

Cleanup Settlement Account

Fiscal Year 2014 & 2015 Annual Report



DEPARTMENT OF
ECOLOGY
State of Washington

Ecology Publication No. 15-09-172

Table of Contents

Message from the Program Manager	1
Cleanup Site Overview Map	2
Cleanup Settlement Account	3
Fund Transfers and Repayments	5
Asarco Settlement	6
Everett Smelter	8
Tacoma Smelter Plume	10
Maury Island Open Space Acquisition	13
Harper Estuary Restoration Project	14
B&L Woodwaste (Louisiana Pacific)	15
Golden King Mine	16
Monte Cristo Mine	17
Van Stone Mine	18
Lilyblad (Tacoma)	19
BNSF Skykomish Natural Resource Damages	20

Washington State Department of Ecology’s Mission

The mission of the 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.

Purpose of this Report

The main purpose of this report is to meet the statutory requirement per RCW 70.105D.130 (7) and to share the work accomplished during the 2015 fiscal year, using funds from the Cleanup Settlement Account. This is the third annual report for this account. It covers the financial activity from July 1, 2013 through June 30, 2015, and background on each cleanup project.

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

- B&L Woodwaste (Tacoma), Louisiana Pacific trust
- BNSF Skykomish Natural Resource Damages
- Everett Smelter
- Golden King Mine (Chelan County)
- Lilyblad (Tacoma)
- Monte Cristo Mine (Snohomish County)
- Tacoma Smelter Plume
- Van Stone Mine (Stevens County)

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”.

Message from the Program Manager

Cleanup Settlement Account helps fund critical environmental work

This report to the Washington Legislature shows how the Washington Department of Ecology uses the Cleanup Settlement Account to address issues that are important for the state's environment and people.

Under the Model Toxics Cleanup 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 new account not only created a repository but also allowed for interest on deposited funds to be used 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.

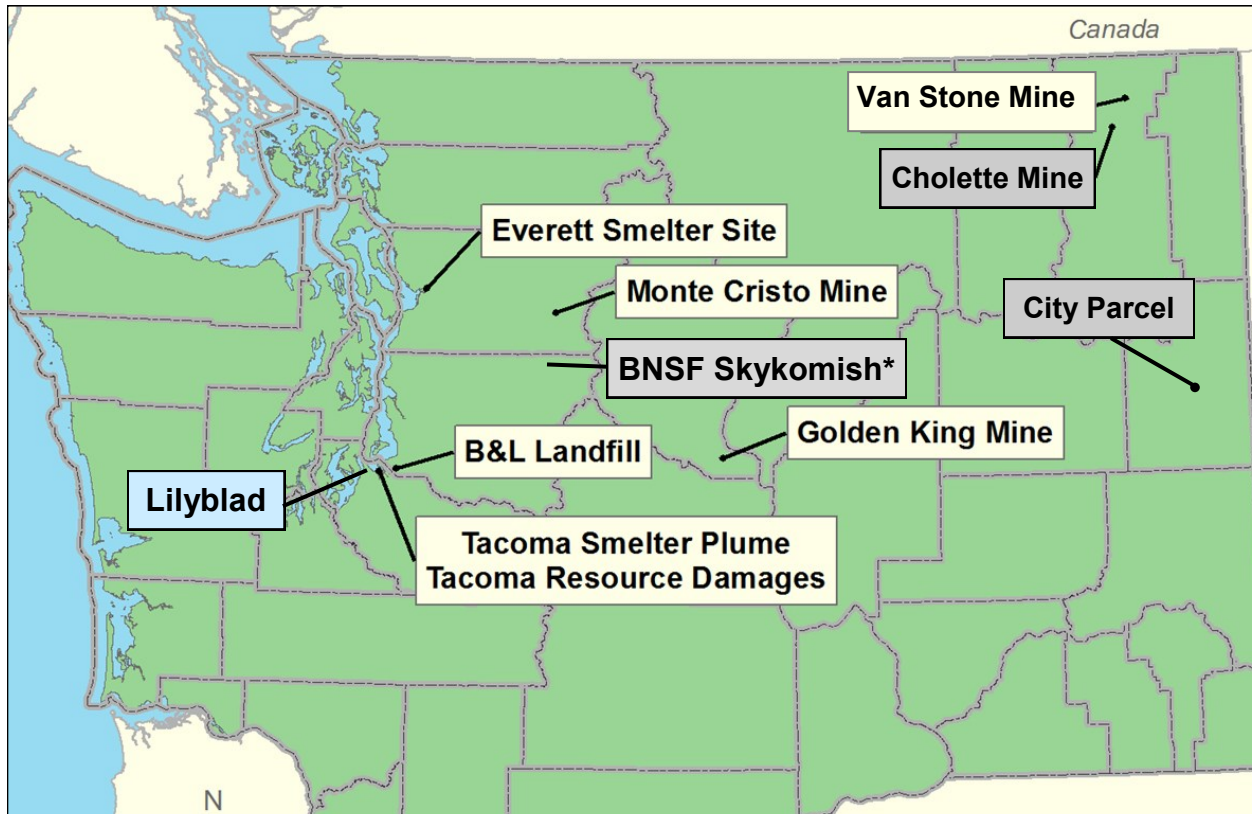
The following pages contain examples of the ways Ecology puts these settlements and funds to use. Several of these key cleanup projects are in process.

