds to complete the Harper Estuary restoration project.

B&L Woodwaste (Louisiana Pacific)

B&L Woodwaste site

Total settlement: \$ 1.0 million

County: Pierce

Total size: 11 acres + wetlands

Cleanup focus: Groundwater

In the 1970s and '80s, the B&L Woodwaste landfill received woodwaste, soil, and slag from log sort yards in Commencement Bay. The slag—a byproduct of Asarco's Tacoma smelter—leached arsenic into soils and groundwater. This contamination poses a threat to nearby Hylebos Creek.



Photo 7: Groundwater treatment system at B&L Woodwaste.

Cleanup liability and funding

Asarco, Murray Pacific, and Louisiana Pacific Corp. were among the parties found liable for cleanup. When Asarco went into bankruptcy in 2005, the other two companies pursued settlements jointly with the state. The majority of Murray Pacific's \$22 million settlement is held in a trust that is funding the majority of current cleanup work.

The Cleanup Settlement Account holds an additional \$1 million for future work. Ecology expects it will fund several years of operating the groundwater treatment system described in Phase 3 below. Ecology did not have any expenditures through the 2016 fiscal year.

Cleanup accomplishments and remaining work

The B&L Woodwaste cleanup has three phases:

- **Phase 1, completed 1992.** Asarco consolidated the original 18-acre site to an 11-acre landfill. It then installed a cap to minimize rainfall flushing metals and contaminated groundwater out of the landfill.
- **Phase 2, 2008—early 2013.** We installed a slurry wall around the edge of the landfill. This underground barrier minimizes the flow of contaminated groundwater. We then built a facility to extract and treat groundwater from inside the slurry wall and from the nearby wetlands. Finally, we excavated contaminated sediments from the drainage ditches on three sides of the site.
- **Phase 3, 2015+.** The new groundwater treatment system (see photo 7) will continue to operate using funds from the trust. A second groundwater cleanup technology will treat the lower levels of arsenic in groundwater outside of the slurry wall and in the surrounding wetlands.

Golden King Mine

Golden King mine at a glance

Total settlement: \$ 0.5 million

County: Chelan

Total size: 13 acres

Cleanup focus: Soil and stream water quality

The Lovitt/Golden King Mine is located near Wenatchee, on the west side of the Squillchuck Creek Drainage. There are an estimated 450,000 cubic yards of tailings deposited in a tailings impoundment in the bottom of Squillchuck Creek.

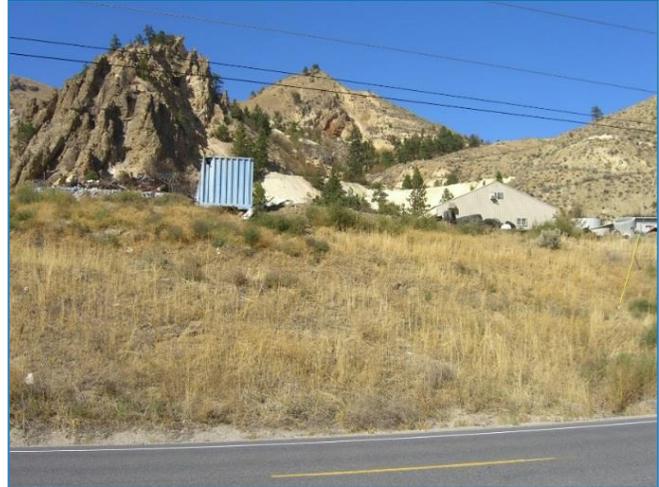


Photo 8: Golden King Mine

Table 3: Ten-year spending plan for Golden King mine

Years	Activity
2010-2017	Negotiate access with private land owners
2018-2019	Remedial Investigation and Feasibility Study (contingent on access agreements)
2019-2020	Cleanup Action Plan
2017-2022	Water quality treatment monitoring Institutional controls to protect human health Engineered controls such as capping and slope stabilization

Accomplishments through fiscal year 2016:

In 2010, we obtained a partial access agreement for the parcel that contains a majority of the mine tailings. A residential property owner on the remaining portion of the tailings has refused access for cleanup. Turnover in key staff and access issues have delayed work at this site. We plan to resume cleanup work as resources become available.

