

2024 ANNUAL REPORT



BEMP sampling. Images provided by EPA.



**Basin Environmental Improvement Project Commission
March 2025**

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[CDA River. Images provided by BEIPC.](#)

Executive Summary

The Basin Environmental Improvement Project Commission (BEIPC) is responsible for coordinating environmental remediation to address heavy metal contamination, natural resource restoration and water quality in the Coeur d'Alene Basin (Basin). The BEIPC also participates in guiding and coordinating infrastructure upgrades and improvements to protect the environmental cleanup remedy and enhance living conditions in the communities of the Basin. The Basin is defined as the watersheds of the Coeur d'Alene River (CDA River), Coeur d'Alene Lake and the Spokane River within the Idaho Counties of Shoshone, Kootenai, and Benewah, as well as the Coeur d'Alene Tribal Reservation within Idaho.

In 2024, the BEIPC coordinated and monitored the efforts of various entities in environmental remediation and natural resource restoration, as outlined in the BEIPC 2024 Annual Work Plan and five-year operating plan. During this period, the 2025 Annual Work Plan and an updated five-year plan were also developed. The environmental remediation work was performed through the federal Comprehensive, Environmental Response, Compensation and Liability Act (CERCLA) Program, the State of Idaho environmental cleanup programs, and actions under the direction of the Environmental Protection Agency (EPA) by the Coeur d'Alene Work Trust (Trust) formed under the ASARCO Bankruptcy settlement. Natural resource damage restoration work was performed by the Coeur d'Alene Basin Natural Resource Trustees (Restoration Partnership) which includes the Coeur d'Alene Tribe (CDA Tribe), State of Idaho Department of Environmental Quality (DEQ), Idaho Department of Fish and Game (IDFG), U.S. Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM) and the U.S. Forest Service (USFS). The Panhandle Health District (PHD) continued to manage the Institutional Controls Program (ICP) to control the release and migration of contamination remaining in place after remediation.

BEIPC Overview

The BEIPC was established by the Idaho State Legislature and implemented through a Memorandum of Agreement (MOA) among implementing parties. The BEIPC's primary purpose is to work with the EPA and DEQ to implement the Interim Record of Decision (ROD) for OU-3 throughout the Basin and implement the Interim Upper Basin ROD Amendment (RODA) for portions of OU-3 and OU-2 to advance the remediation of heavy metals contamination in the Upper Basin (confluence of the North and South Forks of the CDA River to the head waters of the South Fork above Mullan).

The Basin is considered to be Operable Unit 3 (OU-3) of the Bunker Hill Mining and Metallurgical Complex Superfund Site originally listed on the CERCLA National Priorities List in 1983. Operable Units 1 and 2 (OU-1&2) are the populated, industrial, and undeveloped areas in a 21 square mile area encompassing the communities of Pinehurst, Smeltonville, Wardner, and

Kellogg and outlying Shoshone County lands known as the “Bunker Hill Box”. OU-3 includes the remainder of the site outside the Box in the Basin where contamination has come to be present.

In addition, the BEIPC is involved in:

- Assisting the EPA in developing and managing the Superfund Cleanup Implementation Plan (SCIP), a comprehensive cleanup plan for the Upper and Lower Basins based on remedies selected in the OU-3 ROD and Upper Basin RODA,
- Coeur d’Alene Lake management planning and implementation,
- Heavy metal contamination remediation efforts at mining sites in the North Fork of the CDA River (NFCDR),
- Assisting the Restoration Partnership in the implementation of their natural resource restoration program as provided for in the CDA Basin Restoration Plan; and
- Leading multi-agency coordination in addressing potential flooding in the South Fork CDA River (SFCDR) and Pine Creek drainages.

Legislation and the MOA creating the BEIPC authorized appointment of a seven-member board comprised of:

- Four members from Idaho, one representing the state, and one each representing the county commissions from Shoshone, Kootenai, and Benewah Counties, appointed by the Governor of Idaho,
- One representative of the state of Washington appointed by the Governor of Washington,
- One representative appointed by the Council of the Coeur d’Alene Tribe, and
- One federal representative of the United States appointed by the President.

Sharon Bosley is the Executive Director for the Basin Environmental Improvement Project Commission. The Executive Director supports the Board in implementing work plans and environmental activities.



Canyon Creek Repository. Picture provided by EPA.

BEIPC BOARD OF COMMISSIONERS:

Name	Title	Representing
Leslie Duncan Chair	Kootenai County Commissioner	Kootenai County
Brook Beeler Vice Chair	Regional Director, Washington Department of Ecology	State of Washington
Jess Byrne Secretary/Treasurer	Director, Idaho Department of Environmental Quality	State of Idaho
	Regional Administrator EPA, Region 10	Federal Government
Dave Dose	Shoshone County Commissioner	Shoshone County
Caj Matheson	Coeur d'Alene Tribal Council Member	Coeur d'Alene Tribe
Philip Lampert	Benewah County Commissioner	Benewah County

Program Management

The BEIPC operates in accordance with the Idaho statute and the MOA among the governing entities. It is responsible for coordinating the activities of federal, tribal, state and local government agencies implementing the ROD for OU-3 and the Upper Basin RODA for human health and ecological remediation activities. It is also involved in the efforts by the Restoration Partnership to restore natural resources in accordance with their CDA Basin Restoration Plan. Working through the implementation and management of Institutional Controls in the Box and Basin (ICP), the BEIPC coordinates efforts to protect the cleanup remedies, human health, and the environment from the release and migration of contaminants.