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 cleaning up yards in residential neighborhoods and at child-care facilities and soil in parks; sampling other properties for potential cleanup; and educating people about potential impacts.

This 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, an improved quality of life for our communities, and a more vibrant economy for the State of Washington.

Jim Pendowski, Manager
Toxics Cleanup Program
Washington Department of Ecology

Cleanup Site Overview



*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.

History of the Cleanup Settlement Account

The account's purpose is to hold funds from settlements or court orders that resolve liability for cleanup or natural resource damages.

During the 2008 legislative session, the Legislature approved Senate Bill 6722 which created the Cleanup Settlement Account. The Department of 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 it 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 does 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 interest earned on settlement funds to be retained in the account. Without the interest earnings, 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 these funds can be deposited. There is also no assurance that settlement funds deposited in the STCA will be retained for that specific site.

Cleanup Settlement Account Fund Sources

The following is a summary of settlements, by site, which were originally deposited into the Cleanup Settlement Account before any interest was earned or expenditures made. The display on page 4 is intended to show activity in the account after the settlement was deposited.

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.

[^]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, 2015

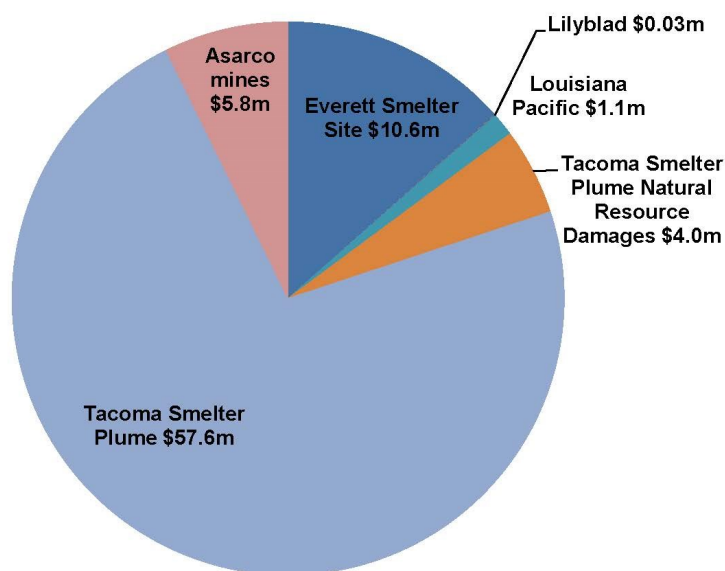
Cleanup Settlement Site	Fund Balance
Louisiana Pacific - B&L Woodwaste site	\$ 1,078,000*
Lilyblad Petroleum Site	\$ 33,000
Asarco - Natural Resource Damages	\$ 4,008,000
Asarco - Tacoma Smelter Plume	\$ 57,582,000
Asarco - Everett Smelter Site	\$ 10,636,000
Asarco - Monte Cristo Mine	\$ 2,991,000
Asarco - Van Stone Mine	\$ 2,290,000
Asarco - Golden King Mine	\$ 478,000*
Remaining Fund Balance June 30, 2015 **	\$ 79,096,000

Loans Receivable	
State Efficiency and Restructuring Account Loan	\$ 19,770,000
Total Point Ruston Sediment Capping and Shoreline Restoration Loan	\$ 7,281,000
Aquatic Lands Enhancement Account	\$ 3,640,000
State Toxics Control Account	\$ 3,640,000

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

** This amount reflects expenditures through the end of the 2013-2015 biennium.

**Cleanup Settlement Account Cash (millions)
As of June 30, 2015**



Fund Transfers and Repayments

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 Clean-up Settlement Account to SERA. The Legislature provided a payback provision in the budget requiring the funds to be repaid 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.

2013-15 Biennium Repayment Appropriations

FY 2014	\$ 4,981,000
FY 2015	\$ 4,981,000
Outstanding Loan as of June 30, 2015	\$19,770,000
Loan Receivable FY 2016	\$ 5,078,000

In the 2015-17 biennial budget, the Legislature appropriated \$10,156,000 from the General Fund-State to the Cleanup Settlement Account.

Repayments: Point Ruston Sediment Capping and Shoreline Restoration

Fiscal year 2012 \$7,200,000 transfer

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.

2013-15 Biennium Repayment Appropriations

There were no repayments appropriated for 2013-15 biennium.

Outstanding Loan Balance as of June 30, 2015	\$7,281,000
--	-------------

In the 2015-17 biennial budget, the Legislature appropriated \$1,286,000 from ALEA to the Cleanup Settlement Account and \$1,286,000 from STCA to the Cleanup Settlement Account.

