PUTTING SITES TO WORK

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

2020 DATA

REGION 10 ECONOMIC PROFILE

EPA

Cover page photos:

Wyckoff Co./Eagle Harbor (Washington), Pacific Sound Resources (Washington), Seattle Municipal Landfill (Kent Highlands) (Washington), Wyckoff Co./Eagle Harbor (Washington), Pacific Sound Resources (Washington), Eastern Michaud Flats Contamination (Idaho).

Figure 1. A walkway at the Pacific Sound Resources site (Washington).

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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 Program, the Agency contributes to these communities' economic vitality by supporting the return of sites to productive use.

EPA has made historic investments to tackle the climate crisis and to ensure all communities have safe places to live and work. Working closely with communities, developers and property owners, EPA is leading the way to return these once-contaminated sites back to safe and beneficial 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) includes Alaska, Idaho, Oregon, Washington and 271 native tribes. The region is 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 amenities to 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.

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

Businesses:	*653*
Total Annual Sales:	*$5 billion*
Number of People Employed:	*19,272*
Total Annual Employee Income:	*$1.2 billion*

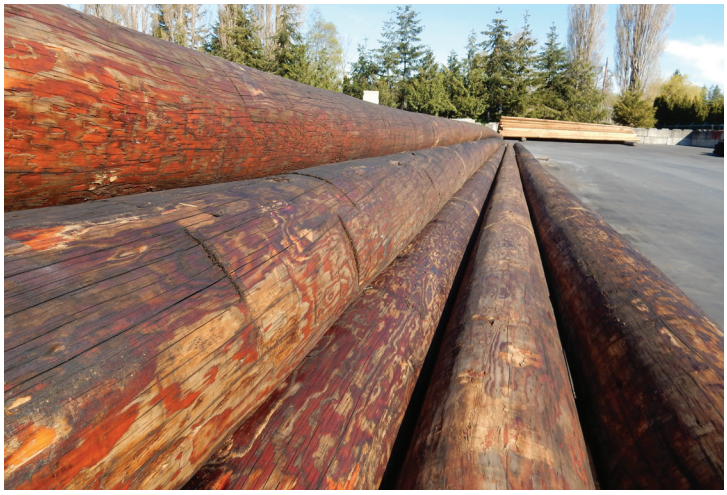

Figure 2. Stacked timber logs at the Oeser Co. site (Washington).

Through programs such as the Superfund Redevelopment Program, EPA Region 10 helps communities reclaim cleaned-up Superfund sites. Factoring the reasonably anticipated 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 vacant or underutilized. 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 and income for local 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 19,272 jobs and contribute an estimated $1.2 billion in annual employment income. Sites in reuse and continued use in Region 10 generate $16.5 million in annual property tax revenues for local governments.[1]

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 53 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 58 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: A restaurant at Silver Mountain Resort at the Bunker Hill Mining & Metallurgical Complex site (Idaho). Right: Bicyclists at the site (Idaho).

SUPPORT FOR SUPERFUND REDEVELOPMENT

EPA Region 10 is committed to improving the health and livelihood of Americans by cleaning up and returning land to beneficial 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.

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 putting Superfund sites back into use, such as the U.S. Fish and Wildlife Service.

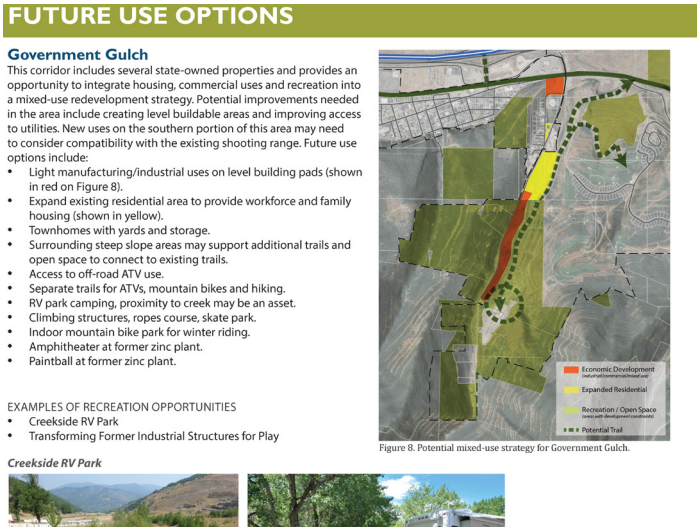

Figure 8. Potential mixed-use strategy for Government Gulch.

Figure 4. A reuse framework document for the Bunker Hill Mining & Metallurgical Complex site (Idaho).

- 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.

These efforts have helped build expertise across the Pacific Northwest Region, 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 contaminants and evaluates alternative cleanup approaches. EPA then proposes a cleanup plan and, after collecting public input, issues a final cleanup decision. 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. In Region 10, 92 NPL sites and six 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. Businesses and other organizations also support culturally and historically significant uses on site areas. 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 at current and former Superfund sites in Region 10.

