



PUTTING SITES TO WORK

*How Superfund Redevelopment in Region 10
Is Making a Difference in Communities*



REGION 10 ECONOMIC PROFILE

Cover page photos:

Wyckoff Co./Eagle Harbor (Washington), Bunker Hill Mining & Metallurgical Complex (Idaho), Spokane Junkyard/Associated Properties (Washington), Ketchikan Pulp Company (Alaska)

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Figure 1. Entrance to Silver Mountain Resort’s Morning Star Lodge at the Bunker Hill Mining & Metallurgical Complex site (Idaho).

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PREFACE

EPA's Superfund program is a cornerstone of the work that the Agency performs for citizens and communities across the country. The revitalization of places affected by contaminated lands is a key part of Superfund's mission, meeting community needs for thriving economies and improved environmental and public health outcomes. Through EPA's Superfund Redevelopment Initiative, the Agency contributes to these communities' economic vitality by supporting the return of sites to productive use.

EPA has established a renewed focus on accelerating work and progress at all Superfund sites across the country and created the Superfund Task Force whose work included promoting redevelopment and community revitalization. Working closely with communities, developers and property owners, EPA is leading the way to return these once-contaminated sites back to productive use.

These regional profiles highlight community-led efforts as EPA expedites cleanup and remediation and engages with partners and stakeholders to support redevelopment and community revitalization.

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INTRODUCTION

EPA Region 10 (Pacific Northwest) – Alaska, Idaho, Oregon, Washington and 271 native tribes – is widely known for its remarkable scenery and deep ties to maritime industries, mining, metal refining, timber, and petroleum exploration and production. The region’s beauty, history and economic strength continue to attract new residents and visitors from across the country. Local governments, state agencies and diverse organizations in these western states work hard to help older, smaller communities remain vibrant while carefully planning for new growth in major cities and suburbs. A key part of this work focuses on finding new uses for old industrial, timber and mining sites, including Superfund sites. The Superfund program in EPA Region 10 is proud to play a role in these efforts.

The cleanup and reuse of Superfund sites often restores value to site properties and surrounding communities that have been negatively affected by contamination. Site redevelopment can revitalize a local economy with jobs, new businesses, tax revenues and local spending.

Through programs like the Superfund Redevelopment Initiative, EPA Region 10 helps communities reclaim cleaned-up Superfund sites. Factoring future use of Superfund sites into the cleanup process promotes their safe redevelopment. In addition, EPA Region 10 works closely with state and local officials to remove barriers that have kept many Superfund sites underused. EPA Region 10 works to ensure that businesses on properties being cleaned up under Superfund can continue operating in a way that protects human health and the environment during site investigations and cleanup work. This continuity enables these businesses to remain open and serve as a source of jobs for communities.

Superfund sites across Region 10 are home to industrial parks, large port operations, resorts, public service providers and neighborhoods. Many sites continue to host industrial operations such as large-scale manufacturing facilities as well as military facilities. Others are now natural areas, parks and recreation facilities. On-site businesses and organizations at current and former Region 10 Superfund sites provide an estimated 18,707 jobs and contribute an estimated \$1.1 billion in annual employment income. Sites in reuse and continued use in Region 10 generate \$5.1 million in annual property tax revenues for local governments.¹

Region 10 Sites in Reuse and Continued Use: Business and Job Highlights

Businesses:	670
Total Annual Sales:	\$4.9 billion
Number of People Employed:	18,707
Total Annual Employee Income:	\$1.1 billion



Figure 2. The FedEx Ground distribution facility at the Reynolds Metals Company site (Oregon).

¹ Business and property value tax figures represent only a subset of the beneficial effects of sites in reuse or continued use in Region 10. There are 45 Superfund sites in reuse or continued use in Region 10 for which EPA does not have business data, including 27 federal facilities on the Superfund National Priorities List (NPL). Not all sites in reuse involve an on-site business or other land use that would employ people. Several sites without businesses have beneficial effects that are not easily quantified, such as properties providing ecological or recreational benefits (e.g., parks, wetlands, ecological habitat and open space). In addition, there are 59 sites in reuse or continued use in Region 10 for which EPA does not have property value or tax data, including 27 NPL federal facilities.

This profile looks at how redevelopment activities at Superfund sites make a difference in communities across Region 10. In particular, it describes some of the beneficial effects of redevelopment and continued use of current and former Superfund sites. The profile also describes the land values and property taxes associated with Superfund sites returned to use and sites that have remained in use throughout the cleanup process. EPA updates these profiles periodically. The beneficial effects may increase or decrease over time due to changes in:

- The number of sites in reuse or continued use.
- The number of on-site businesses.
- Data availability.
- Changes in business and property value data.

Figures presented represent only a subset of all Superfund sites in reuse or continued use in Region 10.



Figure 3. Left: Silver Mountain Resort lodging at the Bunker Hill Mining & Metallurgical Complex site (Idaho). Right: Industrial wood-treating operations at the Oeser Co. site (Washington).

SUPPORT FOR SUPERFUND REDEVELOPMENT

EPA Region 10 is committed to improving the health and livelihood of Americans by cleaning up and returning land to productive use. In addition to protecting human health and the environment through the Superfund program, Region 10 partners with stakeholders to encourage redevelopment opportunities at Superfund sites. Region 10 helps communities and cleanup managers consider redevelopment during cleanup planning and evaluate remedies already in place to ensure appropriate redevelopment. In addition, EPA participates in partnerships with communities and encourages opportunities to support Superfund Redevelopment projects that emphasize environmental and economic sustainability.

Specific redevelopment support efforts in EPA Region 10 include:

- Identifying and evaluating local land use priorities to align with site cleanup plans through the redevelopment planning process.
- Facilitating cleanup and redevelopment discussions to help resolve key issues between parties interested in site redevelopment.
- Supporting targeted projects intended to help Region 10 communities and EPA find the right tools to move site redevelopment forward.
- Making efforts to help address communities' and developers' liability, safety and reuse concerns through development of educational materials, comfort letters, developer agreements and environmental status reports – known as Ready for Reuse Determinations – that provide information about the appropriate use of sites.
- Supporting partnerships with groups committed to returning Superfund sites to productive use, such as the Rails-to-Trails Conservancy.
- Developing reuse fact sheets, websites, webinars and reuse case studies to share opportunities and lessons associated with Superfund Redevelopment.



Figure 4. Jack Block Park at the Pacific Sound Resources site (Washington).