Loan Receivable FY 2015	\$1,286,000
Loan Receivable FY 2016	\$1,286,000

Asarco Settlement

Asarco's Legacy in Washington

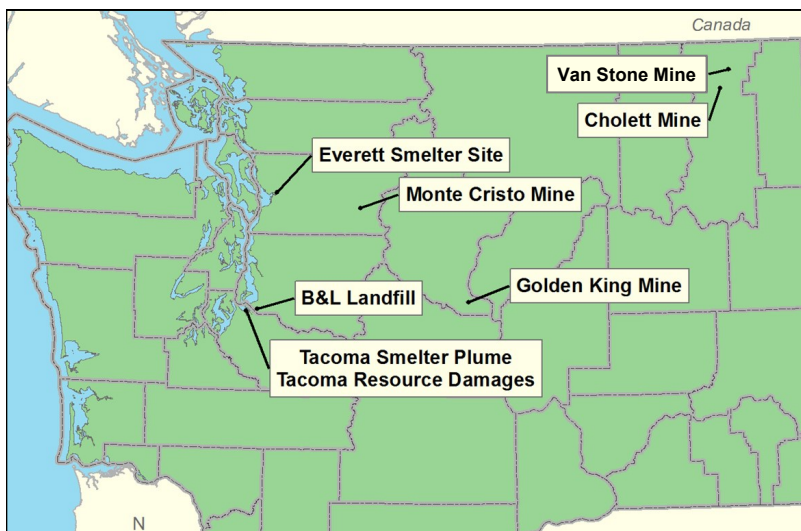
Contamination from smelters and mines

The American Smelting and Refining Company (Asarco) was founded in 1899, with refineries and smelters across the country and in 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.

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 soils 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 emerged from bankruptcy, having 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 address "area-wide" arsenic and lead contamination. From 2001-2003, the Area Wide Soil Contamination Task Force developed recommendations that were the basis for Ecology's 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.

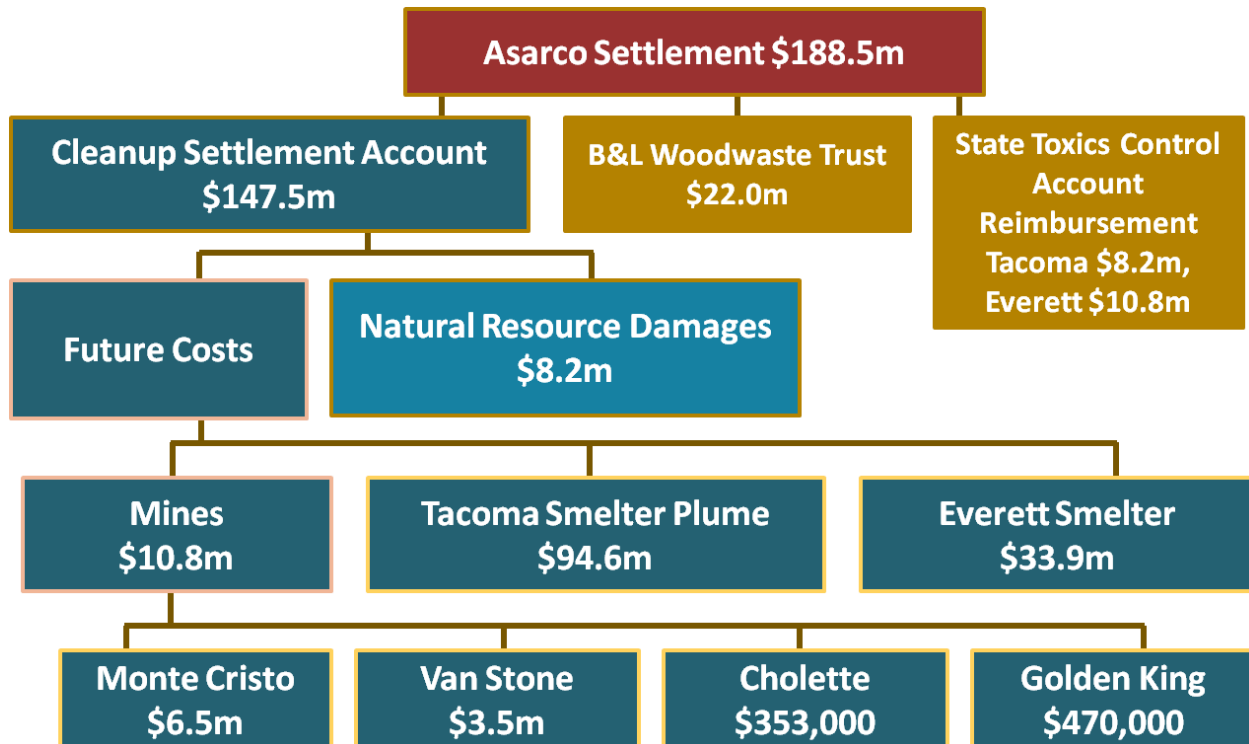
State of Washington Asarco Settlement Breakdown

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 (figure 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.

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.