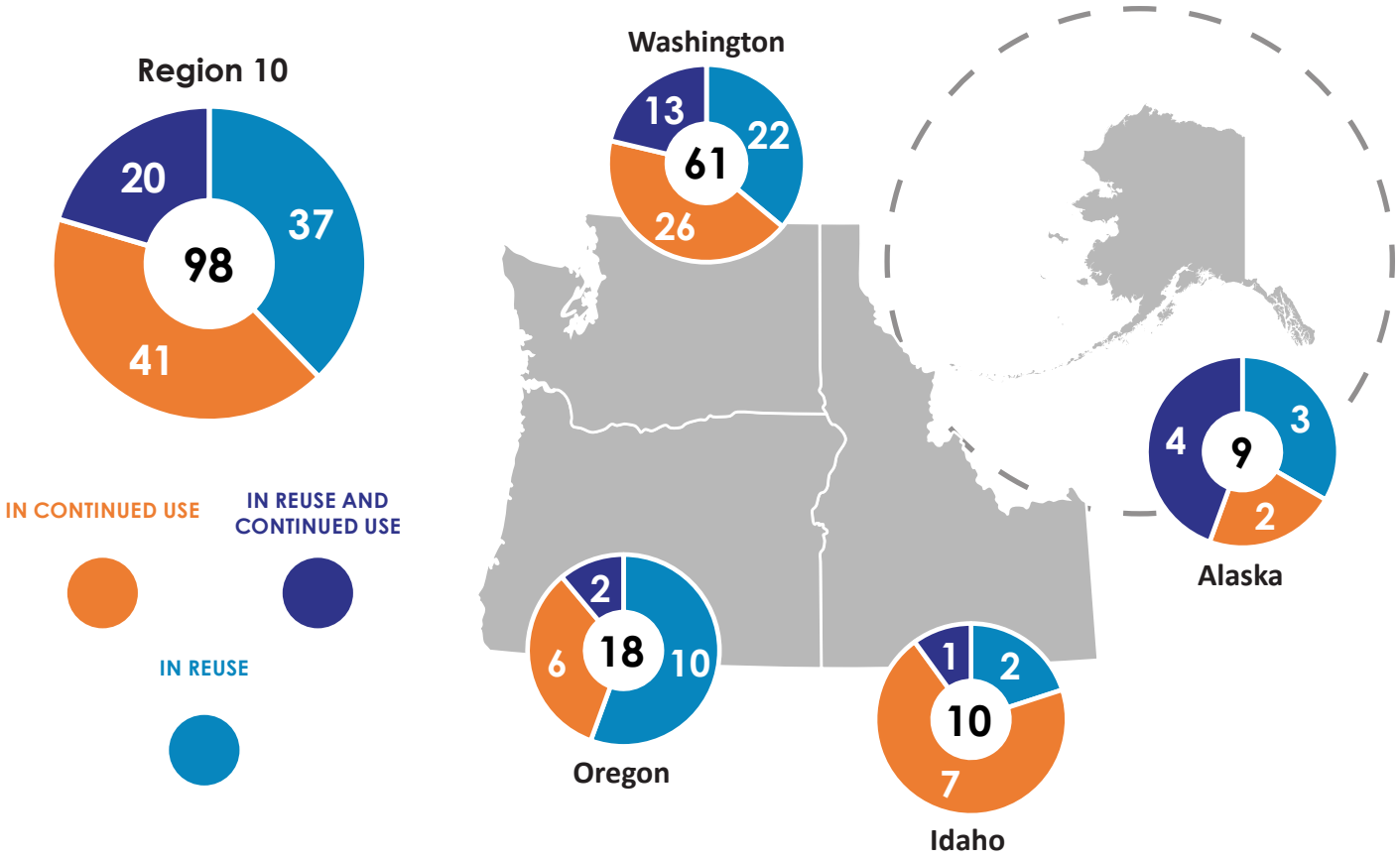

Figure 5. Sites in reuse and continued use in Region 10.

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

Figure 6. Shipping containers at the port at the Commencement Bay, Nearshore/Tidal Flats site (Washington).

Figure 7. Stacked timbers at the Taylor Lumber and Treating site (Oregon).

Figure 8. Llamas and goats graze and control invasive species at the Tulalip Landfill site (Washington).

Sites in Reuse and Continued Use: A Closer Look

Reuse Type	Description	Region 10 Example
In Reuse	*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.*	*Commencement Bay, Nearshore/Tidel Flats (Washington) – a former shipbuilding, oil refining and chemical manufacturing area now supports a commercial seaport and one of the nation's largest container ports.*
In Continued Use	*Historical uses at a site remain active; these uses were in place when the Superfund process started at the site.*	*Taylor Lumber and Treating (Oregon) – Pacific Steel & Recycling continues to operate a scrap-metal recycling facility on part of the site.*
In Reuse and Continued Use	*Part of a site is in continued use and part of the site is in reuse.*	*Tulalip Landfill (Washington) – cleanup enabled the continued use of critical habitat for the threatened bull trout and also wetland nursery areas for many fish and wildlife species. New agricultural uses include goats and llamas who graze the vegetated landfill cap and help eradicate invasive plant species.*

BENEFICIAL EFFECTS OF SUPERFUND SITE REDEVELOPMENT IN REGION 10

Businesses and Jobs

EPA has collected economic data for 653 businesses, government agencies and civic organizations operating on 42 NPL sites and three non-NPL sites in reuse and continued use in Region 10.[3] The State Redevelopment Profiles provide more information on 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 $5 billion in estimated annual sales and employ about 19,272 people, earning an estimated $1.2 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. Table 1 provides more detailed information.[4]

Table 1. Site and Business Information for Region 10 Sites in Reuse and Continued Use (2020)

	Sites[a]	Sites with Businesses[b]	Businesses[c]	Total Annual Sales[d]	Total Employees	Total Annual Employee Income
In Reuse	*37*	*18*	*69*	*$1.4 billion*	*4,744*	*$253 million*
In Continued Use	*41*	*14*	*25*	*$460 million*	*1,829*	*$161 million*
In Reuse and in Continued Use	*20*	*13*	*559*	*$3.2 billion*	*12,699*	*$787 million*
Totals	***98***	***45[e]***	***653***	***$5 billion[f]***	***19,272***	***$1.2 billion***

[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 the Sources section.
[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 more information on the collection of business, jobs and sales data, see the Sources section.