Monte Cristo Mine

Monte Cristo mine at a glance

Total settlement: \$6.5 million

County: Snohomish

Total size: Fifty-four mines and one mill

Cleanup focus: Soil, surface water, and sediment

In the summer of 1889, settlers discovered the site and quickly established a town site. In 1893, the railroad was completed to transport ore to the smelter in Everett (see page 10).

Mineral production flourished for a few years until massive floods destroyed rail access in 1897. Mining became intermittent, operated by a number of smaller companies until 1920. The site is located on a mix of private and federal property, including within the Henry Jackson wilderness area, which is a popular hiking destination.

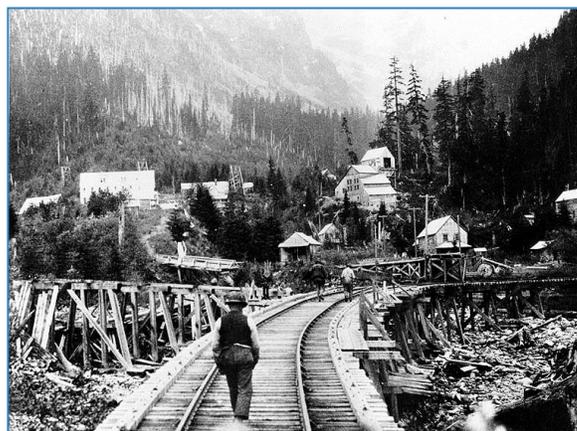


Photo 9: Monte Cristo Mine

Table 4: Ten-year settlement spending plan for Monte Cristo mine

Years	Activity
2011-2017	Remedial Investigation and Feasibility Study
2012-2013	Environmental review, public outreach, and bat habitat and topographic survey
2013-2015	Completed construction of access route and onsite repository
2015-2015	Completed removal of contaminated waste rock to the onsite repository
2015-2022	Repository operations and maintenance, water quality treatment investigation and monitoring
2015-2022	Water quality treatment and sediments monitoring

Accomplishments through fiscal year 2016

The U.S. Forest Service constructed an access route for cleanup work and completed an interim cleanup action in 2015, including construction of the repository and removal of contaminated waste rock. From 2012 through 2016, Ecology collected data needed to determine the impact of elevated metals on plants and animals. We also started monitoring sediment and water quality to evaluate the potential impact on aquatic organisms from historical operations. The monitoring will help establish baseline conditions for evaluating effectiveness of planned and potential cleanup actions.

Van Stone Mine

Van Stone mine at a glance

Total settlement: \$ 3.5 million
County: Stevens
Total size: ~150 acres
Cleanup focus: Soil, sediment, surface water

The Van Stone Mine was the state’s largest open-pit mine. It operated from 1951 to 1994 under several owners, including Asarco. Around 270,000 tons of ore were extracted from 1.3 million tons of rock. The Upper Tailings Pile has breached twice, with the most recent event occurring in 2012.



Photo 10: Van Stone Mine

Table 5: Ten-year settlement spending plan for Van Stone mine

Years	Activity
2014-2016	Remedial Investigation and Feasibility Study for soils, sediments, wastes, groundwater, and surface water
2017	Engineering design for cleanup and cover systems at the upper and lower tailings piles and other areas identified during the investigation
2017-2019	Cleanup and building the cover systems
2019	Start of operations and maintenance for the cover systems

Accomplishments through Fiscal Year 2016

Ecology finalized the settlement funded sampling work for the Remedial Investigation in 2016. We are using data from this study to do a feasibility study, select a remedy, and plan for cleanup.

Lilyblad Petroleum Insurance Settlement

Lilyblad at a Glance

Total settlement: \$ 800,000

County: Pierce

Total area: Two acres

Cleanup focus: Soil, groundwater

From 1978 to 1988, Lilyblad Petroleum, Inc. ran a spent solvent and dangerous waste recycling operation. The business was located at 2244 Port of Tacoma Road.

Since then, Lilyblad has dissolved and Pacific Functional Fluids now operates the facility. Soil and groundwater at the site are contaminated with petroleum and chlorinated solvents.



Photo 11: Worker installing a new remedial well at the former Lilyblad property.