The Executive Director (ED) works with the seven governmental entities and their agencies to establish annual work plans, manages the activities and programs of the BEIPC, works to expand community involvement in the Basin work and assists governments and partners on various projects at their request. To assist the ED in program management, planning, and implementation, the states of Idaho and Washington, the EPA, the Coeur d'Alene Tribe and the Counties have provided volunteer staff "on loan" to coordinate with the ED and provide routine intergovernmental input on technical and policy issues. Other support groups include the Technical Leadership Group (TLG) and the Citizen Coordinating Council (CCC).

TECHNICAL LEADERSHIP GROUP (TLG)

The TLG is the BEIPC primary technical advisory group. It is comprised of federal, state, local and tribal representatives as well as interested private citizens serving on the Project Focus Teams (PFTs) who provide expertise in science, engineering, logistics, regulatory aspects, and land management in the Basin. The TLG advises the BEIPC on work planning and implementation while striving toward consensus-based recommendations. In 2024, the ED and TLG developed the 2025-2029 Five-Year and 2025 draft work plans to implement the remedy in OU-2 and 3.

In addition to providing technical assistance, practical knowledge, and to assure projects are coordinated with BEIPC activities, the TLG members schedule meetings to provide a forum for discussions on individual project effects, discuss opportunities to minimize impacts to affected stakeholders and exchange information.

CITIZEN COORDINATING COUNCIL (CCC)

The CCC serves as the main avenue for public input into the BEIPC activities. It is comprised of politically and geographically diverse members and was established to provide local citizen review and input on Basin related work to the BEIPC.

The CCC facilitated communications to its members and the public on an as-needed basis by e-mails, posting to the BEIPC website and EPA Facebook. Throughout 2024, the CCC relayed information to its members and the public regarding activities in the Basin.

In 2024, the Executive Director created a Google survey to assess CCC members' interests and preferred meeting locations. Of the 51 respondents, primarily from the CDA Basin, most were familiar with the Bunker Hill Superfund site and the Basin Environmental Improvement Project Commission. Over 35% reside in Coeur d'Alene, with others in Plummer, Worley, and Kellogg. The majority expressed interest in attending a CCC meeting, favoring Coeur d'Alene or Kellogg, with no strong preference for morning or evening sessions. Key topics of interest included Basin-wide projects, CDA Lake, the Lower Basin, bank stabilization, phosphorus reduction, and growth impact mitigation. However, most respondents were not interested in becoming CCC members.

In addition to receiving various reports for review and comments, CCC members were involved in the following BEIPC activities in 2024:

April 3, 2024

The CCC sponsored an in-person/virtual meeting in Coeur d'Alene in collaboration with EPA, DEQ and the CDA Tribe. Topics included an update on CDA Lake management which covered Leading Idaho, human health study, and the Science Coordination Team. EPA presented an

update on the Lower Basin discussing the background of the Lower Basin, Lower Basin Prioritization Plan, riverbank stabilization, riverbed pilot study, recreation sites, BEMP, and wetland projects. Summary meeting notes can be located on the BEIPC website at www.basincommission.com.

June 5, 2024

The CCC sponsored an in-person/virtual meeting in Kellogg in collaboration with EPA and PHD. The agenda items included an update on regional blood lead level results, new EPA lead guidance, and Lower Basin updates. The meeting was unattended by CCC or community members and therefore did not proceed according to the agenda.

Future CCC meetings will be scheduled to discuss specific issues needing community input. CCC members will remain informed of activities through the extensive mailing list maintained at the BEIPC office.

Public Outreach and Citizen Involvement

BEIPC COMMUNITY INVOLVEMENT ACTIVITIES

In 2024, the BEIPC actively engaged in community outreach and education initiatives. To enhance public awareness of contamination issues, promote health protection strategies, and keep the community informed about ongoing and future cleanup projects, the BEIPC launched *The Dirt*, a collaborative effort focused on these critical topics. Additionally, the BEIPC participated in the *Confluence Project*, a yearlong program that connects scientific experts with high schools across North Idaho. Through classroom instruction and multiple field excursions, teachers guided students in researching water resource issues and analyzing local water data. All BEIPC meetings were held in person with a virtual option, ensuring accessibility for participants. The BEIPC also maintained an up-to-date Basin website (www.basincommission.com), where meeting information was posted and announced at the BEIPC office in Kellogg, Idaho. Furthering its commitment to public education, the BEIPC took part in outreach efforts, including a joint information booth at the North Idaho Fair, staffed by representatives from various government agencies involved in the Basin.

In addition, the various governmental entities represented by the BEIPC continue to support the TLG and CCC by being involved in the activities of those groups. Their involvement includes meeting with citizen groups, giving technical presentations, participating in Basin events, holding tours of Basin project areas, updating information throughout the Basin, and publishing various documents to provide updates on Basin activities.