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, for example, are now valued at over $622 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.

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

Total Property Value: *$2.4 billion*

Total Annual Property Taxes: *$16.5 million*

Figure 9. Businesses along a street at the Bunker Mining & Metallurgical Complex site (Idaho).

EPA has collected property value and tax data for 40 Superfund sites in reuse and continued use in Region 10.[5] These sites span 851 property parcels and 4,698 acres. They have a total property value of $2.4 billion. The average total property value per acre is $506,000.

Land and improvement property value information is available for 39 sites. These properties have a total land value of $1.4 billion and a total improvement value of $940 million.[6]

Property tax information is available for 40 sites. The properties generate a combined $16.5 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 (39 sites)[b]	*Total Improvement Value[c] (39 sites)*	*Total Property Value (40 sites)*	*Total Property Value per Acre (40 sites)[d]*	*Total Annual Property Taxes (40 sites)*
$1.4 billion	*$940 million*	*$2.4 billion*	*$506,000*	*$16.5 million*

[a] Results are based on an EPA Superfund Redevelopment Program 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 2020 to 2021. For additional information, see the Sources section. 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 one site is listed as $0.

[d] Based on total property value amount of $2.4 billion divided by total acreage of 4,698.

5 There are 58 more 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. Green space and habitat reuses help attract visitors and residents and indirectly contribute to local economies.

Careful planning enables the integration of green spaces and habitat into site cleanup, resulting in the transformation of contaminated properties into valuable community and wildlife assets. Green spaces are integral components of sustainable communities – they 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 serves 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 recreation 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 $63.5 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.

Figure 10. Trails at Little Squalicum 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.

OESER CO.
Bellingham, Washington

Since 1943, the Oeser Company (Oeser) has treated wood poles on the Oeser Co. Superfund site in Bellingham, Washington. Treating practices contaminated soil and groundwater on the Oeser property and in the Little Squalicum Creek Area, located in Little Squalicum Park. In 1997, EPA added the site to the NPL. Between 2003 and 2009, Oeser removed or capped contaminated soils, added use controls, and monitored groundwater. In 2010, Oeser started cleaning up the creek area. In 2011, EPA took over the cleanup of the creek area and completed it. The cleanup restored creeks and wetland habitats, and restored and reopened Little Squalicum Park. Cap maintenance and groundwater and surface water monitoring are ongoing.

Today, Little Squalicum Park is a popular recreation amenity in the community, while continued industrial uses on site provide jobs and generate tax revenues. The restored park includes beach trails, interpretive displays and parking. The trails connect the site to the larger Bay-to-Baker Trail network, which connects the city of Bellingham to Mount Baker. EPA and the city of Bellingham enhanced bicycling and walking paths in the park with a new layer of crushed limestone. Little Squalicum Creek meanders through the site. The city revegetated stream banks with native plants and wetland shrubs. The mature trees will help stabilize stream banks. Restoration work also removed invasive plants and weeds from the park. Migratory birds, including peregrine falcons and bald eagles, and other wildlife now make their home in Little Squalicum Park. In 2014, EPA Region 10 recognized the beneficial reuse of Little Squalicum Park and the continued use of the Oeser wood-treating facility with its Howard Orlean Excellence in Site Reuse Award.

Figure 11. Trails through Little Squalicum Park at the Oeser Co. site attract walkers, joggers and bikers (Washington).

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 converting 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.