\$800,000 insurance settlement for cleanup work

In 2009, Old Republic Insurance Company paid \$800,000 on an excess liability policy held by Lilyblad Petroleum. This funding paid for cleanup work over the past four years. From 2007, Ecology paid for the cleanup using the State Toxics Control Account because Lilyblad failed to comply with a 2007 enforcement order. The Order required Lilyblad to implement a cleanup action to remove contaminants at the site.

Accomplishments through fiscal year 2016

In 2008, we started drilling wells and installed and started a pump and treatment system for contaminated groundwater at the site. In 2012, we had a 50% reduction in the system to the northern part of the Lilyblad property. These wells continued pumping to maintain hydraulic control and prevent migration of contaminated groundwater toward the Blair Waterway.

The most recent accomplishments include:

- **July 2013 – June 2015:** By December 2013, full scale operation of dual phase extraction wells resumed on the Lilyblad property. In the summer of 2015, we did site-wide groundwater and soil sampling to evaluate the progress of the treatment.
- **July 2015 – June 2016:** Due to iron fouling, the pump and treatment system shut down periodically for maintenance. Site monitoring showed the extent of contamination has decreased at the south area of the site. We estimate that about 38,665 lbs. of contaminants were removed from the site.

Conclusion

Conclusion

The Cleanup Settlement Account allows the Washington Department of Ecology to make progress on cleanup efforts that protect, preserve and enhance Washington's environment for current and future generations. This report describes how Ecology used the funds in this account to move forward with important work to get and keep contaminants out of the environment.

In FY 2016, Ecology continued work on several cleanup projects funded by the Cleanup Settlement Account. One example is the sampling and cleanup work underway within the Everett smelter area and Tacoma Smelter Plume. In FY 2016, Ecology removed soil on 22 yards in the Everett smelter area and 86 yards in the Tacoma Smelter Plume area. In Everett, we started work to cleanup soil on American Legion Memorial Park and Evergreen Arboretum.

The settlement fund also funds cleanup at smaller former industrial sites, such as the Monte Cristo Mine. On the Monte Cristo Mine, Ecology started monitoring water and sediment quality to evaluate the potential impact on aquatic organisms from historical mining and mill operations. This monitoring will help establish a baseline for evaluating the effectiveness of future remedial actions.

Big year ahead for Ecology's cleanup efforts funded by the account

At the end of FY 2016, the remaining balance in the Cleanup Settlement Account was \$51,966,000. The loans receivable to the account total \$33,970,000. Ecology has planned for another fiscal year of significant cleanup efforts that are made possible by the funds in this account.

For example, in FY 2016, WDFW initiated the bid process for selecting a contractor to complete the Harper Estuary restoration project. In FY 2017, we will continue this work using funds from the remaining 2013-15 \$4.1 million appropriation for Harper Estuary.

In FY 2017, we also plan to replace soil on around 100 more yards, 3 childcares and one park in the Tacoma Smelter Plume. In addition, we will continue to meet with homeowners to plan for soil replacement in FY 2018.

We plan to focus on sampling the remaining properties in the Everett Smelter Cleanup area to determine the areas needing cleanup, and finalize cleanup plans for the Lowlands. The Everett site will need to rely on funds other than the settlement account, such as the Model Toxics Control Act accounts. Each biennium, Ecology will evaluate the cleanup priorities for the entire Puget Sound region and weigh cleanup needs for the Everett Smelter Plume with needs in other priority areas like Anacortes, Budd Inlet, Oakland Bay, Port Angeles, Port Gamble, Bellingham, Bremerton, Commencement Bay and the Lower Duwamish.

The Legislature's decision in 2008 to create the Cleanup Settlement Account makes all of this work possible. This account allows Ecology to move forward on important cleanup projects that aim to protect human health and the environment. This is all part of the Toxics Cleanup Programs efforts to clean up pollution, and support sustainable communities and natural resources for the benefit of current and future generations in the State of Washington.

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Cleanup Site Information

Cleanup site search page: <https://fortress.wa.gov/ecy/gsp/SiteSearchPage.aspx>

Everett Smelter website: http://www.ecy.wa.gov/programs/tcp/sites_brochure/asarco/es_main.html

Tacoma Smelter Plume website: <http://www.ecy.wa.gov/toxics/tacoma-smelter.html>

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