

Annual Environmental Cleanup Report 2021

Submitted to:

Governor Kate Brown

Oregon Legislative Assembly

Oregon Environmental Quality Commission

January 2021



Environmental Cleanup Program

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DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.



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Executive Summary

The Oregon Department of Environmental Quality's Environmental Cleanup program protects human health and the environment by identifying, investigating, and remediating sites contaminated with hazardous substances. The program's objective is to improve sites to the point where no further cleanup action is necessary - as inexpensively and quickly as possible.

This annual report to the Legislature describes the Environmental Cleanup program's efforts to assess, investigate and clean up contaminated lands and help return them to productive use. Oregon Revised Statute 465.235 mandates this annual report to the Oregon Legislature, the Governor, and Oregon's Environmental Quality Commission. This report includes:

- A description of fiscal year 2020 statewide cleanup program activities and key statistics.
- A summary of Cleanup program highlights including: targeted policy and program development; cleanup action summaries for sites throughout Oregon; voluntary cleanup progress; brownfields work and milestones; Prospective Purchaser Agreements; Industrial Orphan funding needs; and expanding use of the Solid Waste Orphan Site Account (SWOSA).
- Cleanup program milestones and projections.
- A description of the program's plans to modernize.

Despite the COVID-19 pandemic, DEQ's Cleanup program had many successes in fiscal year 2020. These successes include targeted policy and program development, completion of numerous projects statewide, and oversight of voluntary cleanups and brownfield redevelopments. DEQ continues to return contaminated and unusable lands to productive use by helping developers, municipalities and nonprofit organizations purchase contaminated land through Prospective Purchaser Agreements.

To complement these successes, DEQ has been working hard to modernize the Environmental Cleanup program to adapt to changing circumstances. Originally modeled after EPA's Superfund Program, DEQ's Cleanup program once focused its efforts on site discovery and issuing orders to compel responsible parties to complete cleanups through a formal process. Today, much of the program's work involves parties who voluntarily seek DEQ's oversight and associated liability protection as they clean sites for redevelopment. As Oregon's population grows and its industries evolve, DEQ's Environmental Cleanup program faces new opportunities and new challenges. Former industrial sites statewide are being redeveloped for new purposes, and DEQ often works on smaller sites that require quick turnaround due to real estate transaction needs. Chemicals of emerging concern may require DEQ to change policies and evaluate new technologies in the years ahead. Meanwhile, DEQ is called to meaningfully engage residents in neighboring communities while it performs essential oversight of environmental cleanup.

Over the past two decades, revenue sources have declined while DEQ adjusted programs and responsibilities to meet changing needs and expectations. The program relies on a complex variety of revenue sources, including cost recovery, fees, federal grants, and bond sales. The program's internal systems and funding structure have remained largely the same since its inception over 30 years ago. Both internal systems and funding structure need an update. The program is operating with fewer filled positions, despite greater pressures on staff and management. Simply put, the program's funding levels no longer sustain the work that is required. To address this situation, DEQ will modernize its program by stabilizing funding and strategically planning the work ahead.

In 2021, DEQ intends to continue a two-phase strategic planning process. The first phase is addressing program funding in the next five years, including Legislative Concept 579 in the 2021 session. The second phase will envision what the program could and should look like by the year 2050. DEQ will include a robust stakeholder process in both phases.

1. About the Environmental Cleanup Program

Oregon's Environmental Cleanup program:

- Discovers, evaluates and prioritizes sites contaminated with hazardous substances for further action.
- Oversees the investigation and cleanup of sites presenting significant risks to human health or the environment through voluntary cleanup, or through enforceable agreements for high priority sites.
- Assists property owners and communities in restoring productive use of contaminated sites using brownfield technical assistance and prospective purchaser agreements.
- Leads the investigations and cleanups of orphan sites in cases where the responsible party is unknown, unwilling, or unable to complete necessary cleanup actions.

Oregon's Cleanup Process

DEQ screens sites where hazardous substances may have been released to determine the need and priority for further action. A preliminary assessment may be conducted to investigate the presence and extent of contamination, which may involve collection of samples for laboratory testing. In the event of an emergency, a removal may be needed to immediately stabilize the site and prevent contamination.

Sites known to be contaminated proceed through a two-step investigation process to determine how (or whether) they should be cleaned up. The first step is a remedial investigation aiming to determine the full nature and extent of the contamination, evaluating risks to human health and the environment from exposure, and determining a need for a cleanup. The second step is a feasibility study evaluating various site cleanup options for sites posing unacceptable risk. Based on this information, DEQ determines what needs to be cleaned up and how it should be done.

When the necessary cleanup is relatively straightforward and simple, an initial removal action may be all that is required. However, if the cleanup is more difficult and complex, DEQ may issue a formal cleanup decision called a record of decision (ROD) after a public comment period. The resulting cleanup is called a remedial action. In addition to (or instead of) removing or treating the contamination, DEQ may install an engineering control (such as capping or fencing) to isolate the contamination, or record an institutional control (such as administrative or legal limitation). These controls work to limit future activities at the site so that people and animals are not exposed to contamination.

A site receives a No Further Action (NFA) designation when DEQ determines that the site poses no significant threat to human health or the environment. This may occur at any point during the investigation and cleanup process.

Routes to Cleanup in Oregon

DEQ has several options for owners and operators of contaminated property to move through the investigation and cleanup process. The most common option is voluntary cleanup. Property owners seeking a signoff from DEQ agree to have DEQ oversee their projects to ensure that their work meets regulatory requirements. Parties can choose the standard voluntary cleanup approach or independent cleanup, depending on the project's complexity and amount of oversight needed. Parties intending to purchase property with existing contamination may enter a Prospective Purchaser Agreement with DEQ prior to the purchase that describes the cleanup actions they will perform at the property and receive protections from liability from DEQ and third parties for any remaining contamination.