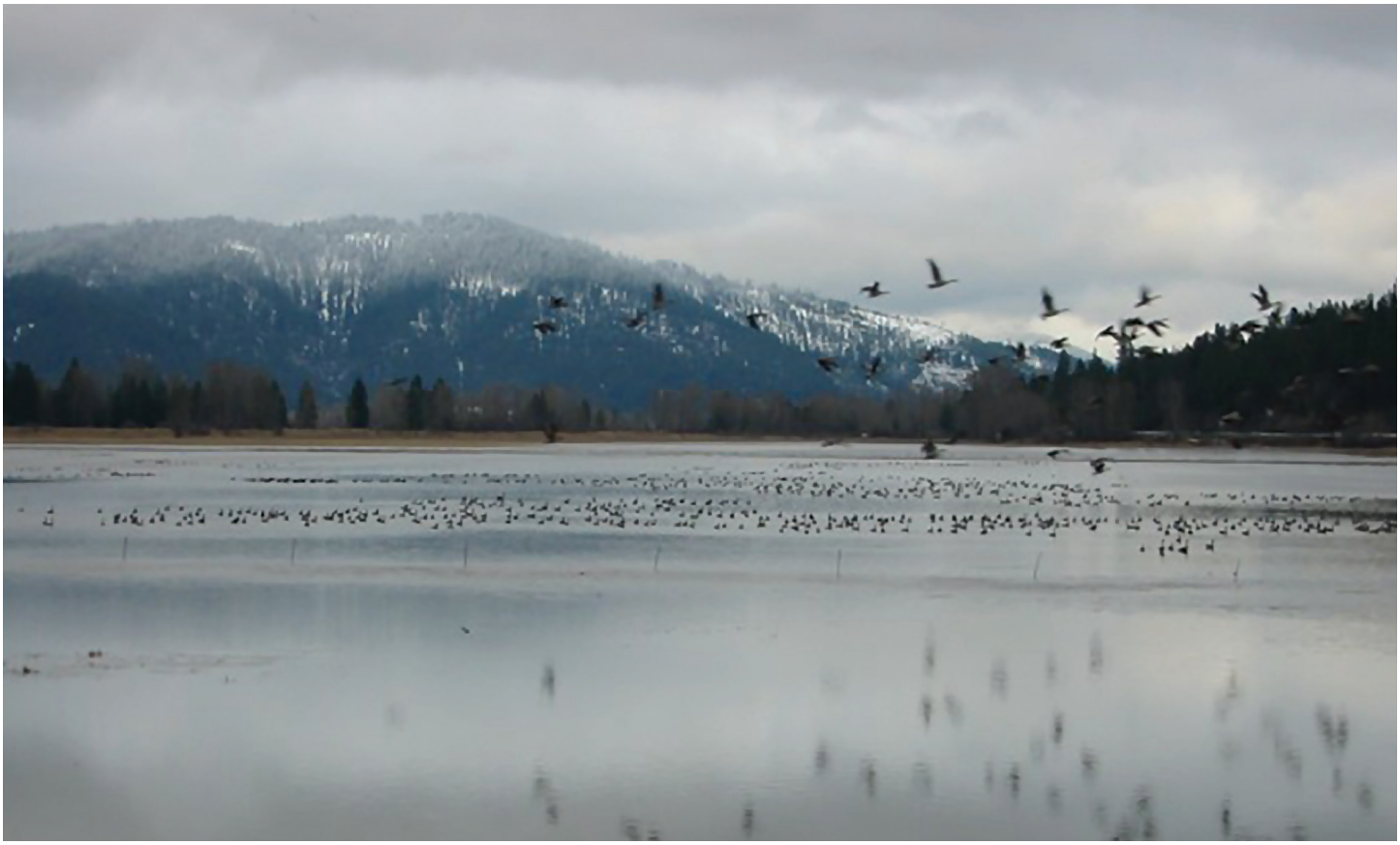

Figure 12. Restored waterfowl habitat at the Bunker Hill Mining & Metallurgical Complex site (Idaho).

Beneficial Effects from Alternative Energy Projects

Alternative energy projects provide a range of beneficial effects. They support construction and operations jobs, spur local investment for manufacturing and materials, create benefits for landowners in the form of land lease and right-of-way payments, lower energy costs, and reduce greenhouse gas emissions. They also help hedge against energy price and supply volatility, support local business competitiveness and technology supply chain development, provide outreach and public relations opportunities for site owners and communities, and contribute to broader economic development planning.

Efforts in EPA Region 10 have encouraged opportunities for alternative energy projects at Superfund sites and other contaminated lands:

- Vigor Works, previously Oregon Iron Works, installed a 30.8-kilowatt solar array at its property at the **Northwest Pipe & Casing/Hall Process Company** site in Clackamas, Oregon. The solar array lowered the company's annual energy use by over 30.7 megawatt hours. The solar array's net meter allows the company to feed excess power back to the utility grid.
- A 100-kilowatt solar array at Corvallis Municipal Airport at the **United Chrome Products, Inc.** site in Corvallis, Oregon, generates enough electricity to power about 50 homes.

Figure 13. Vigor Works offsets operational energy expenditures with its solar array at the Northwest Pipe & Casing/Hall Process Company site (Oregon).

Opportunity Zone Tax Incentives as a Superfund Redevelopment Tool

Opportunity Zones are a powerful tool to encourage economic revitalization in distressed communities by incentivizing long-term, sustainable investment in redevelopment and stimulating economic growth. State governors have designated 8,756 Opportunity Zones across the country in geographic areas that suffer double the national poverty rate. Socio-economic metrics show that Opportunity Zones are among the highest-need communities in the nation. The U.S. Department of the Treasury estimates that Opportunity Zones may attract up to $100 billion in investments, which strengthens the financial viability of redevelopment projects at Superfund sites located in Opportunity Zones.

Redevelopment of current or former Superfund sites may qualify for Opportunity Zone tax benefits. Nationally, there are 343 NPL sites located entirely or partially in Opportunity Zones. Estimates indicate there are thousands of Superfund removal sites in Opportunity Zones across the nation. In Region 10, there are 34 NPL sites located entirely or partially in an Opportunity Zone. Redevelopment investments that meet appropriate qualifying criteria may be eligible for Opportunity Zone tax benefits. EPA and the U.S. Department of Housing and Urban Development (HUD) have tools and resources to help local leaders achieve equitable outcomes in Opportunity Zone development projects.

Learn more about Superfund Redevelopment and Opportunity Zones: https://www.epa.gov/superfund-redevelopment/superfund-redevelopment-using-opportunity-zone-tax-incentives

Environmental Justice and Economic Revitalization

Communities with environmental justice concerns are disproportionately affected by environmental pollution and hazards and typically include marginalized low-income groups and people of color, including tribal and indigenous people. Superfund cleanups and redevelopment are opportunities to evaluate how to reduce impacts on these communities and, through meaningful community involvement efforts, engage communities in productive dialogue to increase local benefits through reuse opportunities that meet community needs.