These efforts have helped build expertise across the Region 10, making it easier to both consider future use of Superfund sites prior to cleanup and to identify opportunities for removing reuse barriers. These efforts also help tribes, state agencies, local governments, communities, potentially responsible parties, site owners, developers, and other partners and stakeholders to better understand potential future uses for Superfund sites. This helps stakeholders engage early in the cleanup process, ensuring that Superfund sites are restored as productive assets for communities. Most importantly, these efforts lead to significant returns for communities, including jobs, annual income and tax revenues.

SUPERFUND REDEVELOPMENT: THE BIG PICTURE

EPA can take and oversee immediate action at contaminated sites through short-term cleanup actions, also called removal actions.² EPA refers sites warranting long-term cleanup to its remedial program or to state programs. EPA's National Priorities List (NPL) is a list of sites the Agency is targeting for further investigation and possible remediation through the Superfund program. Once EPA places a site on the NPL, the Agency studies the contamination, identifies technologies that could address the material and evaluates alternative cleanup approaches. EPA then proposes a cleanup plan and, after collecting public input, issues a final cleanup plan. The Agency then cleans up the site or oversees cleanup activities. EPA has placed 104 sites in Region 10 on the NPL.

Whenever possible, EPA seeks to integrate redevelopment priorities into site cleanup plans. In Region 10, 78 NPL sites and four non-NPL Superfund sites are in use. These sites have either new uses in place or uses that remain in place from before cleanup. Many of these sites have been redeveloped for commercial, industrial and residential purposes. Others have been redeveloped for recreational, ecological and agricultural uses. Many redeveloped sites support multiple uses and have the capacity to support additional uses and further redevelopment. The following sections take a closer look at the beneficial effects of businesses operating on current and former Superfund sites in Region 10.

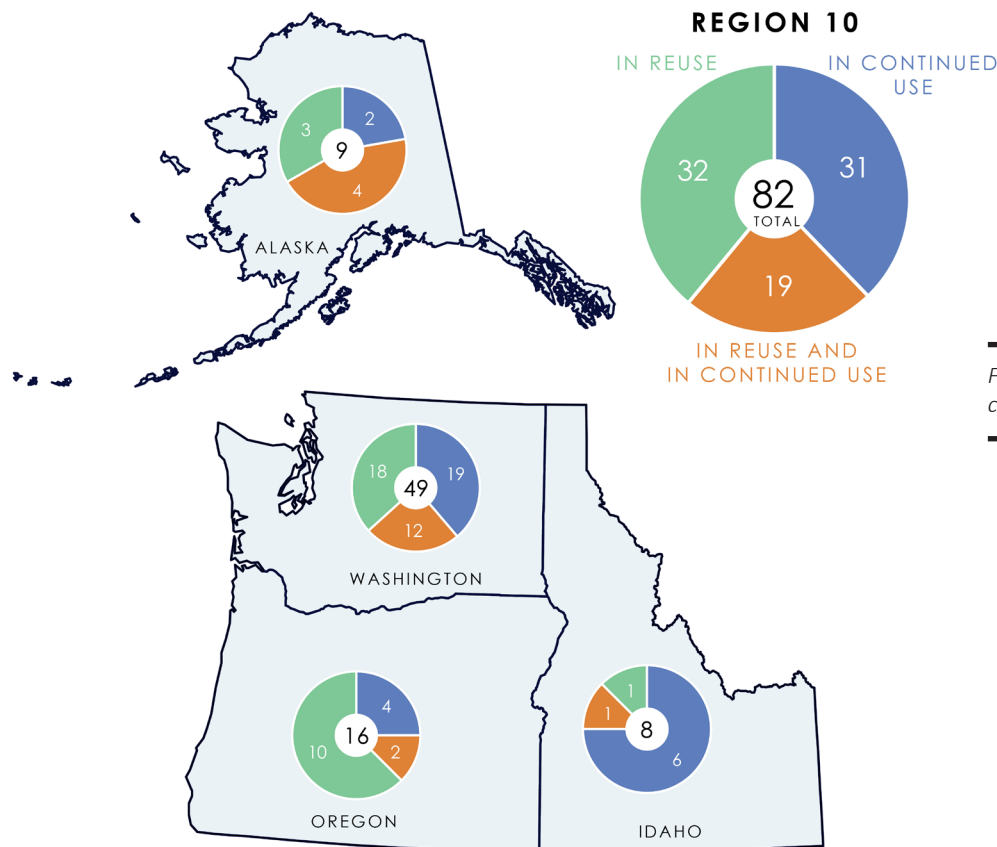


Figure 5. Sites in reuse and continued use in Region 10.

² Removal actions may be taken at sites on the NPL and sites not on the NPL.



Figure 6. Left: Basic Fire Protection at the Allied Plating, Inc. site (Oregon). Right: Facility at the Pacific Hide & Fur Recycling Co. site (Idaho).

Sites in Reuse and Continued Use: A Closer Look

Reuse Type	Description	Region 10 Example
<i>In Reuse</i>	<i>There is a new land use or uses on all or part of a site. This is because either the land use has changed (e.g., from industrial use to commercial use) or the site is now in use after being vacant.</i>	<i>Allied Plating, Inc. (Oregon) – this former chrome-plating facility is now home to a fire sprinkler company and a fruit distribution company.</i>
<i>In Continued Use</i>	<i>Historical uses at a site remain active; these uses were in place when the Superfund process started at the site.</i>	<i>Pacific Hide & Fur Recycling Co. (Idaho) – Pacific Steel & Recycling continues to operate a scrap-metal recycling facility on part of the site.</i>
<i>In Reuse and Continued Use</i>	<i>Part of a site is in continued use and part of the site is in reuse.</i>	<i>Commencement Bay, Near Shore/Tide Flats (Washington) – cleanup has enabled the continued use of homes, schools, playgrounds, businesses and parks, as well as important recreational and tribal fisheries; redevelopment includes an active commercial seaport, public gathering spaces, a museum, new commercial and industrial businesses and a new residential subdivision.</i>

BENEFICIAL EFFECTS OF SUPERFUND SITE REDEVELOPMENT IN REGION 10

Businesses and Jobs

EPA has collected economic data for 670 businesses, government agencies and civic organizations operating on 35 NPL sites and two non-NPL site in reuse and continued use in Region 10.³ (See the State Redevelopment Profiles for each state’s reuse details.) Businesses and organizations at these sites are part of several different sectors, including manufacturing, wholesale and retail trade, marine cargo handling, general freight trucking, and construction.