DEQ also discovers contaminated properties through site assessment. DEQ learns about potential contamination from complaints, unsolicited reports and other DEQ programs or government agencies, in addition to conducting its own inquiries. DEQ evaluates and ranks sites based on their known or potential threats. Responsible parties are encouraged to address site contamination through voluntary cleanup.

DEQ will require parties with high priority sites to conduct investigation and cleanup under the terms of a legally enforceable order.

DEQ may designate the site an orphan and conduct the cleanup of high priority sites using its orphan site account where responsible parties are unknown, unable or unwilling to perform a cleanup.

Qualifying contaminated dry cleaner sites may also be addressed by DEQ through a separate account funded by fees paid by eligible dry cleaning facility owner/operators. However, funds are very limited, and DEQ is reevaluating the viability of the program.

Other types of cleanups are conducted under separate statutory authority. DEQ's Emergency Response program ensures new hazardous material spills are immediately cleaned up by the spilling party. Petroleum releases from underground storage tanks are also addressed through DEQ's Cleanup program to meet federal and state requirements.

2. Program Highlights, Fiscal Year 2020

DEQ's Environmental Cleanup program had many successes in fiscal year 2020, including targeted policy and program development; cleanup action summaries for sites throughout Oregon; voluntary cleanup progress; brownfields work and milestones; Prospective Purchaser Agreements; Industrial Orphan funding needs; and expanding use of the Solid Waste Orphan Site Account (SWOSA).

Policy and Program Development

In October 2019, the Environmental Cleanup and Emergency Response programs at DEQ Headquarters were divided into two separate programs for a one-year pilot. The goal was to give each program the capacity to strategize and grow for the future. At the end of the pilot year and after positive feedback, DEQ leadership decided to continue treating Environmental Cleanup and Emergency Response programs as separate. In addition to administering federal grants and overseeing some statewide activities, the Cleanup program accomplished considerable policy and program development activities in fiscal year 2020.

Fiscal Framework Project

DEQ evaluated the Cleanup program's funding structure to identify sources of financial instability. The project provided a detailed summary of program funding areas, a timeline of significant program milestones, and initial recommendations on how to improve program financial stability in the medium and long term. Based on these findings, the program will initiate strategic planning as described in Section 4 of this report.

Solid Waste Orphan Site Account Program

The Solid Waste Orphan Site Account (SWOSA) program aims to help pay for cleanup of qualifying "orphaned" domestic solid waste disposal sites. Generally, there are two kinds of sites that qualify for SWOSA funding: (1) a local government owned or operated domestic solid waste disposal site (ex: municipal landfill), or (2) a privately owned or operated domestic solid waste disposal site, for which DEQ determines responsible parties are unknown, unwilling, or unable to undertake removal or remedial action (ex: once-private abandoned illegal dump site).

In an effort to bolster the SWOSA program, the 2019 Legislature provided three limited duration positions within the Cleanup program. DEQ filled two of these positions, hiring a SWOSA Project Manager and a SWOSA Procurement and Contract Specialist dedicated to implementing the SWOSA program. These staff have been instrumental in developing the SWOSA Program Manual – a policy guidance document used to help manage SWOSA sites – with the effect of increasing the number of active SWOSA-funded cleanup project sites. Additionally, DEQ has developed a site ranking tool to prioritize abandoned sites for potential SWOSA funding. The ranking tool considers public health, the environment, and environmental justice factors to rank sites based on priority. DEQ is seeking legislative approval in 2021 to make these two positions permanent.

Heating Oil Tank Rule Implementation

In 2019, the Environmental Quality Commission adopted rule amendments allowing DEQ to increase fees required from property owners for heating oil tank project registrations, beginning January 1st, 2020. These increased fees allow DEQ to provide continuing operations and support for the licensed service provider certification program. New policy development is planned to address increasing discoveries of oil impacts to old building foundations and concern about ongoing leaks from aging active tank infrastructure. Project activity levels in 2020 were 12% lower than 2019, limiting DEQ's ability to increase program development work this year.

Internal Management Directives (IMDs)

DEQ completed the following IMDs in 2020:

- *Consideration of Building Surface Hazards in Cleanup Decisions*, Jan. 6, 2020.
- *UST and LUST Coordination Procedures and Workflows*, July 16, 2020.
- *Conducting Ecological Risk Assessments*, Sept. 14, 2020.
- *Tribal Engagement and Cultural Resource Protection at Cleanup Sites*, initially Sept. 4, 2020 (undergoing minor revision to be rolled out by Dec. 31, 2020).

DEQ and Oregon Health Authority (OHA) Workgroup

In April 2020, the Cleanup program launched the DEQ-OHA Cleanup Workgroup, which provides for consistent collaboration between DEQ and Oregon Health Authority to address mutual interests and issues related to cleanup and disposal sites in Oregon. This workgroup primarily focuses on emerging contaminants of concern with particular interest in per- and polyfluoroalkyl substances (PFAS).

Site Assessment Program Enhancement

DEQ is modernizing an element of the Site Assessment program to more effectively identify sites where contamination is present by developing a new groundwater (GW) vulnerability model. The DEQ Cleanup program is collaborating with the United States Environmental Protection Agency (EPA) to fund and manage this development through the Preliminary Assessment/Site Investigation grant. Current funding does not cover DEQ's costs to implement the Site Assessment program. Further, the program has not frequently resulted in high priority sites entering the Cleanup program as cost-recoverable sites. The new GW vulnerability model will improve environmental and public health results of the Site Assessment program by strategically focusing our resources on those sites posing the most significant risks.

DEQ will use modeling techniques in combination with Geographic Information System (GIS) to predict the probability of contamination being present in groundwater. In the first phase of this project, DEQ conducted literature reviews on previous groundwater vulnerability models and summarized available data of interest based on hydrological parameters likely to impact groundwater.