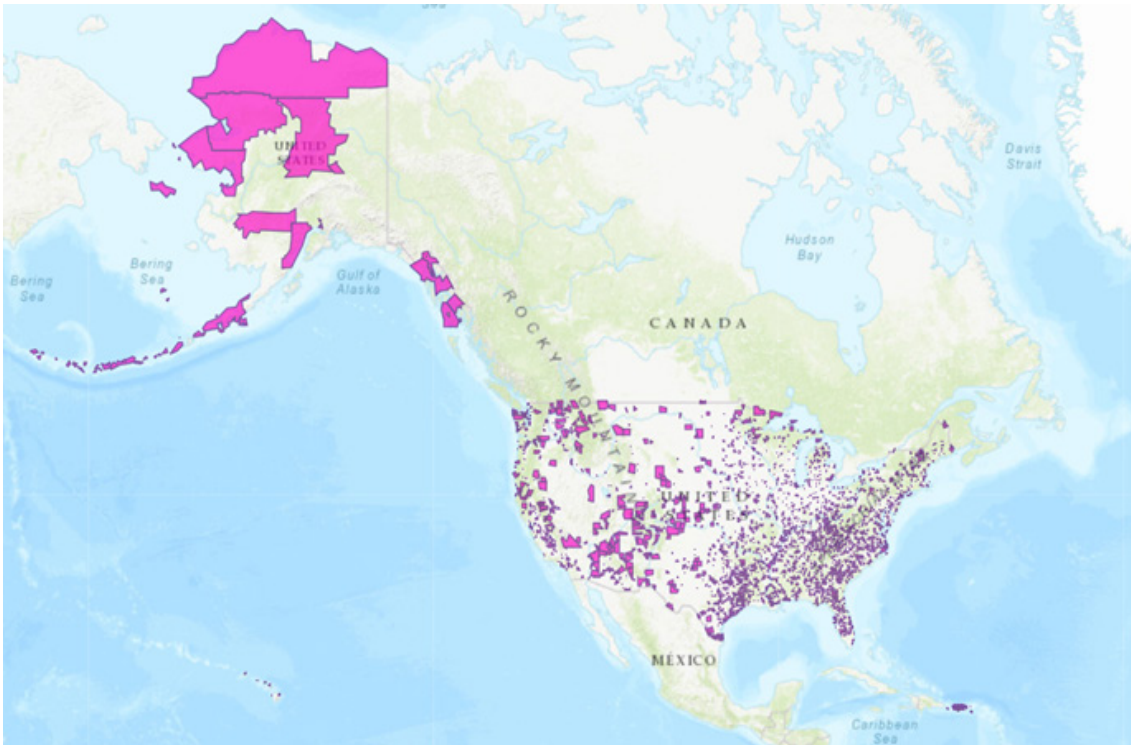

Figure 14. Map of Opportunity Zones. (Source: U.S. Department of Housing and Urban Development, Map of Opportunity Zones)

LOWER DUWAMISH WATERWAY
A Busy Urban Environment, Thriving during Cleanup

The Lower Duwamish Waterway Superfund site is a 5-mile stretch of the Duwamish River that flows into the East and West Waterways (part of the Harbor Island Superfund site) and then into Elliott Bay in Seattle, Washington. The South Park and Georgetown neighborhoods and industrial corridors flank the waterway. The Lower Duwamish Waterway is a major part of the local economy, supporting commercial navigation, commercial salmon fishing, and shipping activities for containerized and bulk cargo. The U.S. Army Corps of Engineers also maintains the central part of the waterway as a federal navigation channel supporting shipping operations along the Duwamish River. A century of heavy industrial and urban use has left the waterway contaminated with toxic chemicals from nearby industries, combined sewage and stormwater pipes, as well as runoff from upland activities, streets and roads in the site's 32-square-mile drainage basin. In response to contamination in sediments, fish and shellfish, EPA added the site to the NPL in 2001.

EPA and the state have overseen the performance of site investigations and early cleanups by the city of Seattle, King County, the Port of Seattle and the Boeing Company, collectively known as the Lower Duwamish Waterway Group. In 2014, EPA selected a cleanup plan that includes active sediment cleanup through dredging, capping and enhanced natural recovery over an estimated 177 acres, and monitored natural recovery for 235 less-contaminated acres. The Washington Department of Ecology uses its state authorities to control ongoing contaminant sources and works in close coordination with EPA's in-waterway investigation and cleanup activities. EPA continues to work with the liable parties on next steps in implementing its cleanup plan.

Figure 15. Entrance to the new Duwamish River People's Park at the Lower Duwamish Waterway site (Washington).

EPA also facilitates robust community outreach and engagement efforts. These efforts provide a two-way source of open communication between EPA and community stakeholders. Cleanup and outreach efforts will increase the ability of community members to safely use and enjoy the multiple resources the Waterway provides.

People of color and low-wage workers make up a high percentage of Seattle's Duwamish Valley residents. The continued operation of businesses along the waterway is essential to supporting area communities. Residents live in communities next to the waterway and in some cases on the waterway, in boats and houseboats anchored at marinas.

Recreation enthusiasts use the waterway for a range of activities, including boating, kayaking, fishing and beach play. EPA believes cleanup encourages greater recreational use of the Waterway. One example of recreational use is the Duwamish Rowing Club, which facilitates community member access to boats to get out on the water. In 2020, the Port of Seattle broke ground on the Duwamish River People's Park at the former Terminal 117 early action site. The project aims to restore fish and wildlife habitat and increase public access to the Duwamish River. The park will include a 185-foot-long viewpoint pier, pathways and trails, seating, environmental interpretation signage, public art and a boat launch. The park addresses the need for community green space identified in Resolution 3767, the Port's Duwamish Valley Community Benefits Commitment. Public amenities were chosen based on feedback from the Duwamish Valley community. The project restores 14 acres of estuarine habitat in the Duwamish River, including key zones that will contribute to the recovery of chinook salmon in the region. It also establishes a local "habitat credit bank," enabling third parties to invest in habitat projects as mitigation credits to comply with the federal Clean Water Act and Endangered Species Act.