As part of the public outreach program, the Basin Commission continued to make numerous presentations to local business and community groups concerning activities of the BEIPC which include planned cleanup actions and activities required to protect the remedy, human health, and the environment. The following is a partial list of BEIPC community involvement activities throughout the year:

- Operated the booth on several occasions at the North Idaho Fair.
- Attended the Idaho Four Counties Natural Resource Committee meetings to update them on cleanup actions and discuss other topics of concern.
- Participated in The Confluence Project working with close to 300 high school students in a yearlong program educating them on their local watershed through on-site studies and classroom work.
- Participated in the Our Gem Collaborative working to preserve lake health and protect water quality by promoting community awareness of local water resources through education, outreach and stewardship.
- Created and formed The Dirt Collaborative providing informative articles focused on all aspects of cleanup efforts associated with the Bunker Hill Superfund Site. The Dirt is a group of committed and local experts from multiple agencies including the Basin Environmental Improvement Project Commission, Panhandle Health District, Shoshone County, Silver Valley Economic Development Corporation, and the Idaho Department of Environmental Quality.
- Regularly attended the Coeur d'Alene Chamber Natural Resource Committee. The ED was elected the board secretary for the committee in 2025.
- Posted BEIPC and CCC meeting dates and agendas to the BEIPC website, social media and informational flyers with assistance from EPA and DEQ.
- Shared reports and activities updates, meeting notices, and work plans to TLG and CCC members by email for review and comment.
- Shared BEIPC related information with the EPAs Community Involvement Coordinators (CICs), DEQ and the Lake Management Plan (LMP) staff for publication on their Facebook pages.
- Continued to update the BEIPC website. The website provides information to keep the public informed including how to become involved and participate in the process; and opportunities for the community to provide input. Updates, including agendas and summary minutes of quarterly meetings, are posted to the website at www.basincommission.com.



Youth Water Summit. Images from BEIPC.

EPA COMMUNITY INVOLVEMENT ACTIVITIES

EPA Region 10 prioritizes coordinating with local communities and residents. The cleanup team wants to give people meaningful opportunities to be involved in and informed about the cleanup. EPA's many community involvement activities are done in partnership with others, including the Idaho Department of Environmental Quality, the Basin Environmental Improvement Project Commission, and Panhandle Health District. We are glad to report that 2024 was another productive year of community involvement accomplishments in the Basin. Highlights include:

- EPA continued to follow its Community Involvement Plan for the cleanup: <https://semspub.epa.gov/src/document/10/100137919>. The plan describes how community members can get information and be involved in the cleanup and summarizes local concerns. It also outlines how EPA collaborates with its partners. Many local people helped develop this plan.
- EPA continued to partner with the CDA Trust, DEQ and PHD to increase public health messaging and education related to limiting exposures to heavy metals. New health signs continue to be posted around areas commonly used for recreation. About 72 signs have been placed to date.


Construction Activities

Canyon Complex Repository/Waste Consolidation Area
 Crews plan to haul about 26,000 cubic yards of mine waste from the Hecla Star Complex project to the Canyon Complex Repository/Waste Consolidation Area, near Woodland Park. The total capacity of the CCR/WCA is about 1.8 million cubic yards. Repositories and waste consolidation areas like this one reduce health risks from metals like lead and arsenic.


Canyon Creek Quarry
 The Coeur d'Alene Trust's contractors will process clean rock up the hill from the Canyon Complex Repository/Waste Consolidation Area at the Canyon Creek Quarry. As part of the cleanup work in Canyon Creek, the Trust purchased a 23-acre parcel that they started using in 2020 as a quarry. This property is 2.7 miles east of the CCR/WCA, and will supply clean construction materials, different sized gravel, and road surfacing materials to the CCR/WCA, as well as to other cleanup projects in the Canyon Creek Basin.

Hecla Star Complex
 This is the second of four years of construction at the Hecla Star Complex Project near the town of Burke. The 2024 construction season will include excavating and hauling mine waste to the Canyon Complex Repository/Waste Consolidation Area, near Woodland Park; diverting Canyon Creek around the site in a thick plastic pipe; installing cast-in-place concrete structures and a concrete box culvert beneath Burke Road to convey Canyon Creek; reconstructing a portion of Canyon Creek; and installing storm water controls.

Dayrock Complex and Lower East Fork Ninemile Creek
 In June, construction crews started the third and final year of cleanup at the Dayrock Complex/Lower East Fork Ninemile Creek Riparian project. Activities will focus on 3,000 linear feet of the Lower East Fork Ninemile



Construction continues at the Hecla Star Complex. EPA Photo



Construction Season Flier. Image provided by BEIPC.

- The agency produced the document *Coeur d'Alene Basin Cleanup: 2024 Construction Season Preview*. It gave an overview of investigations to design protective cleanups and cleanup activities for the year. EPA distributed it widely to partners and community members.
- In May, EPA and our partners the Basin Environmental Improvement Project Commission, Coeur d'Alene Tribe, Idaho Department of Environmental Quality and the Panhandle Health District held an event at the Silver Mountain Resort in Kellogg to commemorate 50 years of cleanup successes at the Bunker Hill Superfund Site. We invited the community. Over 80 people attended.
- Twelve people graduated this year from EPA's Superfund Job Training Initiative (SJTI) Program. This is the third time the program has been offered at the Bunker Hill/CDA Basin Superfund Site. SJTI offers free job training and marketable skills to local residents for cleanup and construction work. Graduates from this years and past programs have been employed by several local companies.
- The agency, in coordination with its partners, conducted outreach on several projects this year, distributing flyers locally: *Hecla Star Complex*, *Gray's Meadow Agriculture to Wetland Conversion Project*, and *Ninemile Basin seasonal cleanup activities*. Outreach was also conducted for lead health education, soil testing and property cleanups, recreation and health, repositories, and more. EPA also produced a handout for participants on the BEIPC August 2024 cleanup tour, and a fact sheet to inform the public about the annual study to monitor swan health, conducted in the Lower CDA River Basin.