Statewide Priority Cleanup Sites

Willamette River Downtown and Upriver Reaches, Portland

Since 1991, DEQ has been involved in multiple cleanups along the Willamette River Downtown and Upriver Reaches. The Willamette River Downtown Reach extends from approximately the Broadway Bridge to the Sellwood Bridge and is just upriver of the Portland Harbor Superfund Site. The Upriver Reach extends south from approximately the Sellwood Bridge to Willamette Falls in Oregon City. DEQ has completed sediment cleanup actions at seven sites within the Downtown Reach, with the most recent cleanup conducted at the Portland Gas Manufacturing site during the summer of 2020.

During the recent cleanup action, DEQ oversaw the removal of over 7,000 tons of sediment debris, including a large body of tar-like material. Following removal, clean cover materials were placed over a 1.5-acre area to

isolate residual contamination and enhance natural recovery of the river bed. During excavation, World War II era unexploded ordinance were found. Work was immediately stopped and measures put in place to allow for continuation of work in a manner protective of both the public and workers. At no time was there a risk to public safety.

DEQ is also overseeing five targeted sediment investigations along the Downtown Reach. The goal of the investigations is to determine if a cleanup is needed. DEQ is partnering with local governments and responsible parties to complete three investigations, using Industrial Orphan funds to investigate the fourth, and pursuing potentially responsible parties to investigate the fifth site.

In addition to the direct benefits, these particular cleanup actions reduce the potential for recontamination of the Portland Harbor Superfund Site from resuspension of contaminated sediment within these reaches. DEQ is coordinating with EPA to ensure that all necessary cleanup work is completed in these reaches prior to the initiation of remedial actions in the Portland Harbor Superfund Site.

Bradford Island, Columbia River

DEQ learned in September 2019 that the US Army Corp of Engineers (USACE) budget for fiscal year 20-21 included no funding for ongoing work at this Columbia River site contaminated with PCBs. Subsequently, on September 18, 2019, the USACE terminated the longstanding voluntary agreement with DEQ Cleanup program. On October 10, 2019, DEQ submitted a joint letter with the Yakama Nation and Washington State Department of Ecology to EPA Region 10, requesting that EPA place Bradford Island on the National Priorities List. EPA declined to place the site on the National Priorities List in 2020 and the request remains pending. DEQ has initiated cost-recovery litigation with USACE as site technical work continues.

Former Time Oil Company, Portland

The former Time Oil site, now known as TOC Holdings declared bankruptcy in early 2017 with property responsibility assigned to a Chapter 7 Trustee by the US Bankruptcy Court, Western District of Washington. During fiscal year 2020, a business entity expressed interest in purchasing the riverfront property. DEQ assisted the prospective purchaser by providing site environmental information requested during their due diligence process. DEQ is currently negotiating a Prospective Purchaser Agreement (PPA) with the prospective purchaser, which provides liability protection in exchange for the substantial public benefits resulting from this project. A successful PPA for this site would be a significant milestone for this underutilized property, and would involve completing upland remediation and creating aquatic habitat on the Willamette River, while concurrently putting an important waterfront property back into productive re-use.

Scappoose Bay/Multnomah Channel, St. Helens

Scappoose Bay enters the Multnomah Channel by the town of St Helens in Columbia County. Industrial use of this area primarily consisted of the manufacturing of wood products including paper, plywood, fiberboard and treated lumber. Significant levels of hazardous substances have been identified at three former industrial sites: the Armstrong World Industries fiberboard plant, Pope & Talbot creosote treating facility, and Boise Cascade paper mill. DEQ initiated feasibility studies in 2020 for the contaminated sediments at all three sites, stemming from more than 15 years of investigations into the nature and extent of contamination and assessment of risks to human health and ecological receptors. DEQ will use the results of these feasibility studies along with public input to select cleanup remedies. DEQ is working closely with the City of St Helens, Port of Columbia County and Oregon Department of State Lands to ensure that the remedies will be compatible with current and future land and marine use.

Astoria Marine Construction Company, Astoria

The Astoria Marine Construction Company (AMCCO) manufactured and repaired wooden-hulled fishing and ferryboats, tugboats and yachts beginning in 1924. During World War II, the shipyard expanded operations for construction of military vessels. During the Korean and Vietnam wars, the company built wooden-hulled minesweepers and submarine chasers and refurbished older warships. During the peak production period from 1940 to 1960, the facility employed more than 400 full-time workers. In the 1960s, work for the U.S. Navy

decreased and operations transitioned to fishing and tugboat repair. After 1985, business primarily involved repairs of fishing boats.

EPA conducted environmental investigations in the early 2000s on and around the AMCCO site. Investigations found contamination in soil and nearby riverbed sediment in the Lewis and Clark River near the mouth of the Columbia River. Based on those findings, EPA initiated efforts to place the facility on the National Priorities List to guide cleanup under EPA's Superfund program. In 2012, an agreement deferred the site listing and EPA transferred site management to DEQ.

In coordination with AMCCO, tribal governments, and a community advisory group, DEQ selected the cleanup remedy in 2017. A natural resource restoration plan was also agreed upon to satisfy conditions of EPA's deferral agreement. AMCCO completed all major remedy construction activities during the spring and summer of 2020. These included demolition of onsite buildings and structures; excavation of contaminated sediments and upland hot spots; and regrading and capping of the upland area. Work on the river levee will be completed in 2021 at which point DEQ will issue a certification of completion documenting that terms of the 2018 settlement agreement between AMCCO and DEQ have been met.

J.H. Baxter, Eugene

The 31-acre site in Eugene has been an active wood treatment facility since the early 1940s. Historical spills and operational practices have resulted in soil and groundwater contamination and air emissions concerns. Over the years, DEQ and the Lane Regional Air Protection Agency (LRAPA) have investigated the facility and issued numerous enforcement actions and required cleanup measures. In October 2019, DEQ completed a cleanup plan and issued the formal ROD which required offsite sampling and other remedial actions on the property. In 2019, LRAPA included J.H. Baxter in the first group of facilities in Lane County to go through the Cleaner Air Oregon process.