Businesses, facilities and organizations at these sites include courier and express delivery giant FedEx Ground, superstore Wal-Mart, the Port of Tacoma, the Oregon Department of Transportation and the Silver Mountain Resort.

The businesses and organizations at these sites earn about \$4.9 billion in estimated annual sales and employ about 18,707 people, earning an estimated \$1.1 billion in annual employment income. This income injects money into local economies and generates revenue through personal state income taxes. These businesses also help local economies through direct purchases of local supplies and services. On-site businesses that produce retail sales and services also generate tax revenues through the collection of sales taxes, which support state and local governments. More detailed information is presented in Table 1.⁴

Table 1. Site and Business Information for Region 10 Sites in Reuse and Continued Use (2019)

	Sites ^a	Sites with Businesses ^b	Businesses ^c	Total Annual Sales ^d	Total Employees	Total Annual Employee Income
<i>In Reuse</i>	32	14	47	\$911 million	3,477	\$178 million
<i>In Continued Use</i>	31	10	19	\$408 million	1,763	\$155 million
<i>In Reuse and in Continued Use</i>	19	13	604	\$3.6 billion	13,467	\$799 million
Total	82	37^e	670	\$4.9 billion^f	18,707	\$1.1 billion^f

^a Twenty-seven sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

^b Also includes other organizations such as government agencies, nonprofit organizations and civic institutions.

^c Business information is not available for all businesses on all Superfund sites in reuse or continued use.

^d For information on the collection of business, jobs and sales data, see Sources.

^e See footnote 1, page 1.

^f Throughout this report, sales and annual employee income may not sum exactly to the totals presented due to rounding.

3 See footnote 1, page 1.

4 For additional information on the collection of business, jobs and sales data, see Sources.

Property Values and Property Tax Revenues

Properties cleaned up under the Superfund program and returned to use have the potential to increase in value significantly. This increased value can boost property tax revenues, which help pay for local government operations, schools, transit systems and other public services. Site properties at the Harbor Island (Lead) site in Washington are now valued at over \$361 million.

Identifying increases in property values and property taxes following cleanup and reuse is challenging. This is due to several factors, including limited data on past property values and the frequency and timing of local property value assessments. Likewise, many factors affect property values, including external economic and neighborhood factors not related to a site's contamination or Superfund status. It is also difficult to isolate the effects of Superfund cleanup and redevelopment using current property values. However, these values do provide insight into the current value of Superfund properties and the potential loss in economic value if the properties were not cleaned up and made available for reuse or continued use.

EPA has collected property value and tax data for 23 Superfund sites in reuse and continued use in Region 10.⁵ These sites span 323 property parcels and 3,085 acres. They have a total property value of \$801 million. The average total property value per acre is \$260,000.

Land and improvement property value information is available for 22 sites. These properties have a total land value of \$428 million and a total improvement value of \$320 million.⁶

Property tax information is available for 23 sites. The properties generate a combined \$5.1 million in local property taxes annually.

Table 2. Property Value and Tax Information for Sites in Reuse and Continued Use in Region 10^a

Total Land Value (22 sites) ^b	Total Improvement Value ^c (22 sites)	Total Property Value (23 sites)	Total Property Value per Acre (23 sites) ^d	Total Annual Property Taxes (23 sites)
\$428 million	\$320 million	\$801 million	\$260,000	\$5.1 million

^a Results are based on an EPA Superfund Redevelopment Initiative effort to collect on-site property values and property taxes for a subset of Superfund sites. The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2017 to 2019. For additional information, see Sources. Throughout this report, property and tax values may not sum exactly to the totals presented due to rounding.

^b Detailed (land and improvement) property value data as well as tax data were not available for every site.

^c Land and improvement value for three of the sites is listed as \$0.

^d Based on total property value amount of \$801 million divided by total acreage of 3,085.

Region 10 Sites in Reuse and Continued Use: Property Value and Tax Highlights

Total Property Value: \$801 million

Total Annual Property Taxes: \$5.1 million



Figure 7. Silver Mountain Resort lodging at the Bunker Hill Mining & Metallurgical Complex site (Idaho).

5 There are 59 additional sites in reuse or continued use in Region 10 for which EPA does not have property value or tax data, including 27 NPL federal facilities. See footnote 1, page 1.

6 Property values consist of land value and the value of any improvements (buildings and infrastructure) placed on a property. When sites are redeveloped, some or all of these improvements may be new or already in place. In some cases, the breakdown showing the land value and improvement value is not always available; only the total property value may be available.

Beneficial Effects from Enhanced Recreational and Ecological Amenities

In addition to hosting commercial developments, retail centers and industrial facilities, many Region 10 sites in reuse and continued use provide recreational and ecological benefits. Greenspace and habitat reuses help attract visitors and residents and indirectly contribute to local economies.

Careful planning can enable the integration of green spaces and habitat into site cleanup plans, resulting in the transformation of contaminated properties into valuable community and wildlife assets. Green spaces are integral components of sustainable communities – they can help protect the environment and human health while providing other social and economic benefits. Parks, community gardens and other public green spaces create opportunities for people to gather, exercise and connect with nature. The creation of green spaces and habitat at once-contaminated properties can serve to re-introduce ecosystems and biodiversity into urban and suburban landscapes by providing corridors for migrating species and preserving habitat. They can also mitigate stormwater runoff problems by slowly absorbing and naturally filtering stormwater, resulting in improved water quality due to decreased runoff and erosion.

Parks, natural areas and scenic landscapes also have great economic value – supporting regional economies through tourism, agriculture and other activities. Economic impacts of recreational activities can include outdoor recreation spending and reduced public costs related to healthcare and infrastructure. In 2017, outdoor recreation contributed \$887 billion to the U.S. economy, supporting 7.6 million jobs and generating \$65.3 billion in national tax revenue and \$59.2 billion in state and local tax revenue.⁷ Protected green space can also increase the property values of nearby homes by providing amenities that draw people to live and work in the community.

Many sites in Region 10 provide recreational and ecological benefits. Recreational enthusiasts use the water at the Lower Duwamish Waterway site in Seattle, Washington, for boating, kayaking, fishing and beach play. During cleanup of the McCormick & Baxter Creosoting Co. (Portland Plant) site in Portland, Oregon, erosion control measures included revegetating the former facility area with native plant species and the riverbanks with cottonwoods, willows and spirea, which provide ecological benefits along the Willamette River. The Oeser Co. site in Bellingham, Washington, is home to Little Squalicum Creek Park, which includes walking paths along restored creek and wetland areas.