In addition to the above, EPA continued the following activities in 2024:

- Maintained the **Coeur d'Alene Basin Facebook** page which provides site updates to the public. Find it at www.facebook.com/CDAbasin. The page offers site news, photos, and

resource information. EPA invites participation, suggestions, and postings, and shares partners' posts.

- Published the **Basin Bulletin** newsletter in March, July, and November. The Basin Bulletin provides news and updates about the Coeur d'Alene Basin Cleanup.
- Provided staff support and regular participation at meetings of the BEIPC, CCC, and TLG in keeping with EPA's commitment to the BEIPC process. In 2024, BEIPC quarterly meetings were held both in-person and virtually.
- EPA continued to maintain the website for the Basin Cleanup. It offers public access to updates, site documents, and background information. Suggestions for improvements are always welcome. (Website URL: www.epa.gov/superfund/bunker-hill)
- EPA maintained document collections related to the cleanup at several area libraries for public access: Wallace Public Library, Spokane Public Library, St. Maries Library, and Kellogg Public Library.
- Project managers met as requested with local officials, interest groups, and others to provide updates and answer questions in 2024.
- EPA continued to work with the media in 2024, arranging press availability sessions as needed, fielding questions from reporters about the site, running newspaper display ads, and issuing press releases on high-interest activities.

DEQ AND PANHANDLE HEALTH DISTRICT (PHD) COMMUNITY INVOLVEMENT ACTIVITIES

DEQ and PHD conduct education, public engagement, and health awareness activities related to the CDA Basin cleanup. Kellogg PHD is the primary partner for health messaging and outreach through the Lead Health Intervention Program. The aim is to raise awareness about lead intervention and to support the continuation of healthy trends for children, families, and visitors to the area.

The following are highlights of 2024 activities:

- ICP Contractor Licensing Course and ICP educational booth were provided at the North Idaho College's Annual Safety Fest.
- Educational materials were provided to Bunker Hill Mining Corporation's employees during a company blood-lead testing event.
- Guest lecture given at Gonzaga's School of Nursing.
- Brochures and other educational materials were provided to local laundromats and other public locations.
- Members attended Idaho's Lead Advisory Committee meetings, providing updates on Lead Health Intervention Program (LHIP) events and outreach activities and to discuss statewide activities.
- Presentations were provided to new Kootenai Health Resident Doctors.

- A presentation and site tour were provided to PHD Environmental Health District Directors from around the state.
- A presentation was provided for the University of Idaho representatives.
- A booth was provided for City of Coeur d'Alene's Earth Day event.
- Members collaborated with HUD and Idaho Housing and Finance Association (IHFA) to discuss HUD housing in the BHSS and provide lead awareness training.
- Historic Silver Valley Chamber of Commerce meetings were attended to give updates on 2024 remedial activities, site projects, and outreach activities.
- Historic Wallace Chamber of Commerce meetings were attended to give updates on 2024 remedial activities, site projects, and outreach activities.
- Silver Valley Economic Development Council meetings and member events were attended to give updates on 2024 remedial activities, site projects and outreach activities.
- Lead exposure education and educational giveaways were provided to attendees of the Coeur d'Alene Home and Garden Show by outreach staff. Staff worked alongside Idaho Health and Welfare staff to provide soil testing for lead, and information on radon exposure in our area.
- Outreach staff attended the Silver Valley Career/Transition Fair to educate students about careers opportunities related to work within the BHSS.
- Outreach staff gave presentations to Shoshone Benewah One-Call and the National Utilities Contractors Association regarding the need for licensure when working within the BHSS. An informational booth was provided during contractor training at Dozer Days with similar information.
- Outreach staff presented and provided breakout sessions at the North Idaho Green Summit on the BHSS and lead exposure.
- Lead health education was provided to pre-school through third grade classes at eight local schools and 679 educational giveaway bags were distributed.
- The Annual Blood Lead Screening Event (6-day event) was conducted utilizing a carnival theme and online scheduling tool. This year's event saw an increase of approximately 100 additional participants, bringing the total number of individuals screened to 461.
- A booth was provided at the North Idaho State Fair (10-day event) to educate attendees on the BHSS, lead exposure risks, and Leading Idaho Projects reducing phosphorous loading to area waterways.
- Lead awareness STEM lessons were provided by outreach staff during STEM Day at the North Idaho State Fair.
- Presentations were given at Basin Environmental Improvement Project Commission Meetings upon request.
- Pizza parties were hosted for residents at the Lincoln Building, the Pinehurst Plaza, Canyon Side, and Amy Lyn Apartments.