DEQ received results from eight off-site soil samples required under the October 2019 ROD. Four results, including one in the Bethel Neighborhood directly north of the facility and three stormwater ditch locations indicated elevated levels of dioxins, a group of toxic chemicals that can be associated with wood-treating chemicals. Oregon Health Authority (OHA) reviewed these draft results and determined the dioxin levels represent a low public health risk. However, the levels in those four samples exceeded DEQ's standard residential cleanup levels. This means that DEQ will perform additional soil sampling to understand the extent of the issue and if cleanup is necessary.

DEQ has formed a technical work group including LRAPA and the City of Eugene to investigate the sources and extent of the contamination. OHA will also participate to further evaluate any potential health risks to the community. Additionally, the agencies are forming a community engagement group comprised of community members interested in the J.H. Baxter facility. This group will work closely with the technical work group to help inform the investigation and share information with the general community.

Buy 2 Gas Station, Canyonville

More than 3,000 gallons of gasoline leaked from an underground storage tank in February 2020. The plume traveled underneath several residential dwellings and gasoline entered Canyon Creek, a tributary to the South Umpqua River. DEQ's Underground Storage Tank program and Emergency Response program responded to the leak. DEQ removed contaminated soil and groundwater and placed absorbent boom in the creek to minimize impacts to the creek and downstream water users. The site was transferred to DEQ's Leaking Underground Storage Tank program to continue to monitor, investigate, and cleanup up the site. Monitoring work completed so far includes installation of vapor barriers at the dwellings and air monitoring to ensure residents are safe from gasoline vapors.

Abraham Lincoln Elementary School, Medford

Abraham Lincoln Elementary School sits on former agriculture land. Farming began in the 1920s, continued until the 1990s, and utilized pesticides during crop production. DEQ discovered that former fruit growers used

pesticides that contained arsenic and lead, which can remain in the ground long after use. DEQ performed sampling at an adjacent proposed housing development and identified elevated levels of arsenic and lead in shallow soil. DEQ oversaw cleanup of the property as a developer converted it to residential use. DEQ tested the soil in fiscal year 2020 for the presence of pesticides, particularly arsenic and lead. Sample results indicated that there does not appear to be an imminent threat to the students, school staff or the community. DEQ will complete a site investigation report in the first quarter 2021.

East Corvallis Study Area, Corvallis

In January 2020, chlorinated solvents were detected in water from a private well located near the City of Corvallis wastewater treatment plant. DEQ has been working with the property owner to determine the source of the chlorinated solvents. DEQ and EPA developed a sampling and analysis plan and collected groundwater samples from several wells in the area in October 2020. Results are expected soon and a report will be completed in the first quarter 2021.

Eugene Riverfront Development, Eugene

The City of Eugene is redeveloping 14 acres of former industrial riverfront property in downtown Eugene. Eugene Water & Electric Board (EWEB) previously housed their operations on this property which will now be used to connect Eugene's downtown to the Willamette River and include additional streets, public amenities, housing, a public park, and open space. DEQ is working to support transformation of the riverbank area from industrial to eventual mixed uses, which will become a central part of local community and economic revitalization. DEQ is working with EWEB as a responsible party, with the City of Eugene as the initial purchaser for infrastructure installation, and with the developer selected by the City to carry out the redevelopment. Both the City and its developer are proceeding under a PPA, which provides liability protection in exchange for the substantial public benefits resulting from this project.

Marathon Pipeline, Umatilla County

In February 2020, flooding and erosion exposed a section of a petroleum pipeline that crosses the Umatilla River on the Umatilla Indian Reservation, about 10 miles upstream of Pendleton, Oregon. The pipeline is owned and operated by Marathon Pipe Line, LLC. This fuel line transports gasoline, diesel and aviation fuels from Salt Lake City refineries through Oregon to Pasco, WA terminals. When DEQ learned of the threat of release in April it established a Unified Command with the US Department of Transportation's Pipeline & Hazardous Materials Safety Administration, EPA, Confederated Tribes of the Umatilla Reservation, USACE and Marathon to work together to replace the pipeline and prevent a spill into the river. Other critical stakeholders and partners throughout the project included the City of Pendleton, Umatilla County Emergency Management, Oregon Health Authority, Oregon Department of Fish & Wildlife, and the US Fish & Wildlife Service. Along with the Unified Command, DEQ identified resources at risk, developed and tested response strategies, and staged additional response equipment in the area. DEQ increased pipeline monitoring frequency for both electronic and on-scene monitoring. In October, Marathon drained, purged fuel, and capped off the two exposed sections of the old pipeline. Finally, Marathon drilled a replacement pipeline 40 feet under the Umatilla River, where the pipeline is more protected from future flooding and erosion risks.

Opalite Mercury Mine, Malheur County

DEQ and EPA Region 10 completed a time critical removal in August 2020 at this Industrial Orphan site in southeast Oregon. Industrial Orphan sites are contaminated properties for which DEQ has determined the responsible parties are unknown, or are unwilling or unable to undertake all required removal or remedial action. The cleanup included excavation, stabilization and capping of high concentration mercury mine waste, fencing and gates, road rerouting, and placing berms to prevent access to contaminated areas of this site. Three other mercury mines within the area (Bretz in OR, McDermitt in NV, and Cordero, NV) have also been addressed for exposure concerns, including a previous EPA Region 9 cleanup of mine tailings that were historically used for driveways and school grounds in McDermitt and at the nearby Fort McDermitt Paiute Indian Reservation.

Owyhee Reservoir Site Inspection, Malheur County

DEQ and EPA Region 10 completed a Site Investigation in spring 2020 focused on potential sources of mercury to the Owyhee Reservoir, which has a current public fish advisory for mercury. Earlier studies by US Geological Survey (USGS) and Bureau of Land Reclamation have identified the Silver City Mining District in southwest Idaho as the main source of mercury to the Owyhee River and the reservoir. DEQ collected sediment, surface water and limited soil samples in the drainages around the reservoir and upstream in the Owyhee River. Mercury in surface water was elevated in comparison to other reservoirs downstream of mercury mines in the western states, while sediment was relatively low in mercury. Additional work is warranted in the area and DEQ is conducting a mercury isotope study with the assistance of USGS and EPA Region 10 to help determine relative source contributions of the mercury.