Everett Smelter

Everett Smelter at a Glance

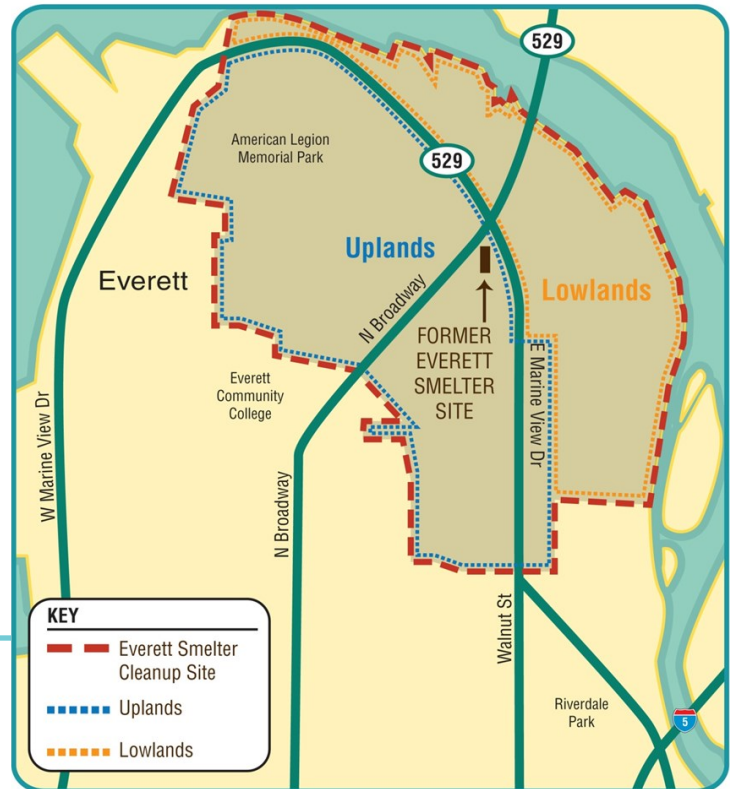
Total Settlement: \$33.9 million

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 to the right).



Everett Smelter cleanup area.

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 9) 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.

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. Sampling and cleanup began in areas closest to the former smelter site and will move outwards, removing soil with higher levels of contamination first to protect those most at risk.

Accomplishments Through Fiscal Year 2015

Yard sampling and cleanups continue

In FY 2014-15, Ecology removed contaminated soil from forty residential properties (approximately 7.7 acres). Ecology expanded post-cleanup support for property owners by developing and implementing a landscape care program. This program was designed to help owners care for the new lawns and landscaping during the first year after cleanup. It includes one-on-one consultations, free organic fertilization and a landscape care workshop.

Ecology also sampled soil from 60 residential properties. Results were distributed to owners. Properties that require cleanup were added to the waiting list. Properties will be cleaned up when funding is available.



City park cleanups begin

Ecology worked closely with the City of Everett to design a cleanup plan for the American Legion Memorial Park. Soil removal is scheduled for fall 2015 and will continue through early 2016. Planning started for the Wiggums Hollow Park and the Viola Oursler Overlook. These cleanups are scheduled for 2016-17.

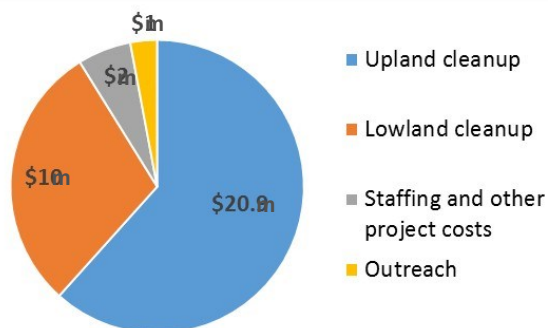
Cleanup options for the Lowlands Area developed

Ecology completed a supplemental Remedial Investigation (RI) in the Lowlands area. This report identified several areas of contamination in the Lowlands that will need to be addressed. These areas include a source area discovered underneath East Marine View Drive adjacent to the former smelter footprint. Possible cleanup actions are being evaluated in a forthcoming Feasibility Study (FS). This study is due in fall 2015. Ecology will hold a public comment period and public meeting for the RI and FS in the fall 2015.

Additional funding is needed to continue with cleanup and sampling

Funding for the Everett Smelter cleanup is running low. Initial estimates for the cleanup of the Everett Smelter site were around \$64 million. The settlement funds dedicated to the Everett Smelter cleanup were \$33.9 million. Remaining funds will be spent over the next two biennia.

Additional funds will be needed 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 beyond 2015. Until additional funding can be acquired, Ecology will focus on sampling remaining properties in the cleanup area and finalizing plans for the cleanup in the Lowlands.



Spending breakdown in millions for the \$33.9 million portion of the settlement account dedicated to the Everett Smelter Cleanup.