- A presentation was given to PHD's Board of Health on results of the annual lead screening event.
- A booth was provided at Shoshone Medical Center's Kid's Health Fair where each child received a bag of educational information, goodies and healthy snacks.
- Informational flyers for EPA's work projects were posted and distributed to local municipalities throughout the year.
- Basin Bulletins and EPA project updates were distributed throughout the Site. EPA released three Basin Bulletins in 2024: March, July, and November.
- Presented and provided site tour for area teachers for continuing education credits.
- Members attended Silver Valley Transportation Team meetings.
- Tours of the Central Treatment Plant were provided to multiple groups.
- Outreach staff participated in Silver Hills Elementary School's trunk-or-treat, Kelloween, and Silver Mountain's Halloween trunk-or-treat events providing 700 treat bags with lead safety messaging.
- Community Involvement Coordination meetings were attended to discuss community needs and outreach opportunities.
- Partnered with the Idaho Department of Health and Welfare's Childhood Lead Poisoning Prevention Program and Pediatric Environmental Health Specialty Units to provide a continuing education course for local health care professionals.
- Conducted 22 in-home follow-ups for individuals with high blood-lead levels or elevated house dust.
- Blood-lead testing was provided to 30 area residents at the June and October Kellogg Elks blood drives.
- A booth was provided at the Shoshone County Senior Health Fair where attendees received education and outreach on lead exposure and prevention.
- Outreach staff provided education, outreach materials, and giveaways to Mullan's Jeep Jamboree participants.
- New brochures were created and updated for use during 2024.
- A lead safety poster contest for area third through fifth grade students was hosted to celebrate Lead Poisoning Prevention Week. Posters submissions were displayed at PHD's Kellogg Office.



- Area schools were given posters and stickers to highlight National Handwashing Week.
- Attended South Fork Watershed Advisory Group meetings throughout the year.
- Outreach staff hosted a booth at the Silver Valley Care’s Event at Kellogg Park, educating attendees on lead exposure.
- Provided presentations for Wallace Junior High history classes.
- Met with PHD Epidemiology Team to provide update on lead health education and follow ups.
- Outreach staff provided 355 gift bags to area food pantries containing lead education information, dust cloths, nailbrushes, soap, lip balm, pencils, toothbrushes, and toothpaste.
- Outreach staff attended multiple Music in the Park events, educating participants on the need for ICP permitting and lead exposure awareness.

2024 Work Accomplishments Part 1: Work Performed Through Federal Superfund or Other Cleanup Programs

LEAD HEALTH INTERVENTION PROGRAM (LHIP)

Screening of children for elevated blood lead levels has been occurring annually in the CDA Basin since 1996. For children with elevated blood lead levels, follow-up consultations from a public health professional are available through the Lead Health Intervention Program to assist families with identifying ways to reduce lead exposures. The screening program also informs the Basin cleanup efforts, although cleanup decisions are not based on annual blood lead testing results. The goal is to prevent lead exposures that could result in elevated blood lead levels.

The following table shows the Basin Blood Lead summary results from 2019 – 2024 for children residing in the Basin 6 months through 6 years of age.

Year	2019	2020*	2021**	2022**	2023	2024
Number of Children	84	4	19	40	94	129
Minimum (µg/dL)	<1.9	<1.9	<1	<1.0	1.0	<1.9
Maximum (µg/dL)	14	6	7	30	7	14.8
Average (µg/dL)	2.5	3.5	1.9	4.2	2.0	2.4
Geometric Mean (µg/dL)	1.9	3.1	1.5	2.2	1.8	2.0

*2020 screening event was cancelled due to the Covid-19 pandemic.

**Venous test results only. In 2021 and 2022 additional children had capillary test results. Historically PHD used the Lead Care Plus model of machines to analyze the capillary draws, which has a minimum detection limit of 1.9 µg/dL. A recall of test kits for the Lead Care Plus machines issued on May 7, 2021, made test kits unavailable by the time of our 2021 screening. As an alternative, two Lead Care II model machines, which have a minimum detection limit of 3.3 µg/dL, were used. Because of this higher detection limit, venous drawings were encouraged and are reported here. Test kits for the Lead Care Plus machines have since been replenished.

In 2024 the LHIP offered three blood lead testing events, providing area residents with even more access to blood lead screenings. The events included testing at the Kellogg Elk’s Club Blood drives on June 4th and on October 1st, plus our annual screening event held every August. A total of 461 individuals had their blood lead levels checked during screening events, with 34 more people participating at other times throughout the year. Out of those individuals, 206 Basin residents were tested. Of those event participants, 129 were children between the ages of 6 months and 6 years, 19 were children over 6 years of age, and 58 were adults. There were an additional 226 tests performed for residents of the Box at these events and 11 tests performed for people residing outside but working or recreating in the BHSS.

When an individual is identified with an elevated blood lead level, it is recommended their physician be notified and PHD offers appointments for in-home consultations to identify potential sources of exposure in and around the home¹. These in-home consultations help PHD, and families, identify ways to reduce exposure risks. In addition, PHD can help identify potential exposure pathways that the cleanup project can address to prevent future lead exposures.