Figure 8. Little Squalicum Creek Park at the Oeser Co. site (Washington).

⁷ The Outdoor Recreation Economy. Outdoor Industry Association. Available at https://outdoorindustry.org/wp-content/uploads/2017/04/OIA_RecEconomy_FINAL_Single.pdf.



Figure 9. Elk in the remediated wetlands at the Bunker Hill Mining & Metallurgical Complex site (Idaho).

Why Are Wetlands Economically Important?

Superfund site reuse can support wetland habitat, as seen at several sites in Region 10. The Queen City Farms site in Maple Valley, Washington, includes wetlands and wooded wildlife habitat areas. Cleanup of the Bunker Hill Mining & Metallurgical Complex site in Idaho included conversion of nearly 400 acres of agricultural property to wetlands, which now provide habitat for a variety of birds, including swans and ducks. The restoration effort earned the site EPA Region 10's Howard Orlean Excellence in Site Reuse Award in 2015.

Wetlands provide a variety of benefits. The combination of shallow water, high levels of nutrients and primary productivity is ideal for organisms that form the base of the food web and feed many species of fish, amphibians, shellfish and insects. Wetlands are extremely effective in removing pollutants from water and acting as filters for future drinking water. Wetlands play a role in reducing the frequency and intensity of floods. They can store large amounts of carbon. They also provide recreational amenities.

These benefits also have economic value. Replacing wetlands' water treatment services with manmade facilities, for example, would be expensive. Worldwide, wetlands provide an estimated \$14.9 trillion in ecosystem services. To learn more, see:

- EPA's *Economic Benefits of Wetlands*: www.epa.gov/sites/production/files/2016-02/documents/economicbenefits.pdf.
- EPA's *Why Are Wetlands Important?*: www.epa.gov/wetlands/why-are-wetlands-important.

“ Community leaders in the Silver Valley have known from very early on that the long-term success of the cleanup would depend on economic revitalization. The establishment and acceptance of the [Institutional Control Plan] is a key factor in not only protecting the remedy but ensuring the economic development future of the Silver Valley communities.” **Andy Helkey, Panhandle Health District Institutional Controls Program Manager, in reference to the Bunker Hill Mining & Metallurgical Complex Superfund site.**

Cleanup and Beneficial Reuse of Ports in Region 10

Seaports and marine cargo activity are key contributors to the Pacific Northwest's economy. The cleanup of coastal sites in EPA Region 10 has enabled the continued operation, expansion and development of several large ports in the region. These vital economic hubs enable businesses to export raw materials and manufactured goods overseas, allow the U.S. to receive imports from global markets, and support a wide range of businesses and organizations that employ thousands of workers nationwide. Ports also serve as transportation hubs, moving passengers along maritime routes and supporting industries such as railroad and trucking companies, logistics firms, shipping operations, and commercial fishing. According to the American Association of Port Authorities, seaport cargo activity supports the employment of nearly 31 million people in the U.S. and accounts for 26 percent of the U.S.

economy. In 2018, U.S. seaports generated nearly \$5.4 trillion in total economic activity and more than \$378 billion in federal, state and local taxes. To remain economically competitive in the global marketplace, the cleanup, continued use and beneficial reuse of ports at contaminated sites has never been more important.

Several efforts at Superfund sites in Region 10 have resulted in port modernization and expansions and the economic revitalization of port communities as well as the creation of new recreational amenities.

- The **Harbor Island (Lead)** site is an industrial island in Seattle's Elliott Bay. Built in the early 1900s, the 420-acre island supports commercial and industrial activities, including ocean and rail transport operations. In 1991, the Port of Seattle expressed interest in expanding Terminal 18, located on the east side of the island. Cleanup allowed the Port to move ahead with a \$300-million, 90-acre expansion of Terminal 18. The expansion included a new dockside rail yard, two new truck gates, a larger container storage yard and other amenities to improve goods-handling capabilities. In 2004, site stakeholders received a Phoenix Award for achievement of excellence in Superfund site reuse. In 2019, businesses operating on site employed over 1,500 people, providing about \$115 million in estimated annual employee income and generating nearly \$882 million in estimated sales revenue.
- The **Portland Harbor** site is located in Portland, Oregon, and includes a 10-mile stretch of the lower Willamette River known as Portland Harbor as well as associated upland source properties. For over 150 years, Portland Harbor has served as an international port for commerce – it is Oregon's largest seaport. Operation of the harbor has continued through early cleanup efforts and will continue as the site's long-term remedy is put in place. According to a 2015 Port of Portland economic impact study of Portland Harbor, nearly 30,000 jobs are directly created by businesses in the harbor. In 2015, harbor activity generated about \$413 million in state and local tax revenue. In 2019, businesses operating on site employed over 5,200 people, providing over \$340 million in estimated annual employee income and generating nearly \$1.5 billion in estimated sales revenue.
- The 300-acre **Alcoa (Vancouver Smelter)** site is located next to the Columbia River in Vancouver, Washington. Following cleanup of the former aluminum smelter, EPA took the site off the NPL in 1996. In 2009, the Port of Vancouver purchased about 218 acres of the site property. The purchase allowed the Port to develop Terminal 5, its newest marine terminal. Less than a month after closing on the property, the Port began handling wind energy cargo at its new terminal. In 2009, the U.S. Census Bureau declared the Port of Vancouver to be the nation's leading port for handling wind energy cargo. The Port later went on to complete its Terminal 5 Unit Train Improvement project in 2010. Delivery of the loop track, which marked a major milestone of the port's ongoing West Vancouver Freight Access rail improvement project, added 35,000 feet of new rail capacity to the Port's internal system.



Figure 10. View of part of the Portland Harbor site (Oregon).

REDEVELOPMENT IN ACTION

BUNKER HILL MINING & METALLURGICAL COMPLEX

Recreational and Commercial Amenities

The Coeur d'Alene Basin in northern Idaho is one of the largest historic mining districts in the world. Over 100 years of commercial mining, milling and smelting resulted in the widespread contamination of soil, sediment, groundwater and surface water in the area now known as the Bunker Hill Mining and Metallurgical Complex Superfund site. The site includes mining-contaminated areas in the Coeur d'Alene River corridor, adjacent floodplains, downstream water bodies, tributaries and fill areas as well as the 21-square-mile Bunker Hill Box, which surrounds the area of historic smelting operations. EPA added the site to the NPL in 1983.