Tacoma Smelter Plume

Tacoma Smelter Plume at a Glance

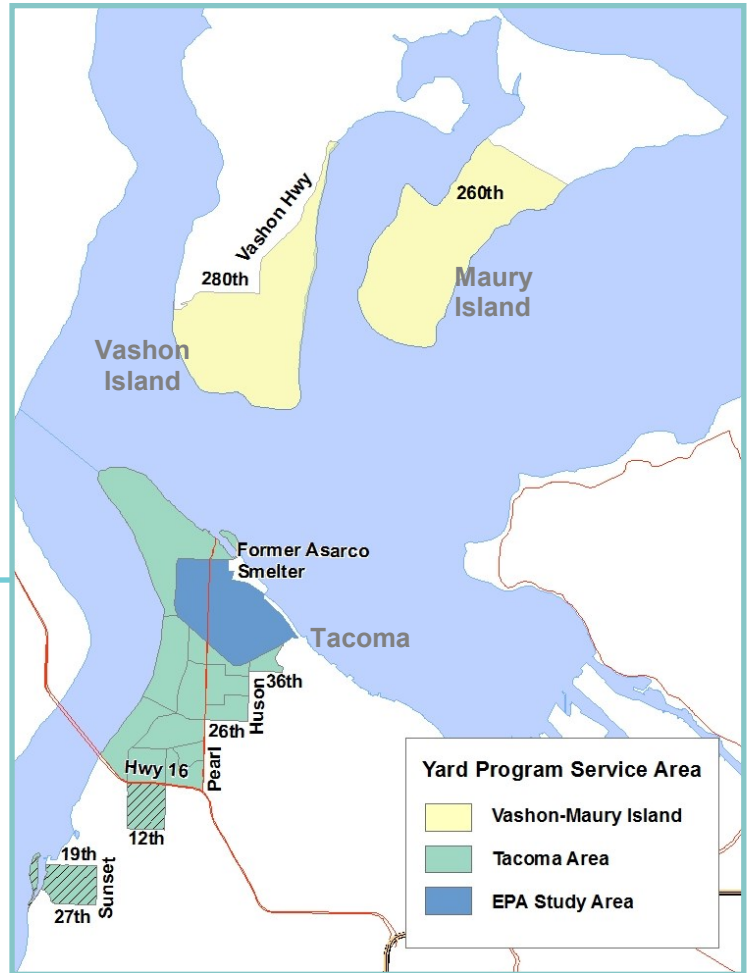
Total Settlement: \$94.6 million

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 an 1,000 square mile area now called the Tacoma Smelter Plume.



Residential Yard Sampling and Cleanup Program

Ten-Year Settlement Spending Plan

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

Yard cleanups: Soil sampling and cleanup for existing residential yards in areas of highest contamination (map to right).

Soil Safety Program: Continue sampling and cleaning up school, childcare, park, and camp play areas.

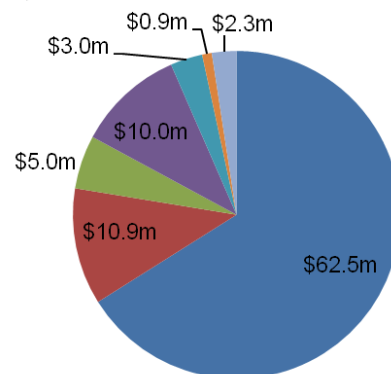
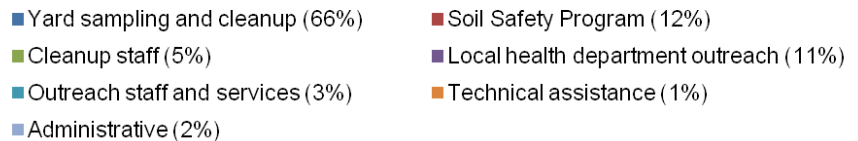
Outreach and education: Continue “Dirt Alert” programs at health departments in King, Pierce, and Thurston counties.

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 estimated arsenic levels. Meanwhile, the Soil Safety Program reduces the potential for exposure in the places where many children regularly spend time.

\$94.6m Tacoma Smelter Plume Settlement Breakdown



Accomplishments through Fiscal Year 2015

Yard sampling continues

Through FY 2015, we completed sampling on a total of 2,297 yards, with 617 on Vashon-Maury Island and 1,626 in the Tacoma area. Ecology also sampled 54 properties in the EPA Study Area to confirm whether they qualify for cleanup.

So far, soil sampling has identified over **300** more yards that qualify for cleanup. Overall, there are around 1,000 yards slated for soil cleanup in the program. This includes 695 yards in the EPA Study Area. As Ecology continues sampling, we expect to find at least 200 more yards that qualify for cleanup.



53 more yards completed in FY 2015

In 2013, Ecology completed cleanup on the first 8 yards in Tacoma. In FY 2015, we completed cleanup on 53 more yards. Of those yards, 47 were in the EPA Study Area of Tacoma and 6 were on Vashon-Maury Island.

Ecology began cleanup on 90 more yards in August, 2015. In FY 2015, we also met with over 100 more homeowners to discuss cleanup and re-landscaping plans for 2016.