PHD will continue to offer free blood lead screening for residents living within the Bunker Hill Superfund Site boundaries year-round. In addition, PHD is planning to conduct its annual

¹ The Panhandle Health District (PHD) offers a follow-up consultation if any child has a blood lead level greater than 3.5 µg/dL, the “reference value” established by the Centers for Disease Control & Prevention (CDC) in 2021.

summer screening in 2025 with a \$50 incentive for children between ages 6 months to 6 years of age.

In 2025, the LHIP will continue to offer these additional services:

- HEPA vacuum loan program for cleaning residences.
- Free supplies to aid homeowners in performing safe home renovations and/or dirt disturbance activities.
- Free cleaning supplies for inside the home.
- Free dust mats.
- Education, outreach, and awareness for parents, children, community members, recreationalists, and visitors.
- Education classes and hands-on activities in local schools for Pre-K thru 12th graders.
- Education and outreach at community events.
- Presentations and tours to community members, medical residents, and realtors, educating on the importance of lead exposure prevention.
- Sampling of soil, dust, paint, water, and other media as appropriate.

BASIN PROPERTY REMEDIATION PROGRAM (BPRP) INCLUDING PRIVATE DRINKING WATER SUPPLY

Sampling and cleanup of residential, commercial, common-use areas, and rights-of-way (ROWs) continued in 2024 as part of the Bunker Hill site's Basin Property Remediation Program (BPRP). DEQ implements this program in OU-1; the CDA Trust implements this program in OU-3.



Looking West. Completion of soil sampling. Image provided by CDA Trust.

BPRP in the Box

To date, a total of 3,236 properties have been remediated in the Box with no new BPRP properties being completed in 2024. As was reported in 2022, DEQ continued to track the remaining nine Box properties that require remediation in case the current owners grant access, or the property changes owners.

BPRP in the Basin

The CDA Trust completed the following BPRP activities in 2024:

- Maintained six reverse osmosis, under-sink water filtration systems to treat drinking water from private sources.
- Collected 33 soil samples from one residential property.
- Collected nine private drinking water samples from three properties.

At the conclusion of 2024, a total of 3,935 properties have been remediated in the Upper and Lower Basin of OU-3. 201 properties remain to be sampled whose owners have directly refused or have not responded to multiple requests for access. 38 properties remain to be remediated whose owners have refused remediation or have not responded to contact attempts.

CONTAMINATED WASTE DISPOSAL AND MANAGEMENT

Contaminated waste disposal and management is an ongoing process at the Bunker Hill site that must meet the demand for the disposal of historic mining related contamination generated under various remediation programs and under the Institutional Controls Program (ICP). Facilities to accommodate disposal of these wastes are engineered and constructed to reliably contain materials and prevent contaminants from being released to surface water, groundwater, or air in concentrations that will cause state and/or federal standards to be exceeded. Without the expansion of existing disposal facilities or the construction of new facilities, continued remediation and control of contamination could be compromised and potentially stopped.

Two Categories of Facilities utilized in 2024

Facilities in current use and development include the following:

- Repositories that are large, centrally located areas within the Upper and Lower Basin where contaminated soil and material excavated during remedial and ICP actions are transported to be managed and secured.
- Waste Consolidation Areas (WCAs) in the Upper Basin located adjacent to or near specified remedial action source areas.

Repositories

Six repositories received remedial action and ICP waste in the 2024 field season. The Page Repository, located near Smeltonville and operated by DEQ receives remedial action and ICP

wastes generated by the cleanup activities conducted in the “Box”. The Big Creek Repository (BCR) and the Big Creek Repository Annex (BCRA) near the community of Big Creek, the Lower Burke Canyon Repository (LBCR), and the Canyon Creek Repository (CCR) serve the Upper Basin, and the East Mission Flats Repository (EMFR) near Cataldo serves communities in the Lower Basin, all of which are operated by the CDA Trust.

ICP Management

The ICP area’s are managed by the CDA Trust’s and DEQ’s Operations Contractor’s throughout the year, excluding LBCR. LBCR does not accept waste during winter months because of heavy snow accumulation in Burke Canyon. During the winter closure period ICP waste will instead be directed to BCR for disposal. ICP waste from winter operations are stockpiled within the repositories for processing and future placement and compaction when conditions are suitable.

Stormwater management

- Storm water management controls including shredded wood, silt fencing, and other measures are installed to protect against erosion.
- Slopes are stabilized by track walking as necessary.
- Crowned center of waste area to encourage drainage to runoff collection areas.
- Year-end repository shutdown activities are completed as necessary.
- BCR, EMF, and Page are inspected weekly throughout winter months and haul routes are maintained for snow removal as needed.

Water Quality monitoring

Semiannual groundwater monitoring was conducted at all repositories except LBCR. Visual surface water monitoring is conducted at LBCR throughout the year. Groundwater and surface water monitoring results indicate that disposal activities have not impacted water quality near the repositories.

A summary of activities completed in 2024 at each repository is described below:

Page Repository

- Page received 4,077 truckloads of ICP waste, 367 truckloads of remedial action waste, 1639 truckloads of concrete and 205 loads of woody debris.
- At the end of the 2024 construction season, the total estimated volume of material placed at Page was 23,000 cy of waste material and 9,000 cy of course durable foundation material.
- Page has approximately 445,000 cy of remaining waste capacity.
- Construction of cell #4 continued and initial work on cell #5 began.
- The Page Repository continues to use recycled construction materials extracted from Box and Basin waste streams which helps to further reduce repository operating costs.