EPA, the Idaho Department of Environmental Quality (IDEQ) and the Idaho Panhandle Health District (PHD) have been working at the site since the mid-1980s to remove lead-contaminated soil and gravel from residential properties, churches, schools, parks, businesses and rights-of-way. Cleanup has also included consolidation and capping of waste rock, mine tailings and contaminated soil and sediment, capture and treatment of mine drainage, creek reconstruction, demolition of abandoned milling and processing facilities, revegetation efforts, ecological restoration, and treatment of contaminated groundwater. One of the most unique components of the site's long-term remedy is its comprehensive Institutional Control Plan (ICP). The ICP plays a major role in protecting public health and helps encourage local lenders to fund redevelopment projects. Through the ICP, the PHD educates local communities and visitors about the risks associated with site-related contamination and how to safely enjoy the natural environment. It also helps area communities maintain protective barriers and ensures the compatibility of future uses with the remedy.

In 1987, the city of Kellogg began to pursue redevelopment opportunities for cleaned-up parts of the site. The ICP addressed developer and lender concerns and helped facilitate redevelopment. Today, the site supports a wide range of commercial, industrial and public-service businesses and housing options. For example, Silver Mountain Resort – a year-round destination offering a wide range of recreation opportunities to locals and visitors of all ages – is located on site.

Redevelopment projects such as Silver Mountain Resort have attracted people to the area. New arrivals invest in homes and start businesses, bolstering the economy. Businesses in the Bunker Hill Box employ over 2,800 people and provide nearly \$107 million in estimated annual employment income. In 2019, businesses in the Bunker Hill Box generated over \$290 million in estimated sales revenue. In 2018, EPA began supporting new reuse planning efforts at the site. Those efforts focus on identifying appropriate future reuse options for the undeveloped properties within the Bunker Hill Box that are currently held by IDEQ.

Cleanup has also resulted in significant ecological benefits, including the successful revegetation of hillsides and the conversion of nearly 400 acres of agricultural land into thriving wetland habitat. The use of native plants and trees during revegetation efforts helped create habitat for wildlife and pollinators. A wide range of wildlife has returned to the site as a direct result of the cleanup. Cleanup of a former rail line in 2004 led to the creation of the Trail of the Coeur d'Alenes, a 72-mile paved bike trail that passes through the site. The Rails-to-Trails Conservancy named it one of the 25 top trails in the nation in 2012.



Figure 11. Silver Mountain Resort at the Bunker Hill Mining and Metallurgical Complex site (Idaho).

REDEVELOPMENT IN ACTION

PACIFIC SOUND RESOURCES

Port of Seattle Expansion and Jack Block Park

The 83-acre Pacific Sound Resources (PSR) Superfund site is located on the south shore of Elliott Bay on the Puget Sound in Seattle, Washington. From the turn of the century until 1994, a wood-treating facility was active on site. Its operations released hazardous wastes into the ground and the marine environment. EPA listed the site on the NPL in 1994. The Port of Seattle purchased the upland part of the site and included it as part of the Port's efforts to construct a modern container terminal facility in West Seattle. During this period, the Port implemented several early cleanup actions under EPA oversight to stabilize releases from the site and to prepare it for reuse.

The Port opened the expanded Terminal 5 facility on site in 1998 – it is now one of the Port's largest and most efficient container cargo shipment facilities. The expansion doubled the terminal's shipping capacity. The integration of rail into terminal cargo shipping operations also helped reduce the terminal's dependency on truck transport of ship cargo, improving air quality. During busy periods, nearly 500 workers support cargo transfer operations at the terminal. The Port is currently modernizing Terminal 5 to accommodate larger ships with deeper berths and bigger cranes. Phase one of terminal modernization is expected to be completed by 2021.

The project also led to the creation of the 15-acre Jack Block Park on the northern part of the site. The park, which opened in 1998 as part of the Port of Seattle's redevelopment of Terminal 5, is located on property previously used for industrial purposes. In 2001, the park was dedicated and named after former Port Commissioner Jack Block. The public park provides trails, a walking pier, a 45-foot observation tower, a children's play area, access to Elliott Bay, and dramatic views of the Seattle skyline and Puget Sound. Interpretive plaques at the park summarize information about the Port of Seattle and provide an overview of maritime shipping technology. The park's beach opened to the public in 2011. In 2018, site property parcels had a total value of over \$1 million, generating nearly \$16,000 in annual property taxes.



Figure 12. Jack Block Park and Terminal 5 at the Pacific Sound Resources site (Washington).

REDEVELOPMENT IN ACTION

NORTHWEST PIPE & CASING/HALL PROCESS COMPANY Commercial, Government and Industrial Operations, and Highway Infrastructure

Metal pipe manufacturing at the Northwest Pipe & Casing/Hall Process Company Superfund site (site) in Clackamas, Oregon, took place from 1956 to 1985. Improper waste disposal activities at the 53-acre area contaminated soil and groundwater. EPA added the site to the NPL in 1992. Cleanup included demolition and removal of site structures, treatment and removal of highly contaminated soil, placement of a clean soil cap over remaining contaminated soil, land and groundwater use restrictions, and treatment of contaminated groundwater. Ongoing EPA groundwater monitoring as well as state oversight of soil cap and wetland area maintenance and investigations of potential off-site sources of contamination have been compatible with continued uses as well as new development at the site.

Following cleanup of the soil operable unit, the Oregon Department of Transportation (ODOT), Clackamas County Development Agency and local businesses showed interest in a range of redevelopment opportunities at the site. Today, the site hosts new and continued uses, including warehouse, light industrial, commercial and government office spaces, an equipment laydown yard, and ODOT's greenhouse and plant nursery. A streetcar test track, maintenance facility, and 30.8-kilowatt solar array are also located on the site. Together, site businesses employ about 244 people and contribute over \$13 million in estimated annual employment income. On-site properties also help generate property tax revenues that support local government and public services. In 2019, site property parcels had a total value of nearly \$36 million, generating \$265,000 in annual property taxes.

ODOT has also extended two roads across the capped area of the site. The highway project, which is part of the Sunrise Corridor Project, helps relieve regional traffic congestion and was completed in 2016. Minuteman Way, which runs along the western part of the site, has enhanced area infrastructure and includes bike lanes and sidewalks.

According to the site's 2011 Five-Year Review and 2016 Five-Year Review, the site's remedy is currently protective of human health and the environment because of the land and groundwater use controls and other actions implemented at the site. For the site's remedy to remain protective over the long term, site-wide groundwater monitoring should continue to ensure that concentrations of chlorinated solvents are not increasing. EPA will continue to provide oversight of site activities.