Soil Safety Program completes cleanup on 8 acres at Vassault Park

Vassault Park was the most highly-contaminated park in the plume. At eight acres, it is also the largest park in the Soil Safety Program. In September 2014, Ecology finished cleanup on Vassault Park. The park re-opened in August 2015.

In FY 2015, Ecology started cleanup on Baltimore and Optimist Parks in Tacoma. We expect cleanup to be complete by November 2015. In 2016, we plan to clean up the remaining Metro Park play area in Tacoma, Fort Nisqually at Point Defiance Park.

Dirt Alert reaches 34,000 more families with soil safety messages

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 2015, across the three programs, outreach staff tested soil at 234 homes, talked to 9,000 people at events, and reached 25,000 families through mailings.

Increased work with community groups builds community knowledge and resources

In 2014, the Public Health-Seattle & King County gave grants to three community groups, Latino Community Fund, Korean Women's Association and Child Care Resources. These groups are developing outreach materials and strategies to reach non-English speaking communities, including Spanish, Korean and Somali communities. Tacoma-Pierce County Health Department is increasing outreach to community groups in Ruston and North Tacoma, Realtors, and gardening groups.

Other Work Supported by the Tacoma Smelter Plume Project

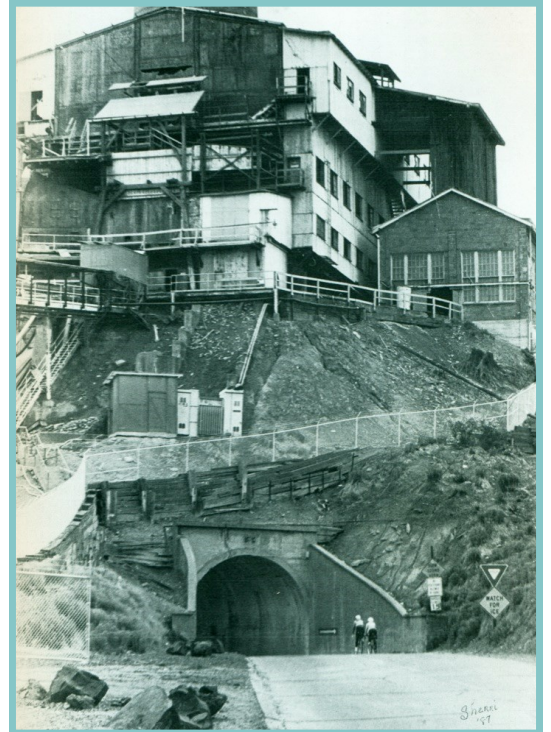
Ecology's staff provides oversight and technical assistance for other projects funded by appropriations from the Asarco settlement. These projects deal with soils impacted by the former Tacoma smelter.

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. The old tunnel is now 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.



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 destination waterfront trail connecting Ruston Way with Point Defiance Park.

In FY 2015, Ecology and Tacoma Metro Parks negotiated an interagency agreement and Metro Parks started construction. Part of the funding will go toward soil management during trail building.



Point Defiance Trails Project

Maury Island Open Space Acquisition

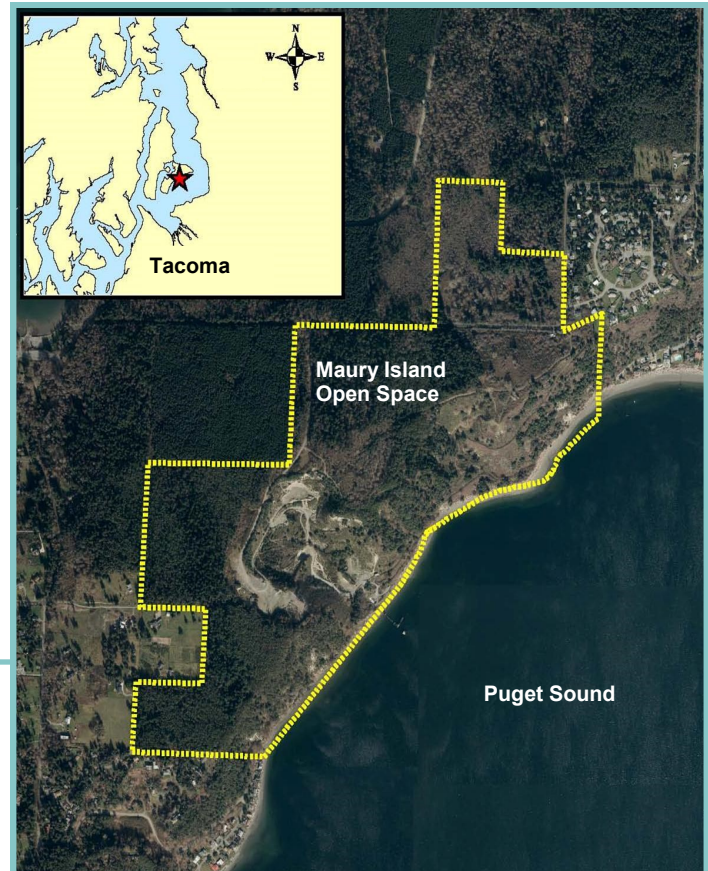
Maury Island Open Space

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 10-11). Ecology has found high levels of arsenic and lead in forest soils on Vashon-Maury Island.