Aerial photo of Page repository. Photo courtesy of Northwind.

Big Creek Repository (BCR)/ Big Creek Repository Annex (BCRA)

- BCR received 498 truckloads from the ICP, for an estimated 2,000 cubic yards (cy) of waste placed and compacted.
- BCR currently has approximately 81,022 cy of remaining waste capacity.
- BCRA received 46 truckloads from the ICP for an estimated 350 cy of waste placed and compacted.
- BCRA has approximately 168,346 cy of remaining waste capacity.

Stormwater management

- Year-end repository shutdown activities were completed and included:
 - All road surfaces were graded and sloped inward to collect runoff to capture and prevent ponding.
 - Waste was graded and sloped inward to collect runoff to capture into roadside ditches.

ICP Management

The ICP area is managed by the CDA Trust's Operations Contractor during the winter closure period. Prior to spring runoff, all ICP waste resulting from winter operations will be transported and stockpiled on top of the BCRA repository for processing and future placement and compaction.

Water Quality monitoring

- Semiannual groundwater and surface water monitoring was conducted at seven monitoring wells and six surface water locations on or near BCR/BCRA. Groundwater and surface water monitoring results indicate that disposal activities have not impacted water quality near the site.

Lower Burke Canyon Repository (LBCR)

- LBCR received 1,365 truckloads from ICP for an estimated 8,500 cy of waste placed and compacted.
- LBCR currently has approximately 1,019,525 cy of remaining waste capacity.

Stormwater management

- Year-end repository shutdown activities were completed and included:
 - Stabilized slopes by track walking.
 - Maintained low area sump near decontamination pad to ensure that runoff from the asphalt area is contained on site.
 - Maintained drainage swale around south end of fill limits to collect any runoff during rain on snow events.
 - Crowned center of waste area to encourage drainage to runoff collection ditches.
 - Installed additional storm water management controls including shredded wood and silt fencing on steep slopes to further protect against erosion.

ICP Management

The ICP disposal area will not be available to receive ICP waste through the winter months because of heavy snow accumulation in Burke Canyon. ICP waste will instead be directed to BCR for disposal.



Lower Burke Canyon Repository waste grading. Image provided by the CDA Trust.

Canyon Complex Repository (CCR)

- CCR received waste materials from mine remediation sites in Canyon Creek and Ninemile Creek for an estimated 30,000 cy of waste placed and compacted.
- CCR has approximately 1,200,000 cy of remaining waste capacity.

Stormwater management

- Year-end repository shutdown activities were completed and included:
 - Stabilized slopes by track walking.
 - Sloped top waste surface to promote stormwater runoff to the base drainage system.
 - Cleaned and maintained existing stormwater controls such as culverts and check dams.

ICP Management

ICP wastes are directed to LBCR for disposal and are not currently placed at CCR.

Water Quality monitoring

Semiannual groundwater monitoring was conducted at ten monitoring wells located near CCR. Groundwater and surface water monitoring results indicate that disposal activities have not impacted water quality near the site.

East Mission Flats Repository (EMFR)

- EMFR received 279 truckloads from the ICP for an estimated 1,500 cy of waste placed and compacted.
- EMFR has approximately 147,360 cy of capacity waste remaining.

Stormwater management

- Year-end repository shutdown activities were completed and included:
 - All road surfaces were graded and sloped inward to collect runoff to capture and prevent ponding.
 - Waste was graded and sloped inward to collect runoff to capture into roadside ditches.

ICP Management

The ICP disposal area will be available at the east end of EMFR to receive ICP waste during the winter closure period and managed by the Trust's Operations Contractor. Prior to spring runoff, all ICP waste will be transported and stockpiled on top of the repository for processing and future placement and compaction.

Water Quality monitoring

Semiannual groundwater monitoring was conducted at six monitoring wells located on or near EMFR. Groundwater and surface water monitoring results indicate that disposal activities have not impacted water quality near the site.

Waste Consolidation Areas

Waste consolidation areas are located near, and accept waste from, specifically identified sources such as mine and mill site remedial actions implemented by EPA, the CDA Trust, and DEQ. Unlike repositories, footprints of WCAs are developed using current and near future waste estimates from nearby remedial action project areas and are constructed to be open for

a shorter period. WCAs are only expanded if additional waste is encountered during the selected remedial actions. The following Upper Basin WCA operated in 2024:

East Fork of Ninemile Creek Waste Consolidation Area (EFNM WCA)

- 2024 was the third and final year of construction of the Phase 2 Final Cover and Expansion effort primarily focusing on waste placement and compaction. The final expansion increased capacity at the EFNM WCA to allow placement of approximately 630,000 cy of contaminated waste rock and mine tailings from ongoing EFNM projects. Near the end of 2024, the EFNM WCA reached capacity and the Phase 3 Final Cover design was completed. It is anticipated that construction of the final cover system will be completed in 2025 and 2026.
 - EFNM WCA received approximately 200,000 cy of waste from remedial actions in EFNM drainage resulting in an approximate compacted volume of 177,000 cy.
 - The total volume of material placed in the WCA to date is approximately 1,305,000 cy.
 - Temporary cover materials were placed over the contaminated waste rock and mine tailings at the WCA prior to winter shutdown.
- To date, the EFNM WCA site has generated approximately 350,000 cy of rock and 375,000 cy of soil for EFNM remedial actions. Having the location of this waste disposal area near the source areas has saved the project upwards of approximately \$8.5 million in transportation costs and significantly minimized traffic through local communities.