Figure 13. Solar installation at the Northwest Pipe & Casing/Hall Process Company Superfund site (Oregon).

REDEVELOPMENT IN ACTION

WYCKOFF CO./EAGLE HARBOR

Restoration and Remembrance

The Wyckoff Co./Eagle Harbor Superfund site is the former location of a wood-treating facility on Bainbridge Island in Washington. Built in 1904, the wood-treating facility grew to be one of the largest in the world. It produced preserved wood used in building the Panama Canal, San Francisco's wharfs and the Great Northern Railroad. Improper materials handling and waste disposal practices resulted in extensive contamination of groundwater and soil, as well as 100 acres of intertidal and subtidal habitat in the harbor. EPA added the site to the NPL in 1987. The following year, the facility owner, Wyckoff Company (then Pacific Sound Resources), declared bankruptcy and ceased operations.

Site reuse planning efforts began in the mid-1990s. Community reuse goals included creating a public park. The park design integrated another type of project into the plan – a memorial recognizing the exclusion and incarceration of Japanese Americans during World War II. In March 1942, Bainbridge Island was the first place where Japanese Americans were forcibly removed from their communities. These early reuse planning efforts enabled EPA to consider future use considerations during the selection of the cleanup plan.

EPA worked with the local government and community groups to make sure that site cleanup would support future reuse goals. Extensive cleanup activities have taken place at the former facility and in Eagle Harbor. EPA and the U.S. Army Corps of Engineers capped more than 70 acres of harbor sediment with clean sand. Anchoring in the area was restricted to protect the cap. Intertidal beach cleanup included removal of contaminated soil and sand. Removal of a waterfront retaining wall and construction of a sand cap created a sandy beach at part of the site known as West Beach. Cleanup of remaining site areas is ongoing.

Following an extensive reuse planning process and municipal acquisition of the site property, the stage was set for redevelopment. Today, most of the site has been transformed into Pritchard Park. This vibrant community asset provides public space and waterfront shoreline with striking views of Puget Sound. In 2008, the community celebrated its new beach – the restored West Beach area – when the second annual Blackberry Festival brought 800 people to the site.

The westernmost entrance to the park leads to the Bainbridge Island Japanese American Exclusion Memorial, which is part of the Minidoka Internment National Monument. In March 2004, more than 100 people gathered for the groundbreaking ceremony for the memorial, 62 years to the day after the Japanese American community was forcibly removed by boat from the Eagledale ferry dock. Visitors step back in time to learn about the wartime removal of men, women and children from their homes. The memorial includes several paths and a 276-foot-long memorial wall – one foot for each relocated resident. It also celebrates the island community, which defended its Japanese American friends and neighbors, supported them while they were away, and welcomed them home.

The transformation of the abandoned Wyckoff wood-treating facility into Pritchard Park and the Japanese American Exclusion Memorial was a group success. These reuse projects show how protecting people's health and the environment can happen alongside creation of a valuable community asset. Community leadership, collaborative partnerships among government agencies and organizations, and flexible long-term planning all played important roles.



Figure 14. The Bainbridge Island Japanese American Exclusion Memorial at the Wyckoff-Eagle Harbor site (Washington).

REDEVELOPMENT ON THE HORIZON IN REGION 10

TRANSFORMING A FORMER ALUMINUM SMELTING FACILITY INTO A BUSTLING INDUSTRIAL PARK

The Reynolds Metals Company Superfund site spans over 700 acres. It is located about 20 miles east of Portland, Oregon, and just over a mile north of the city of Troutdale. From the 1940s to 2000, the Reynolds Metals plant operated an aluminum smelting facility on 80 acres of the site. Smelting activities resulted in the contamination of groundwater, surface water, sediment and soil. EPA listed the site on the NPL in 1994. From 1995 to 2008, Reynolds Metals completed cleanup actions at the site. Alcoa purchased the property in 2000, began demolishing the plant in 2003 and sold the property to the Port of Portland in 2007.

The Port developed a three-phase master plan for the area, now called the Troutdale Reynolds Industrial Park, or TRIP. The overall goal is to turn TRIP into an economic engine for the region, creating investment and employment opportunities. The plan also balanced development with open space and recreation opportunities, preserving 350 acres of open space and including an extension of a regional recreation trail. Between 2008 and 2010, the Port implemented the first phase of its plan, making 131 acres available for reuse. In 2010, FedEx Ground completed construction of a 441,000-square-foot regional distribution facility on 78 acres. In 2019, the \$200-million facility employed 1,400 people. Ongoing maintenance and treatment efforts at the site include land use controls, maintenance of capped areas, and groundwater monitoring and treatment by Alcoa.

The Port, the city of Troutdale and other stakeholders are actively working to expand TRIP's tenant base. The Port began construction of TRIP's second phase in 2015. In early 2017, Amazon purchased 74 acres of the site property from the Port. In 2018, Amazon opened a \$178.4-million, 855,000-square-foot distribution center. The facility is expected to employ 1,500 people when fully operational. In June 2017, the Port sold 19 acres of the site to a developer planning a 344,000-square-foot facility that could accommodate four industrial users for manufacturing and distribution services and office space. Three other lots at the development are currently listed as sold or with sales pending.

The third phase of the TRIP plan calls for development of an additional 34.5 acres of the site. When fully built out, the Port estimates that TRIP will generate 3,500 new jobs, \$141 million in annual income, and \$46 million in annual state and local taxes. On-site properties also help generate property tax revenues that support local government and public services. In January 2018, EPA awarded the Port, Alcoa, the ODEQ and several other site stakeholders with Region 10's Howard Orlean Excellence in Site Reuse Award. The award recognized the innovative and collaborative work of site stakeholders to clean up and redevelop the site.



Figure 15. Sign advertising available lots at Troutdale Reynolds Industrial Park at the Reynolds Metals Company site (Oregon).

“ Amazon’s expansion in Oregon brings us great jobs with competitive wages and bright futures for its employees and communities.”
Kate Brown, Governor of Oregon.

CONCLUSION

EPA works closely with its partners at Superfund sites across Region 10 to make sure sites can safely be reused or remain in continued use during and following cleanup. EPA also works with businesses and organizations at Superfund sites throughout the cleanup process to make sure they can remain open.

The businesses and organizations at these sites provide jobs and income for communities and generate local and state taxes. Cleanup and redevelopment also helps stabilize and boost property values. There are 78 NPL sites and four non-NPL Superfund sites in Region 10 that have either new uses in place or uses that have remained in place since before cleanup. Future uses are planned for many more Superfund sites in Region 10. EPA remains committed to working with all stakeholders to support Superfund redevelopment opportunities in Region 10.