The Maury Island Open Space is a 250-acre site along about one mile of shoreline (see map). King County owns the site and is now planning to clean up arsenic and lead under Ecology oversight.



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 (STCA).

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 250 acres of 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.

Fiscal Year 2015 Cleanup Progress

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 sampled soils throughout the site and prepared a Remedial Investigation report in 2014. Some data gap investigations continued while the draft Feasibility Study was being prepared.

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 biennium, 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. Together, we are developing options to reclaim the estuary habitat that has been degraded due to fill, debris and bulkheads that are associated with the abandonment of the Harper Brick and Tile Company factory and an undersized culvert on SE Olympiad Drive.



Planning Restoration Efforts

Planning restoration efforts included completing a variety of baseline studies and reports. Some examples of the studies completed include:

- Phase II site assessment
- Cultural resources survey
- Topographic survey
- Wetland delineation

In addition, we completed a type, size and location report to evaluate bridge options for replacing the Olympiad Drive culvert. We also evaluated restoration and boat landing alternatives for the site. Finally, we prepared draft design drawings and permit applications.

Gathering Public Input

Throughout this process, we gathered feedback from the public to help guide restoration efforts. For example, WDFW and Kitsap County hosted several community meetings to gather input from the public on the current uses of the estuary and where to relocate the boat landing. In addition, they provided information about the upcoming restoration project timeline, design alternatives, the funding source and the history of the area and former Harper Brick and Tile Company.

Next Steps

Ecology is currently processing an amendment to our interagency agreement with WDFW. Under this amendment, WDFW will continue planning and permitting efforts in anticipation of construction of the restoration project in summer 2016. Ecology will 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.



Cleanup Liability and Funding

Asarco, Murray Pacific, and Louisiana Pacific Corp. were among the parties found liable to the state 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. There were no expenditures through the 2015 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.** A slurry wall was installed around the edge of the landfill (shown in the photo above). This underground barrier minimizes the flow of contaminated groundwater from the landfill. A facility was then built to extract and treat groundwater from inside the slurry wall and from the nearby wetlands. Finally, contaminated sediments were excavated from the drainage ditches bounding the site on three sides.
- **Phase 3, 2015+.** The new groundwater treatment system will continue to operate using funds from the trust. A second groundwater cleanup technology will treat 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 tailing deposited in a tailings impoundment in the bottom of Squillchuck Creek.



Ten-Year Settlement Spending Plan

Years	Activity
2010-2016	Negotiate access with private land owners
2016-2017	Remedial Investigation and Feasibility Study
2017-2018	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 2015:

In 2010 an access agreement was obtained for the parcel that contains a majority of the mine tailings (left side of above photo). In 2013, a draft contract work assignment for site characterization work was prepared. At that time, a residential property owner on a portion of the tailings (right side of above photo) refused access. We may contact the property owner again during future initial site characterization work on the adjacent parcel.

Monte Cristo Mine

Monte Cristo Mining Area 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 townsite. 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 and is a popular hiking destination.



Ten-Year Settlement Spending Plan

Years	Activity
2011-2017	Remedial Investigation and Feasibility Study
2012-2013	Environmental review, public outreach, and bat habitat and topographic survey
2013-2019	Construction of an access route and onsite repository
2015-2019	Removal of contaminated waste rock to the onsite repository
2015-2022	Repository operations and maintenance, water quality treatment
2015-2022	Water quality treatment and sediments monitoring
2017	Cleanup Action Plan (state) or Record of Decision (federal cleanup plan)

Accomplishments through Fiscal Year 2015

From 2012 through 2015, Ecology collected data needed to determine the impact of elevated metals on plants and animals. Ecology also started monitoring water and sediment quality to evaluate the potential impact on aquatic organisms from historical mining and mill operations. The monitoring will help establish baseline conditions for evaluating effectiveness of planned and potential remedial actions. The U.S. Forest Service completed construction of an access route for cleanup work in 2014 and initiated an interim clean-up action in 2015, including construction of the repository and removal of contaminated waste rock (see above photo).

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.



Ten-Year Settlement Spending Plan

Years	Activity
2014-2016	Remedial Investigation and Feasibility Study for soils, sediments, wastes, groundwater, and surface water.
2016	Engineering design for cleanup and cover systems at the upper and lower tailings piles and other areas identified during the investigation.
2016-2017	Cleanup and building the cover systems.
2018	Start of operations and maintenance for the cover systems.

Accomplishments through Fiscal Year 2015

The settlement funded sampling work for the Remedial Investigation will be finalized in 2015. Ecology is 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

In 1972, Lilyblad Petroleum, Inc. opened a business at 2244 Port of Tacoma Road. From 1978 to 1988, it ran a spent solvent and dangerous waste recycling operation at the site.

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.