REYNOLDS METALS COMPANY
Industrial Park Development with Recreational and Ecological Enhancements

The Reynolds Metals Company Superfund site spans over 700 acres. It is 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. 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 developed a three-phase master plan for the area, now called Troutdale Reynolds Industrial Park, or TRIP. The plan balances development with ecological and recreation opportunities by preserving 350 acres of open space, including a wetlands mitigation project. The site's location at the confluence of the Sandy and Columbia rivers makes it suitable for wetland creation and enhancement. The plan also extends a regional 40-mile recreation trail loop that has interpretive signage commemorating the natural history and tribal cultural significance of the area for the Chinookan people.

The overall goal is to turn TRIP into an economic engine for the region, creating investment and employment opportunities. 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, $200 million regional distribution facility on 78 acres. 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. In 2019, a developer completed construction of a 350,000-square-foot industrial and logistics facility called "The Cubes," which is now fully leased to C&S Wholesale Grocers. Three other lots at the development are currently listed as sold or have sales pending.

The Port, the city of Troutdale and other stakeholders continue to work to expand TRIP's tenant base. 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 support 3,500 jobs and generate $141 million in annual income and $46 million in annual state and local taxes. Today, site businesses employ about 3,500 people, providing over $177 million in estimated annual employee income and generating over $826 million in estimated annual sales. In 2020, site property parcels had a total value of $319 million, generating $2 million in annual property taxes.

In January 2018, EPA Region 10 recognized the Port, Alcoa, the Oregon Department of Environmental Quality and several other site stakeholders with its Howard Orlean Excellence in Site Reuse Award. The award recognized the parties' innovative and collaborative work to clean up and redevelop the site.

Figure 16. Aerial image of the FedEx and Amazon facilities at the Reynolds Metals Company site (Oregon). (Source: Port of Portland)

EASTERN MICHAUD FLATS CONTAMINATION
Continued Industrial Uses

The 2,530-acre Eastern Michaud Flats Contamination Superfund site is near Pocatello, Idaho. In the 1940s, two phosphate-ore processing facilities, FMC Corporation (FMC) and J.R. Simplot Company (Simplot), began operating at the site. The FMC plant produced phosphorus for use in a variety of products, from cleaning compounds to foods. The FMC plant shut down in December 2001. Simplot's facility continues to operate on site. It produces solid and liquid fertilizers. Operations at both plants resulted in groundwater and soil contamination. EPA added the site to the NPL in August 1990.

EPA selected a remedy for the site in 1998 and additional interim remedies for the FMC and Simplot portions of the site in 2010 and 2012, respectively. Cleanup actions to address contaminated soil included installation of protective caps, removal and incineration of reactive waste, and land use controls. On the Simplot part of the site, the waste gypsum stack was lined to contain future waste gypsum and to inhibit contamination leaching to groundwater. A contaminated groundwater extraction system removes about 800 pounds of phosphorus daily, which would otherwise discharge to the Portneuf River. A groundwater extraction and treatment system is in the remedial design phase at the FMC part of the site.

The Simplot fertilizer produuction plant has remained in continued use throughout remedial investigations and actions. Currently about 600 gallons per minute of extracted contaminated groundwater is used in the fertilizer production process. In 2020, the Simplot plant was reported to employ 75 individuals and generate over $36 million in sales.

In 2010, EPA prepared a Ready for Reuse Determination indicating that 87 acres of the FMC part of the site, where elemental phosphorus production ceased in 2001, is ready for commercial and industrial development. In 2017, Valley Agronomics opened a new fertilizer distribution center on the southern edge of the FMC property. The facility benefits from its proximity to Union Pacific Railroad lines, which allow it to use railcar shipments. An RV and boat storage company also operates on site. In 2021, site property parcels had a total value of $68 million, generating over $1 million in annual property taxes.

Figure 17. View of the Valley Agronomics facility at the Eastern Michaud Flats Contamination site (Idaho).

REDEVELOPMENT ON THE HORIZON IN REGION 10

NORTHSIDE LANDFILL
Evaluating Solar Reuse on a Closed Landfill Area

The Northside Landfill Superfund site is located on a 345-acre parcel in Spokane, Washington. Established as a city landfill in 1931, the landfill was the largest refuse disposal operation in Spokane County. Open burning took place at the landfill until the mid-1950s. The city of Spokane extended municipal water supplies to the area in 1984. In 1986, EPA added the site to the NPL because of contaminated groundwater and sludge. In 1989, EPA selected a cleanup approach for the landfill that included closing and capping old landfill units, treating and monitoring groundwater, collecting landfill gas, and restricting land use. The city closed and capped the old landfill units by 1993. That same year, the city began long-term treatment of groundwater. The city has since put in an active waste disposal cell that meets all state landfill requirements. The city plans to continue operations at the landfill until all remaining landfill cells reach capacity. EPA discontinued groundwater pumping and treatment from the pilot extraction well. Monitoring of perimeter and residential wells is ongoing. City monitoring results show that drinking water standards are being met. EPA took the site off the NPL in 2020.