Voluntary Cleanups

The 1991 Oregon Legislature authorized a Voluntary Cleanup program (VCP) to provide DEQ oversight to willing parties for investigating and cleaning up contamination from their properties. This cooperative approach helps parties proceed efficiently and meet funding and redevelopment deadlines. In 1999, DEQ added a second VCP pathway - independent cleanup - which allows parties to complete their own remedial actions with limited or no DEQ oversight. The independent cleanup option is available for relatively simple and moderately contaminated sites that may exceed acceptable risk levels but do not pose significant threats to human health or the environment. As of June 2020, about 1491 sites were active in the VCP, with some 976 sites following the traditional pathway and 515 in independent cleanup. Since 1991, the VCP has issued NFA decisions for 1,289 sites.

Brownfield Redevelopment

A brownfield is a vacant or underused property where actual or perceived contamination hinders the site's expansion or redevelopment. These are often highly visible eyesores where uncertainty about potential cleanup liability has derailed opportunities to bring new site uses and jobs that would revitalize a community's health and vitality. Nearly every community has brownfields. They are vacant lots we drive by daily, the piles of polluted dirt behind rusting chain-link fences, abandoned storefronts along our main streets. Cleanup and reuse of these properties can cure blight, increase local property tax bases, provide jobs, address environmental justice issues, help meet Oregon's land use goals, and enhance public health and the environment.

In fiscal year 2020, DEQ provided significant technical assistance and advice to 12 local governments that received EPA brownfield planning, site assessment, or cleanup grants. DEQ used about \$240,000 in EPA grant funds at seven brownfields to conduct site investigations and explain further-action recommendations (or make NFA decisions). One of these brownfields was the former Greyhound bus station in Salem, which was purchased by the Center for Hope and Safety in 2015 for redevelopment as a shelter for domestic violence victims. DEQ used over \$70,000 in EPA grant funding to conduct a Phase II site investigation, which found petroleum contamination associated with a 2,850-gallon underground heating oil tank. Business Oregon provided funding for the tank removal and cleanup, and DEQ issued a No Further Action determination at the end of 2019, which paved the way for the site to receive federal block grant funding for construction.

In October 2020, DEQ staff presented at the virtual Oregon Brownfield and Infrastructure Summit. Presentations included introduction to brownfields programs, the use of institutional and engineering controls, emerging contaminants, landfill redevelopment, and community outreach and engagement. DEQ staff also co-facilitated a tribal engagement workshop with EPA Region 10 staff and representatives from the Center for Creative Land Recycling.

Baker Technical Institute

EPA awarded Baker Technical Institute, a regional career technical education provider, a \$500,000 cleanup grant that will be used to cleanup contamination at the former middle school and high school. Grant funds will also be used to facilitate and host community outreach events. High school and technical institute students wrote the successful grant application, and will be involved with overseeing the cleanup, which is expected to occur in the fall of 2021.

Coquille Indian Tribe/Mithihkwuh Economic Development Corporation

EPA awarded a \$350,000 assessment grant that will be used for site characterization, cleanup planning, and community outreach at a former sawmill located on 50-acres of waterfront property. The property is located in a Qualified Opportunity Zone, and presents an opportunity for significant economic development and job creation.

Harney County Coalition

EPA awarded \$600,000 to the Cities of Burns and Hines, and Qualified Opportunity Zones in other areas of Harney County. The grant will support the development of an inventory brownfield sites, conducting 12 Phase I and six Phase II environmental site assessments, conducting cleanup planning, and facilitating community engagement activities.

Metro Coalition

EPA awarded \$600,000 to the Metro Coalition that includes The Housing Authority of Clackamas County, Multnomah County, and Washington County Department of Housing Services. Grant funds will focus on brownfield assessment and cleanup planning that will support affordable housing development in the Portland Metro area.

The Dalles Coalition

EPA awarded \$600,000 to The Dalles Coalition that includes the Port of The Dalles and Wasco County. Grant funds will be used to conduct 18 Phase I and 10 Phase II environmental site assessments, and five cleanup plans. Specific work will focus on the 318-acre Columbia Gateway/Downtown urban renewal area, which includes a Qualified Opportunity Zone.

On-Going Assessment Grants

DEQ continues to provide technical assistance and oversight on previously awarded EPA cleanup and assessment grants. These grant winners include the following programs:

- City of Ontario, Malheur County and partner cities Nyssa and Vale: \$600,000 (assessment).
- Oregon Cascades West Council of Governments, and coalition partners (the cities of Newport and Toledo, the Confederated Tribes of the Siletz Indians, and Lincoln County): \$600,000 (assessment).
- Rogue Valley Council of Governments and coalition partners Jackson County and the cities of Medford, Central Point and Grants Pass: \$600,000 (assessment).
- City of Eugene, City of Springfield and Lane County: \$500,000 (assessment).
- Cities of Corvallis, Albany, Monroe, and Philomath, and Benton: \$600,000 (assessment).
- Cities of Lakeview and Paisley, and Lake County: \$600,000 (assessment).
- City of Beaverton Public Safety Center: \$400,000 (cleanup).
- City of Beaverton Creekside District: \$300,000 (assessment).
- Prosper Portland, Former USPS Facility: \$500,000 (cleanup).
- Metro Coalition: \$600,000 (assessment).
- City of St. Helens: \$400,000 (assessment).
- City of Portland: \$400,000 (assessment).

Prospective Purchaser Agreements

Prospective Purchaser Agreements (PPA), facilitate the cleanup and return to productive use of properties contaminated with hazardous substances. The agreements provide developers and others with the means to manage risk and liability before acquiring contaminated property, and to make financial investments and move forward with redevelopment following acquisition. A PPA is a legally binding agreement between DEQ and a prospective purchaser that limits the purchaser's liability for environmental cleanup at the property, in exchange for the purchaser providing a "substantial public benefit" such as cleanup, funding for cleanup, redevelopment of a vacant or underused property, or any other important public purpose. For each project, DEQ uses its discretion in determining what constitutes a substantial public benefit, believing that flexibility is key to providing the best community outcomes from new site uses.