The redevelopment of Superfund sites takes time and is often a learning process for project partners. Ongoing coordination among EPA, tribes, state agencies, local governments, communities, potentially responsible parties, site owners, developers, and nearby residents and business owners is essential. EPA tools, including reuse assessments and plans, comfort letters and partial deletions of sites from the NPL, often serve as the foundation for moving forward. At some sites, parties may need to take additional actions to ensure reuses are compatible with site remedies.

Across Region 10, Superfund sites are now home to major commercial and industrial facilities, mid-size developments and small businesses providing services to surrounding communities. EPA is committed to working with all stakeholders to support the restoration and renewal of these sites as long-term assets.

EPA Superfund Site Redevelopment Resources

EPA Region 10 Superfund Redevelopment Initiative Coordinator
Kira Lynch | 206-553-2144 | lynch.kira@epa.gov

Superfund Sites in Reuse: find more information about Superfund sites in reuse
www.epa.gov/superfund-redevelopment-initiative/find-sites-reuse

Superfund Redevelopment Initiative Website: tools, resources and more information about Superfund site reuse
www.epa.gov/superfund-redevelopment-initiative

EPA Office of Site Remediation Enforcement Website: tools that address landowner liability concerns
www.epa.gov/enforcement/landowner-liability-protections

“ People were concerned about the stigma effect of the Superfund label, but I have gotten lots of calls from people who are interested in properties at the site and would buy right away. There is a market out there and lenders will lend.” **Dan Silver, Receiver, in reference to the North Ridge Estates Superfund site.**



Figure 16. A community park in Kellogg at the Bunker Hill Mining & Metallurgical Complex site (Idaho).

STATE REDEVELOPMENT PROFILES





ALASKA REDEVELOPMENT PROFILE

EPA partners with the Alaska Department of Environmental Conservation to oversee the investigation and cleanup of Superfund sites in Alaska. Alaska has 9 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Alaska.

Businesses and Jobs

EPA has collected economic data for six businesses and organizations operating on two sites in reuse or continued use in Alaska.

Table 3. Detailed Site and Business Information for Sites in Reuse and Continued Use in Alaska (2019)

	Sites ^a	Sites with Businesses	Businesses ^b	Total Annual Sales ^c	Total Employees	Total Annual Employee Income
<i>In Reuse</i>	3	0	0	\$0	0	\$0
<i>In Continued Use</i>	2	0	0	\$0	0	\$0
<i>In Reuse and in Continued Use</i>	4	2	6	\$658,000	45	\$3 million
Total	9	2	6	\$658,000	45	\$3 million

^a Six sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

^b Business information is not available for all businesses on all Superfund sites in reuse or continued use.

^c While sales values typically exceed estimated totals of annual income, sales can sometimes be lower than estimated income. This could be attributed to a number of business conditions and/or data reporting. In addition, annual sales figures are not available (or applicable) for every organization that makes jobs data available.

Property Values and Property Tax Revenues

Property value and tax data were not available for sites in reuse or continued use in Alaska.



Figure 17. A barge at the Ketchikan Pulp Company site dock.

Did You Know?

From 1954 to 2001, a pulp mill operated at the Ketchikan Pulp Company site in Ketchikan, Alaska. Following cleanup, site reuses include public-service, commercial and industrial facilities. The Alaska Department of Transportation and the Alaska Marine Highway System use parts of the site for administrative and engineering buildings and the harbor for marine vessels. On-site businesses and organizations provide over \$2.5 million in estimated annual employee income.



IDAHO REDEVELOPMENT PROFILE

EPA partners with the Idaho Department of Environmental Quality to oversee the investigation and cleanup of Superfund sites in Idaho. Idaho has eight Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Idaho.

Businesses and Jobs

EPA has collected economic data for 306 businesses and organizations operating on five sites in reuse or continued use in Idaho.

Table 4. Detailed Site and Business Information for Sites in Reuse and Continued Use in Idaho (2019)

	Sites ^a	Sites with Businesses	Businesses ^b	Total Annual Sales	Total Employees	Total Annual Employee Income
In Reuse	1	1	5	\$1 million	16	\$655,000
In Continued Use	6	3	7	\$76 million	501	\$55 million
In Reuse and in Continued Use	1	1	294	\$290 million	2,857	\$107 million
Total	8	5	306	\$367 million	3,374	\$163 million

^a Two sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

^b Business information is not available for all businesses on all Superfund sites in reuse or continued use.

Property Values and Property Tax Revenues

EPA has collected property value data for one Superfund site in continued use in Idaho. These sites span 25 property parcels and 441 acres.

Table 5. Property Value and Tax Information for Site in Continued Use in Idaho^a

Total Land Value (0 sites)	Total Improvement Value (0 sites)	Total Property Value (1 site)	Total Annual Property Taxes (1 site)
\$0	\$0	\$53 million	\$792,000

^a The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which was 2018 for all data collected.



Figure 18. The phosphorus manufacturing plant operating at the Monsanto Chemical Co. (Soda Springs Plant) site.

Did You Know?

Since 1952, an elemental phosphorus manufacturing facility has operated at the Monsanto Chemical Co. (Soda Springs Plant) site in Soda Springs, Idaho. The facility produces refined phosphorus for a range of uses. It provides over \$49 million in estimated annual employee income. Parts of the site's buffer area are in continued agricultural use.



OREGON REDEVELOPMENT PROFILE

EPA partners with the Oregon Department of Environmental Quality to oversee the investigation and cleanup of Superfund sites in Oregon. Oregon has 16 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Oregon.

Businesses and Jobs

EPA has collected economic data for 87 businesses and organizations operating on 11 sites in reuse or continued use in Oregon.

Table 6. Detailed Site and Business Information for Sites in Reuse and Continued Use in Oregon (2019)

	Sites ^a	Sites with Businesses	Businesses ^b	Total Annual Sales	Total Employees	Total Annual Employee Income
<i>In Reuse</i>	10	6	17	\$806 million	3,235	\$165 million
<i>In Continued Use</i>	4	3	4	\$313 million	1,044	\$86 million
<i>In Reuse and in Continued Use</i>	2	2	66	\$1.5 billion	5,239	\$345 million
Total	16	11	87	\$2.6 billion	9,518	\$596 million

^aOne site is a federal facility. Federal facility sites are excluded from all other detailed site and business data presented above.