EPA's Superfund Redevelopment Program provided support for a regional seed project at the site in 2017 as part of evaluating reuse opportunities for four landfill sites in and near Spokane. The second phase of the project evaluated the feasibility of a solar energy production facility at the site. Today, city officials are considering the development of a solar array on site. Two parts of the site covering 25 acres are well suited for an array. The solar array would be capable of up to 4 megawatts of production capacity. The city is also considering other potential uses for the areas. In addition to operating the landfill, the city also uses the site to store deicer and sand to service the surrounding neighborhoods during winter snow events. As of 2021, the site has a property value of over $3.3 million.

Figure 18. Structures at the Northside Landfill site supporting the active landfill in Spokane, Washington.

CONCLUSIONS

EPA works closely with its partners at Superfund sites across Region 10 to make sure sites can be reused safely 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 92 NPL sites and six 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.

Figure 19. A park at the Bunker Hill Mining & Metallurgical Complex site in Smelterville, Idaho.

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 Redevelopment Resources

EPA Region 10 Superfund Redevelopment Program Coordinators
Dustan Bott | 206-553-5502 | bott.dustan@epa.gov
Piper Peterson | 206-553-4951 | peterson.piper@epa.gov

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

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

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

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 nine 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 at two sites in reuse and continued use in Alaska.

Table 3. Detailed Site and Business Information for Sites in Reuse and Continued Use in Alaska (2020)

	Sites	Sites with Businesses	Businesses[a]	Total Annual Sales[b]	Total Employees	Total Annual Employee Income
In Reuse	3	0				
In Continued Use	2	0				
In Reuse and in Continued Use	4	2	6	$660,000	45	$3 million
Totals	***9***	***2***	***6***	***$660,000[c]***	***45***	***$3 million***

[a] Business information is not available for all businesses on all Superfund sites in reuse or continued use.
[b] Six sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.
[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

EPA has collected property value data for one Superfund site in reuse and continued use in Alaska. These sites span six property parcels and 23 acres.

Table 4. Property Value and Tax Information for Sites in Reuse and Continued Use in Alaska[a]

Total Land Value (1 site)	Total Improvement Value (1 site)	Total Property Value (1 site)	Total Property Value per Acre (1 site)	Total Annual Property Taxes (1 site)
$169,000	$0	$169,000	$8,000	$3,000

[a] The property value and tax amounts reflect the latest property value year and tax data year available in county assessor datasets, which was 2020 for all data collected.

Figure 20. Gateway Forest Products facility at the Ketchikan Pulp Company site.

Did You Know?

From 1954 to 2001, a pulp mill operated at the Ketchikan Pulp Company Superfund 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 $3 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 10 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 305 businesses and organizations operating at five sites in reuse or continued use in Idaho.

Table 5. Detailed Site and Business Information for Sites in Reuse and Continued Use in Idaho (2020)

	Sites	Sites with Businesses	Businesses[a]	Total Annual Sales[b]	Total Employees	Total Annual Employee Income
In Reuse	2	1	26	$102 million	176	$9 million
In Continued Use	7	3	7	$73 million	496	$46 million
In Reuse and in Continued Use	1	1	272	$261 million	2,744	$104 million
Totals	***10***	***5***	***305***	***$436 million***	***3,416***	***$159 million***

[a] Business information is not available for all businesses on all Superfund sites in reuse or continued use.
[b] Two sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

Property Values and Property Tax Revenues

EPA has collected property value data for three Superfund sites in reuse or continued use in Idaho. These sites span 153 property parcels and 482 acres.

Table 6. Property Value and Tax Information for Sites in Reuse and Continued Use in Idaho[a]

Total Land Value (2 sites)	Total Improvement Value (2 sites)	Total Property Value (3 sites)	Total Property Value per Acre (3 sites)	Total Annual Property Taxes (3 sites)
$7 million	$63 million	$139 million	$288,000	$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 2019 to 2021.

Figure 21. View of the Silver Mountain Resort and the Kellogg skyline at the Bunker Hill Mining & Metallurgical Complex site.

Did You Know?

Located in Idaho's Silver Valley, the Bunker Hill Mining & Metallurgical Complex Superfund site is one of the largest historical mining districts in the world. Part of cleanup, the site's unique and comprehensive institutional control program has enabled continued use and new development across the site. Today, there are more than 270 businesses in the 21-square-mile Bunker Hill "Box" area, generating more than $261 million in sales and employing nearly 2,800 people.

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 18 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 86 businesses and organizations operating at 12 sites in reuse or continued use in Oregon.

Table 7. Detailed Site and Business Information for Sites in Reuse and Continued Use in Oregon (2020)

	Sites	Sites with Businesses	Businesses[a]	Total Annual Sales[b]	Total Employees	Total Annual Employee Income
In Reuse	10	6	15	$882 million	3,816	$196 million
In Continued Use	6	4	5	$359 million	1,057	$98 million
In Reuse and in Continued Use	2	2	66	$1.6 billion	5,139	$348 million
Totals	***18***	***12***	***86***	***$2.8 billion***	***10,012***	***$642 million***

[a] Business information is not available for all businesses on all Superfund sites in reuse or continued use.
[b] One site is a federal facility. Federal facility sites are excluded from all other detailed site and business data presented above.

Property Values and Property Tax Revenues

EPA has collected property value data for eight Superfund sites in reuse or continued use in Oregon. These sites span 96 property parcels and 1,268 acres.