The 15 new PPAs initiated in fiscal year 2020 include 12 in the Northwest Region, two in the Western Region and one in the Eastern Region. The new PPAs cover more than 250 acres, and range in size from a half acre to 120 acres, and support a wide variety of uses from agricultural processing, to industrial, warehousing, commercial, residential, mixed, municipal and public utility uses. Three new PPAs garnered significant media attention: the Confederated Tribes of Grand Ronde acquisition of the Blue Heron property in Oregon City; the Blue Jump Suit and AHI Cannery acquisition of property along Marine Drive in Astoria for expansion of the Fort George Brewery operations; and the Prologis, L.P. purchase of the historic Portland Meadows racetrack for conversion to a warehouse and distribution center.

DEQ's PPA program continues to manage the portfolio of more than 200 PPAs entered over the last 25 years around the state. The level of interest and activity in the PPA program remained strong throughout fiscal year 2020.

Industrial Orphan Sites

Industrial Orphan sites¹ are contaminated properties where DEQ has determined the responsible parties are unknown, or are unwilling or unable to undertake all required removal or remedial action. These sites include individual contaminated properties as well as area-wide sites where hazardous substances have affected sources of drinking water and other waterbodies.

DEQ generally designates a site as an orphan when it poses serious threats to human health or the environment. DEQ may also designate contaminated sites with significant but unrealized reuse potential (e.g., brownfields) as orphans. DEQ may also refer large and complex orphan sites to EPA for listing on the National Priorities List and use the Industrial Orphan Site Account to pay the state's required 10 percent share of remedial action costs. Since 1992, DEQ has declared 117 sites as Industrial Orphans. It is important to note that 45 of these sites have been cleaned up to No Further Action status, with many now supporting enhanced uses through redevelopment. The remaining orphans are in various stages of investigation and cleanup, including long-term monitoring and/or operation and maintenance (such as ongoing treatment systems to protect drinking water resources). During fiscal year 2020, DEQ worked actively on 11 Industrial Orphan sites.

The 2017 Legislature approved two General Fund-financed bond sales to be issued during the 2017-2019 biennium. The first bond sale occurred on October 18, 2017, providing \$5.8 million to fund projected Industrial Orphan expenditures through fiscal year 2021. The second bond sale occurred in spring 2019. Based on ongoing and projected future orphan cleanup work, DEQ projects that funds from the 2017 and 2019 bond sales, coupled with cost-recovery activities (see below) will be exhausted by early fiscal year 2022. In 2021 DEQ is seeking General Obligation Pollution Control bonds to replenish the Industrial Orphan Site Account for the next two biennia.

DEQ will continue funding sites presenting significant risks to human health or the environment where responsible-party resources are unavailable. Subject to the availability of funds, DEQ will also consider using orphan funds to complete site cleanups rather than simply stabilize contamination, and to address eligible sites where development potential is significant.

Since 1991, DEQ has recovered approximately \$9.8 million of past expenditures from responsible parties and their insurance companies. While prospects for additional cost recovery are limited, DEQ will continue pursuing recovery of past orphan expenses to maximize funding available to perform cleanup activities at current and future orphan sites.

As mentioned above, states must contribute 10 percent of EPA's remedial-action costs and 100% of long-term monitoring and maintenance costs at National Priorities List sites with no viable responsible parties. Subject in part to the cost and timing of EPA's remedial activities at National Priorities List sites in Oregon, DEQ

¹ Industrial Orphans are distinct from *Solid Waste Orphans* (discussed below).
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anticipates the need for \$5 - \$10 million of additional orphan funding to meet its estimated federal match requirements over the next 10 years. In the coming years DEQ will continue to face a very significant issue in paying for orphan site cleanups, including the required state share of remedial-action costs at National Priorities List sites.

Solid Waste Orphan Site Account Program

The Solid Waste Orphan Site Account (SWOSA) is a fee funded program that focuses on the cleanup of actual or potential hazardous substance releases from local government solid waste disposal sites (e.g., municipal landfills) or privately owned solid waste disposal sites (e.g., dumps, junkyards). Generally, SWOSA sites differ from Industrial Orphan sites because they must have accepted domestic solid waste.

SWOSA has historically been underutilized despite the existence of eligible sites. The 2019 Legislature provided authority to spend existing resources through limited duration positions and contract limitation, enabling DEQ to better utilize the fund. In 2019, the Legislature approved three limited duration NRS3 positions to manage the program and ensure its utilization. In August of 2019, DEQ hired one NRS3 to begin development of the program. Then, after reassessing the needs of headquarters and regional staff, DEQ HQ decided that a Procurement and Contract Specialist 2 (PCS2) would be better suited to handle the administrative aspects and contracting duties the program demands. The SWOSA PCS2 was hired June 2020.

The trial period confirmed DEQ's need for a statewide SWOSA Project Manager and a Contracts Specialist dedicated to SWOSA projects to ensure statewide consistency of application of the fund, to develop a cohesive team of regional project managers and headquarters coordination, and to ensure that the fund is utilized to its maximum potential. In 2021 DEQ is seeking authority to spend existing resources to make two limited duration positions permanent. This enables DEQ to continue needed work to facilitate and oversee cleanup of solid waste orphan sites across Oregon.

Solid waste orphan sites come in many forms, and DEQ is currently evaluating a list of over 500 potential local government and private solid waste orphan sites to determine eligibility and prioritize sites. In fiscal year 2020, DEQ leadership approved a SWOSA annual funding plan that earmarked \$2.9M to clean up 13 high priority sites in the Western and Northwest Regions.