The Cleanup Settlement Account Received an \$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 up until that time, Ecology paid for the cleanup using the State Toxics Control Account because Lilyblad had failed to comply with a 2007 enforcement order.

Accomplishments through Fiscal Year 2015

- **July 2008—October 2009:** Well drilling (photo above), installation and start up of a pump and treat system for contaminated groundwater.
- **November 2009—June 2010:** Pump and treatment system temporarily shut down in anticipation of additional funding from the supplemental budget.
- **July 2010—June 2011:** Ecology receives funding from the supplemental budget, including the \$800,000 from the insurance settlement. Maintenance and repairs to restart the system.
- **July 2011—June 2012:** System removed 6,800 lbs of diesel range petroleum in September 2011. Treatment and groundwater and soil monitoring continue.
- **July 2012 – June 2013:** Limited pump and treat system to northern part of the Lilyblad property, a 50% reduction in operations. These wells continue pumping to maintain hydraulic control and prevent migration of contaminated groundwater toward the Blair Waterway.
- **July 2013 – June 2015:** By December 2013, full scale operation of dual phase extraction wells resumed on the Lilyblad property. Site-wide groundwater and soil sampling were conducted in the summer of 2015 to evaluate the progress of the treatment.

BNSF Skykomish Natural Resource Damage Settlement

BNSF at a Glance

Total Settlement: \$ 5.05 million

County: King

Cleanup site: BNSF Railway Skykomish

Great Northern Railway, later BNSF Railway, ran a fueling and maintenance facility in Skykomish. As far back as the 1920s, activities at the site released petroleum and heavy metals into the environment affecting soil and groundwater in the Town of Skykomish, and natural resources in the Skykomish River.



Maloney Creek habitat restoration helps restore injured natural resources near the Skykomish site.

Natural resource restoration activities are completed

Since the Natural Resource Damage (NRD) settlement with BNSF Skykomish in 2007, Ecology has overseen \$5.5 million in restoration projects. This includes the settlement for \$5.05 million and \$450,000 in direct expenditures by BNSF. These projects improved habitat restoration in the Skykomish River and Snohomish River watersheds and improved water quality by contributing to completion of the Skykomish wastewater treatment system.

Accomplishments through Fiscal Year 2015

- Restored Maloney Creek habitat and constructed a public access trail.
- Completed riparian habitat restoration projects at Tychman Slough, Beckler River, and the Lower Skykomish River.
- Funded studies to determine optimal locations for future restoration, and feasibility of some promising projects including Ebey Island, Drainage District 6, and Pilchuk River Dam removal.
- Provided over \$800,000 in funding to construction of the Qwuloolt Estuary project. The Qwuloolt project was completed in 2015 to create 360 acres of intertidal wetland in the Snohomish estuary.
- Provided approximately \$1.5 million to complete construction of the Town of Skykomish wastewater treatment system, and provide some funds for operations and maintenance of the system.

BNSF and Ecology have nearly completed site cleanup

Since the 1990s, BNSF Railway has spent around \$100 million cleaning up the town of Skykomish and the surrounding environment. The cleanup strategy included oil removal, soil and sediment cleanup, containment and water treatment. This is not part of the NRD action.

Cleanup work completed with other funding from BNSF

In 2010, BNSF completed the wastewater treatment system and cleaned up Maloney Creek. BNSF also did cleanup and restoration of some wetlands, using additional funds outside of the settlement. In 2013, they completed cleanup in the Skykomish Schoolyard. By the end of 2013, the cleanup project had successfully removed around 360,000 tons of contaminated soil and 225,000 gallons of oil from the Skykomish community. In 2015, crews installed a hot-water flushing technology in and around the school to remove petroleum contamination beneath the school. The system will operate until Ecology determines contamination is below state cleanup standards.

Contributors

Toxics Cleanup Program

Marian Abbett
Celina Abercrombie
Meg Bommarito
Valerie Bound
Brendan Dowling
Matt Durkee
Dawn Hooper
Mohsen Kourehdar
Mary Monahan
Brad Petrovich
Donna Podger
Seth Preston
Joanna Richards
Ronald Timm

Waste 2 Resources Program

Teddy Le
Ha Tran
My-Hanh Mai

Lead Authors:

Jill Reitz and Angie Wirkkala

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>

BNSF Skykomish NRD Settlement: http://www.ecy.wa.gov/programs/tcp/sites_brochure/NRDAR/councils-sites/BNSF-Sky/BNSF-sites.html

Toxics Cleanup Program Information

Contact: Angie Wirkkala, Supervisor, Financial Services Unit

P.O. Box 47600, Olympia, WA 98504-7600

(360) 407-7219, Angie.Wirkkala@ecy.wa.gov

Program website <http://www.ecy.wa.gov/programs/tcp/cleanup.html>

Washington State Department of Ecology

Toxics Cleanup Program

P.O. Box 47600

Olympia, WA 98504-7600

To request ADA accommodation, including materials in a format for the visually impaired, call Department of Ecology at 360-407-6300. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.