Table 8. Property Value and Tax Information for Sites in Reuse and Continued Use in Oregon[a]

Total Land Value (8 sites)	Total Improvement Value (8 sites)	Total Property Value (8 sites)	Total Property Value per Acre (8 sites)	Total Annual Property Taxes (8 sites)
$130 million	$253 million	$383 million	$303,000	$3 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 2019 to 2021.

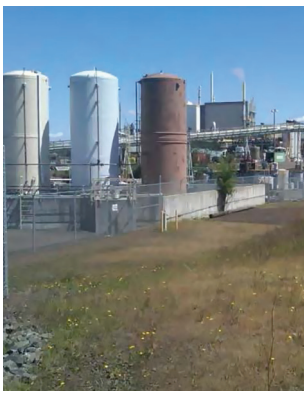
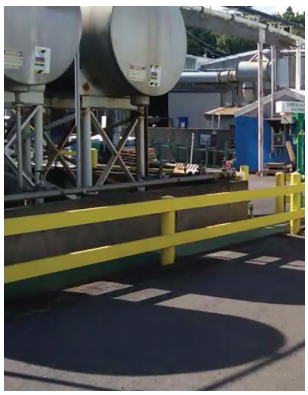


Figure 22. Left: Part of the groundwater treatment system at the Oremet-Wah Chang site. Middle: Part of the groundwater treatment system at the Oremet-Wah Chang site. Right: Crucible cleaning area at the Oremet-Wah Chang site.

Did You Know?

The Oremet-Wah Chang (formerly Teledyne Wah Chang) plant in Millersburg, Oregon, is one of the country's largest producers of rare earth metals and alloys. The 285-acre Teledyne Wah Chang Superfund site includes the active 110-acre plant, which has been in operation since 1957. Soil and sediment cleanup is complete. Groundwater treatment is ongoing. Today, the plant employees about 900 people and generates more than $72 million in annual employment income.

WASHINGTON REDEVELOPMENT PROFILE

EPA partners with the Washington Department of Ecology to oversee the investigation and cleanup of Superfund sites in Washington. Washington has 61 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 256 businesses and organizations operating at 26 sites in reuse or continued use in Washington.

Table 9. Detailed Site and Business Information for Sites in Reuse and Continued Use in Washington (2020)

	Sites	Sites with Businesses	Businesses[a]	Total Annual Sales[b]	Total Employees	Total Annual Employee Income
In Reuse	22	11	28	$458 million	752	$47 million
In Continued Use	26	7	13	$29 million	276	$16 million
In Reuse and in Continued Use	13	8	215	$1.4 billion	4,771	$332 million
Totals	***61***	***26***	***256***	***$1.8 billion***	***5,799***	***$396 million***

[a] Business information is not available for all businesses on all Superfund sites in reuse or continued use.
[b] A total of 18 sites are federal facilities. Federal facility sites are excluded from all other detailed site and business data presented above.

Property Values and Property Tax Revenues

EPA has collected property value data for 28 Superfund sites in reuse or continued use in Washington. These sites span 596 property parcels and 2,926 acres.

Table 10. Property Value and Tax Information for Sites in Reuse and Continued Use in Washington[a]

Total Land Value (28 sites)	Total Improvement Value (28 sites)	Total Property Value (28 sites)	Total Property Value per Acre (28 sites)	Total Annual Property Taxes (28 sites)
$1.2 billion	$623 million	$1.9 billion	$634,000	$12 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 2019 to 2021.

Figure 23. The new Head Start education facility and play area at the American Crossarm & Conduit Co. site.

Did You Know?

By removing its cleanup lien on the condition that developers implement and abide by specific institutional controls, EPA helped support the return of the formerly vacant 16-acre American Crossarm & Conduit Co. Superfund site in Chehalis, Washington, to beneficial use. Today, a variety of commercial businesses operate on site, including a Head Start children's education facility and an outdoor play area for the facility. These businesses generate about $2.7 million in annual employment income.

REUSE INFORMATION SOURCES

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

EPA Resources

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United Chrome. 2018. RE-Powering America's Land Initiative: Project Tracking Matrix. https://www.epa.gov/sites/production/files/2018-06/documents/re_tracking_matrix_508_061318.pdf.

Other Resources

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Lower Duwamish Waterway. 2019. Fishing for Safe Seafood to Eat. https://kingcounty.gov/depts/health/environmental-health/healthy-communities/duwamish-fishing.aspx.

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Lower Duwamish Waterway. Port of Seattle Breaks Ground on Terminal 117 Park on the Duwamish River. https://www.portseattle.org/news/port-seattle-breaks-ground-terminal-117-park-duwamish-river.

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Photos

Aerial image of Amazon and FedEx facilities at the Reynolds Metals Company Superfund site used with permission of the Port of Portland.

Map of Opportunity Zones. https://opportunityzones.hud.gov/resources/map.

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 information for on-site businesses, EPA used the Reference Solutions database, formerly known as ReferenceUSA (https://www.data-axle.com/what-we-do/reference-solutions/). In cases where Reference Solutions did not include employment and sales information 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 2020. Estimated annual employment income was calculated using 2020 jobs data and BLS average weekly wage data for those jobs from 2019 (the latest available wage data at the time of this profile). Federal facility sites were included in calculations of total sites in reuse or continued use only. Federal facility sites were 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 ease of reading. 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 2020 to 2021 where date information was provided. Throughout this report, property and tax values may not sum exactly to the totals presented due to rounding.

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

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