In fiscal year 2020, DEQ worked on numerous solid waste orphan sites, including a tire disposal and auto-scrap yard, a metal scrap-yard and clandestine drug lab, an auto-dismantler and crusher, and a lumber yard. These projects have taken a large amount of intra-agency coordination and interagency coordination between DEQ, OHA, Regional Solutions, and local governments. DEQ has worked on multiple SWOSA projects where local governments have contributed resources to clean up sites. Local government contributions could include funding, labor, or reducing waste management fees. Once cleanup actions are complete, the sale and redevelopment of these sites will improve local property value and abate threats to human health and the environment.

DEQ's goal is to prioritize sites that would provide equitable funding to underserved communities throughout Oregon in order to improve local conditions and rebuild trust in the government. This will be accomplished by removing threats to human health and the environment while utilizing local businesses to complete cleanup actions. This approach channels SWOSA funds into the community and paves the way for redevelopment, directly supporting local economies.

3. Cleanup Milestones and Projections

This section summarizes Cleanup program achievements in fiscal year 2020 (July 1, 2019 to June 30, 2020) and projections for the fiscal year ahead.

Accomplishments – Fiscal Year 2020

Sites in DEQ's Database

Since 1988, DEQ has identified over 6,000 contaminated and potentially contaminated sites in Oregon and compiled information regarding these sites in the Environmental Cleanup Site Information database. DEQ identified 69 new sites in fiscal year 2020.

The most highly contaminated sites have been identified and the discovery of new sites should decline in the future. However, the “universe” of future cleanup sites is unknown. State law does not require reporting of contaminated sites to DEQ (with the exception of underground storage tank releases and current spills above reportable quantities). Thus, there are “legacy” contaminated sites that DEQ may not learn about until: 1) they come into the Voluntary Cleanup program (described in Section 2); or 2) a third party reports them to DEQ; or 3) they are discovered by DEQ's Cleanup staff conducting research in various parts of the state. Additionally, new releases still occur, and people find unexpected contamination during construction or other activities – events that DEQ cannot predict.

Confirmed Release List Sites

In fiscal year 2020, DEQ removed two sites from the Confirmed Release List. The list includes sites with documented contamination (rather than just being suspected). In recent years DEQ has limited its use of the Confirmed Release List, preferring instead to document sites in other ways.

Preliminary Assessments

A preliminary assessment is an investigation of a site, its surroundings, and plants and animals potentially affected by pollution. DEQ reviews a site's history and conducts a walk-through to determine whether contamination is likely and what its effects could be – and may take samples. DEQ uses this information to determine the site's priority for further investigation and cleanup. In fiscal year 2020, DEQ or parties working with DEQ completed six Preliminary Assessments.

Removals

A formal removal is a cleanup that occurs before, during or in lieu of, a remedial investigation, feasibility study or a final cleanup remedy. An informal removal is a cleanup that occurs to address low priority contamination and in the absence of a remedial investigation, feasibility study and ROD. Parties working within DEQ's Voluntary Cleanup program typically perform informal removals and receive No Further Action determination letters. Removals are commonly used to address “hot spots” of contamination. Removals help protect public health by preventing exposure to contaminants and the further spread of contamination. Removals are typically short-term activities over several months but on occasion may take several years to complete. In fiscal year 2020, Oregon initiated four and completed six formal removal actions.

Remedial Investigations

A remedial investigation involves the characterization of hazardous substances, characterization of the facility, performance of baseline human health and ecological risk assessments, and collection and evaluation of information relevant to the identification of hot spots of contamination. In fiscal year 2020, DEQ approved two as final. Remedial investigations often take more than a year to complete so investigations started in a given fiscal year are generally completed in a subsequent fiscal year.

Feasibility Studies

Feasibility studies provide detailed comparisons of possible cleanup methods for site contamination posing unacceptable levels of risk. Various remedial approaches or technologies are developed and evaluated for protectiveness. Options that would protect human health and the environment are then evaluated for effectiveness, ease of implementation, reliability, implementation risk and reasonableness of cost, as the law requires. DEQ recommends an option as the cleanup strategy and makes the selection after consideration of public comment. DEQ approved three Feasibility Studies as complete in fiscal year 2020.

Records of Decision

A ROD documents DEQ’s decision on a site’s cleanup method, based on the options evaluated in the feasibility study. DEQ finalizes the record of decision after evaluating public comments on the proposed approach and adjusting it as needed. The ROD draws upon remedial investigation and feasibility study findings to summarize the nature and extent of contamination and any risks it poses, the alternatives considered in the feasibility study, and the selected cleanup alternative to be implemented. DEQ completed seven RODs in fiscal year 2020. It takes several months to write a ROD, open it for public comment, and approve it. Many simpler sites are addressed using staff memos and reports rather than a ROD.

Remedial Actions

A remedial action is the final cleanup action at a site. Remedial actions may involve eliminating contamination from a site by excavation or treatment; isolating the contamination through institutional controls, such as deed restrictions that limit certain land or water uses to prevent exposure; or use of engineering controls such as caps, fencing or subsurface barriers. DEQ provided oversight for 21 remedial actions initiated in fiscal year 2020 and determined that 19 were complete.

No Further Action Decisions

As mentioned above in Section 1, DEQ makes a NFA decision after concluding that a site no longer poses risks to human health or the environment, and no additional investigation or cleanup is needed. During fiscal year 2020, DEQ issued NFA decisions for 76 sites. The number of NFA decisions exceeds the number of records of decisions and remedial actions because many simple sites are cleaned up independently and then request DEQ review that the site is now protective in order to issue a NFA decision. In other cases, DEQ determines that low levels of contamination do not threaten human health or the environment. At the end of fiscal year 2020, there were a total of 2,215 cleanup sites with DEQ NFA decisions. This amounts to approximately 38% percent of all sites in DEQ’s ECSI database.

Cleanup Actions Initiated and Completed for Fiscal Year 2020; Forecast for Fiscal Year 2021

The following table summarizes actions completed by DEQ’s Environmental Cleanup program during fiscal year 2020. A forecast for fiscal year 2021 is also included.