^bBusiness information is not available for all businesses on all Superfund sites in reuse or continued use.

Property Values and Property Tax Revenues

EPA has collected property value data for six Superfund sites in reuse or continued use in Oregon. These sites span 86 property parcels and 960 acres.

Table 7. Property Value and Tax Information for Sites in Reuse and Continued Use in Oregon^a

Total Land Value (6 sites)	Total Improvement Value (6 sites)	Total Property Value (6 sites)	Total Annual Property Taxes (6 sites)
\$108 million	\$174 million	\$282 million	\$2 million

^a The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2017 to 2019.



Figure 19. Cleanup of residential properties at the North Ridge Estates site is now complete.

Did You Know?

Improper demolition techniques contaminated soils and sediments with asbestos at the North Ridge Estates site in Klamath Falls, Oregon. A residential subdivision is in continued use on site. The remedial subcontractor hired 90 percent of its labor force locally and completed 95 percent of its subcontracting with local companies, keeping remedial spending in the community. While some families occupied their homes throughout the cleanup, most of the homes taken into receivership during cleanup have been sold and are now occupied.



WASHINGTON REDEVELOPMENT PROFILE

EPA partners with the Washington Department of Ecology to oversee the investigation and cleanup of Superfund sites in Washington. Washington has 49 Superfund sites with either new uses in place or uses that have remained in place since before cleanup. The sections below present economic data, property values and tax data for sites in reuse or continued use in Washington.

Businesses and Jobs

EPA has collected economic data for 271 businesses and organizations operating on 19 sites in reuse or continued use in Washington.

Table 8. Detailed Site and Business Information for Sites in Reuse and Continued Use in Washington (2019)

	Sites ^a	Sites with Businesses	Businesses ^b	Total Annual Sales	Total Employees	Total Annual Employee Income
<i>In Reuse</i>	18	7	25	\$104 million	226	\$12 million
<i>In Continued Use</i>	19	4	8	\$18 million	218	\$14 million
<i>In Reuse and in Continued Use</i>	12	8	238	\$1.7 billion	5,326	\$343 million
Total	49	19	271	\$1.8 billion	5,770	\$369 million

^a Eighteen sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

^b Business information is not available for all businesses on all Superfund sites in reuse or continued use.

Property Values and Property Tax Revenues

EPA has collected property value data for 16 Superfund sites in reuse or continued use in Washington. These sites span 212 property parcels and 1,648 acres.

Table 9. Property Value and Tax Information for Sites in Reuse and Continued Use in Washington^a

Total Land Value (16 sites)	Total Improvement Value (16 sites)	Total Property Value (16 sites)	Total Annual Property Taxes (16 sites)
\$320 million	\$146 million	\$466 million	\$2 million

^a The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which varied from 2017 to 2019.



Figure 20. Ecological reuse at the Queen City Farms site.

Did You Know?

The Queen City Farms site is located in Maple Valley, Washington. Past site uses include pig farming, an airport, a chemical processing plant, gravel mining and waste disposal. Today, the site supports ecological uses and a regional composting business. Ecological reuse includes wetlands and wooded wildlife habitat areas. The composting business generates over \$1.5 million in estimated annual sales and provides over \$500,000 in estimated annual income.

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SOURCES

BUSINESS, JOBS, SALES AND INCOME INFORMATION

Information on the number of employees and sales volume for on-site businesses comes from the Hoovers/Dun & Bradstreet (D&B) (<https://www.dnb.com>) database. EPA also gathers information on businesses and corporations from D&B. D&B maintains a database of over 330 million active and inactive businesses worldwide.

When Hoovers/D&B research was unable to identify employment and sales volume for on-site businesses, EPA used the ReferenceUSA database (<http://resource.referenceusa.com>). In cases where ReferenceUSA did not include employment and sales volume for on-site businesses, EPA used the Manta database (<https://www.manta.com>). The databases include data reported by businesses. Accordingly, some reported values might be underestimates or overestimates. In some instances, business and employment information came from local newspaper articles and discussions with local officials and business representatives. While sales values typically exceed estimated totals of annual income, sales can sometimes be lower than estimated income. This can be attributed to a number of business conditions and/or data reporting.

EPA obtained wage and income information from the U.S. Bureau of Labor Statistics (BLS). Part of the U.S. Department of Labor, the BLS is the principal federal agency responsible for measuring labor market activity, working conditions and price changes in the economy. All BLS data meet high standards of accuracy, statistical quality and impartiality.

EPA used the BLS Quarterly Census of Employment and Wages database to obtain average weekly wage data for site businesses. Average weekly wage data were identified by matching the North American Industry Classification System (NAICS) codes for each type of business with weekly wage data for corresponding businesses in site counties. If weekly wage data were not available at the county level, EPA sought wage data by state or national level, respectively. In cases where wage data were not available for the six-digit NAICS code, EPA used higher-level (less-detailed) NAICS codes to obtain the wage data.

To estimate the annual income earned from jobs at site businesses, EPA multiplied the average weekly wage figure by the number of weeks in a year (52) and by the number of jobs (employees) for each business.

Business and employment data used for this profile were collected in 2019. Estimated annual employment income was calculated using 2019 jobs data and BLS average weekly wage data for those jobs from 2018 (the latest available wage data at the time of this profile). Federal facility sites are included in calculations of total sites in reuse or continued use only. Federal facility sites are excluded from all other calculations (i.e., number of sites with businesses, number of businesses, total jobs, total income and total annual sales). All sales and income figures presented have been rounded for the convenience of the reader. Throughout this report, sales and annual employee income may not sum exactly to the totals presented due to rounding.

PROPERTY VALUE AND TAX INFORMATION

EPA collected on-site property values and property taxes included in this profile for a subset of Superfund sites by comparing available site boundary information with available parcel boundary information and gathering information for selected parcels from county assessor datasets. The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which typically varied from 2017 to 2019. All figures presented have been rounded for the convenience of the reader. Throughout this report, property and tax values may not sum to the totals presented due to rounding. Federal facility sites are excluded from all property value and tax calculations.

REUSE INFORMATION SOURCES

Write-ups of sites in reuse or continued use included in this profile are based on available EPA resources, including Superfund Redevelopment Initiative case studies as well as other resources. Links to EPA's Superfund Redevelopment Initiative case studies and other resources are included below.

EPA Resources

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Back cover photos: Wyckoff Co./Eagle Harbor (Washington), Northwest Pipe & Casing/Hall Process Company (Oregon), Commencement Bay, Nearshore/Tide Flats (Washington)



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