Site actions	Fiscal Year 2020 (Actual)		Fiscal Year 2021 (Forecast)	
	Initiated	Completed	Initiate	Complete
Suspected Release Sites Added to ECSI Database		45		45
Added to Confirmed Release List		0	--	-
Added to Inventory		0	--	-
Site Screenings	15	5	15	5
Preliminary Assessments	7	6	7	6
Removal Actions (formal)	6	6	6	6
Remedial Investigations	5	3	5	3
Feasibility Studies	1	3	1	3
Records of Decision	4	7	4	7
Remedial Actions	21	18	21	18
No Further Action Determinations (including informal removal actions)		76		76

Note 1: Fiscal year 2021 forecasts are based on best professional judgement of the Cleanup program management team. One-time actions show data in the “complete” columns only.

Note 2: The COVID-19 pandemic has resulted in lower than predicted Cleanup Actions in fiscal year 2020. Nevertheless, DEQ's Cleanup program is stable and in fiscal year 2021 DEQ expects to complete a similar number of Cleanup Actions.

Four-Year Plan: Projected Cleanup Actions

The program's most recent four-year plan was developed for the 2015 Environmental Cleanup Annual Report. It identified goals for cleanup activities from July 2015 to June 2019. DEQ plans to continue the long-term strategic planning efforts described in the following section. One outcome of the planning will be a new four-year plan for projected cleanup actions, which will be included in the 2022 Annual Report to the Legislature.

4. Cleanup Program Modernization

As Oregon's population grows and its industries evolve, DEQ's Environmental Cleanup program faces new opportunities and new challenges. Statewide, former industrial sites are being redeveloped for new purposes, and DEQ often now works on smaller sites that require quick turnaround due to real estate transactions. Meanwhile, DEQ is called to engage residents in neighbouring communities while it performs essential oversight of cleanup.

Over the past two decades, revenue sources have declined while DEQ adjusted programs and responsibilities to meet changing needs and expectations. The program is operating with fewer filled positions, despite greater pressures on staff and management. Simply put, the program's funding levels no longer sustain the work that is required. To address this situation, DEQ will modernize its program by stabilizing funding and strategically planning the work ahead.

Funding Modernization

DEQ's Environmental Cleanup program relies on a complex variety of revenue sources, including cost recovery, fees, federal grants, and bond sales. The program's internal systems and funding structure have remained largely the same since its inception over 30 years ago. Both internal systems and funding structure need an update. A description of funding sources follows.

Cost recovery

Cleanup and hazardous waste laws authorize DEQ to charge all reasonable costs attributable to or associated with cleanup or hazardous waste activities at a particular site. Many of DEQ's expenses are financed through cost recovery and from the responsible parties performing cleanups. DEQ recovers costs for both cleanup oversight and, if necessary, the cost of contractors hired to perform the cleanup. Responsible parties are often reluctant to pay full costs.

Fees

Fees pay a portion of Environmental Cleanup program costs, and fee revenue has declined in recent years. Two-thirds of the revenues from hazardous waste disposal fees, collected at the hazardous waste landfill near Arlington, are devoted to the Environmental Cleanup and Emergency Response programs. DEQ also uses a portion of this fee revenue to meet federal grant match requirements. LC 579 is seeking to update the hazardous waste disposal fees in the 2021 legislative session to support existing program work. The fees have not changed since 2003.

Dry Cleaner Program

Dry cleaning facility operators pay fees to fund site assessment and/or cleanup of qualifying dry cleaner sites and DEQ oversight of the industry via the Dry Cleaner Program. Dry cleaner revenues are declining as businesses close over time or switch to using less toxic products. With limited funding, DEQ is unable to perform consistent inspections and provide adequate assistance for sufficiently managing perchloroethylene, a hazardous substance historically used by the dry cleaning industry. DEQ is evaluating prospects of assigning

Dry Cleaner Program oversight to Hazardous Waste and Air Quality programs while examining strategies to adequately fund future dry cleaner site cleanups.

Grants

Federal funds, primarily from EPA, support cleanup work in several ways. DEQ uses grants to fund the development and administration of the statewide Environmental Cleanup program; support efforts to develop brownfield sites; pay for federal-level site assessments and brownfield assessments; and enable staff to participate in decisions related to EPA Superfund sites in Oregon. The U.S. Department of Defense provides some funding through a cooperative agreement for DEQ's oversight of cleanups at military facilities. Federal grant funds are decreasing or remaining flat, which effectively erodes DEQ's "buying power" as costs increase with inflation.

Bond Sales and Other Revenue Sources

For sites where responsible parties have not been identified, or where they are unable or unwilling to finance the cleanup, DEQ uses a few different revenue streams to fund the work:

- The Solid Waste Orphan Site Account is funded by a portion of solid waste tipping fees.
- The Industrial Orphan Site Account has been funded by long-term bonds, financed primarily from General Funds, and a contribution from hazardous substance possession fees.
- DEQ has also been successful in recovering orphan funds used to clean up sites through agreements with prospective purchasers of contaminated properties, settlements with responsible parties once liability is established, or owners' insurance claims.

Strategic Planning

The turbulence of 2020 impacted DEQ's plans to conduct strategic planning. However, the program made significant progress in understanding the complexity of program funding, and the changing staffing needed to effectively serve Oregon's communities. Additionally, DEQ recently began an agency-wide strategic planning process that will provide a critical North Star for the program's work. The Cleanup program will re-scope long-term strategic planning to identify potential rulemaking and/or statutory changes, plans for future staffing needs, and to evaluate additional sources of program funding. The first phase of strategic planning will address issues with program funding in the next five years. The second phase will envision what the program could and should look like by the year 2050. This will include extensive stakeholder involvement with the regulated community and others potentially impacted by proposed changes. DEQ will bring an environmental justice and equity lens to all these efforts, which will require different types of stakeholder engagement than the agency has historically employed. One result will be an updated four-year plan for projected cleanup actions.