East Fork Ninemile Waste Consolidation Area waste placement. Image provided by the CDA Trust.

Additional Disposal Locations

Mullan ICP Transfer Station

The CDA Trust operates the Mullan transfer station which provides the city of Mullan residents with a convenient place to dispose of their ICP waste which are then permanently disposed of in a locally engineered facility (e.g., the BCRA or LBCR).

In 2024, No waste was transported from the Mullan ICP Transfer Station to the LBCR.

New WCA

In 2023, a PFT evaluated potential locations proposed by EPA during a public comment period on, and to consider alternative locations for a new WCA to dispose of waste generated from Lower Basin remedial actions. EPA is giving full consideration to the analyses performed by the PFT before making a decision. The Lower Basin WCA site has not been approved by EPA.

UPPER BASIN & BOX REMEDIES

The 2012 Upper Basin RODA identified cleanup work in the Upper Basin. The goals of the 2012 Upper Basin RODA cleanup include prioritizing Upper Basin/Box source areas for cleanup to improve water quality and address risks to human health and the environment. It called for cleanup in the Box that would improve water quality in the South Fork Coeur d'Alene River. It also focused on source control actions that address particulate lead which poses a risk to human health and ecological receptors. The prioritized cleanups under the 2012 Upper Basin RODA will continue to reduce human and wildlife risks to lead and other heavy metal exposures

in the Upper Basin and are expected to significantly improve water quality. Upper Basin cleanups complement those in the Lower Basin by reducing the overall loading of contaminated materials to the Coeur d'Alene Basin watershed and the potential for recontamination in the Lower Basin.

The Box

Central Impoundment Area Sludge Pond Closure

The old sludge pond on top of the Central Impoundment Area (CIA) reached its storage capacity in June 2023. Since then, sludge from the Central Treatment Plant (CTP) has been stored in new lined ponds constructed to the east of the old sludge pond as part of the CTP upgrade project.

In 2024, the construction contract was awarded. The sludge pond cover system will tie into the existing CIA cover system, consist of compatible materials, and meet the same performance standards as the existing cover on the CIA. Construction is planned to begin summer of 2025.



Old Sludge Pond looking south. Photo courtesy of USACE Seattle District.

Pinehurst Elementary School

The Pinehurst Elementary School serves many of the children living within the Box and others residing in the Lower Basin. Large sections of the playground are deteriorated, leaving children exposed to underlying soil contamination. In 2024, design was initiated to remove and regrade these sections to promote proper drainage, repave the playground area, and add synthetic turf between playground areas. The remedial action will be completed during the summers of 2025 and 2026.

East Smelterville Flats

The 16-acre East Smelterville Flats site (site) is located east of the Shoshone Country Airport and north of I-90 in Kellogg, Idaho. The undeveloped site is owned by the City of Kellogg and is used as a maintenance yard with the eastern portion zoned to be a public park. The area provides open space for the public to access the South Fork of the Coeur d' Alene River northeast of Smelterville, Idaho.

The site is contaminated with historical mine tailings and waste. Soil sampling indicates contaminated material is present from the surface down to depths ranging from five to eight feet. This project will protect the public from exposure to heavy metals contained in the underlying contaminated material, protect against recontamination of clean barriers, and will eliminate transport of fugitive dust and tracking of contaminated material off-site.

Work crews excavated and removed over 4,000 cubic yards of contaminated soil from the site from early November through the end of 2024. The excavated material, which contained high lead concentrations, was transported to the Page Repository for disposal. Fencing was successfully installed to restrict access and preserve the earthen cap.



Facing west showing excavation of top foot of contaminated soil along south edge of Theater Bridge Road. Photo courtesy of Idaho Department of Environmental Quality.

Government Gulch

In 2024, drillers installed four new monitoring wells in Government Gulch. The goal of the investigation is to fill in data gaps and refine our conceptual site model to evaluate if the selected groundwater remedy for Government Gulch would be cost effective or not.

Central Treatment Plant and Groundwater Collection System

Operations and maintenance were conducted throughout 2024 to continue water treatment at the Central Treatment Plant (CTP) by DEQ's contractor. During 2024 the CTP treated 1.085 billion gallons of water, 51.6% of this was mine water from BHMC and 48.4% was ground water from the GCS. A few large maintenance projects were completed in 2024, including the replacement of the impellor in Reactor B2. The efficiency of the CTP remained high throughout 2024, with removal efficiency for Zinc over 99% and Cadmium and Lead over 98%. During all of 2024 sludge produced from the CTP was sent to the new Sludge Impoundment Area targeting a sludge density of 25% solids. Water monitoring was completed during high and low flow and results will be available in the annual BEMP report.

East Fork Ninemile Creek Drainage (EFNM)

The following summarizes the 2024 construction activities conducted in EFNM:

- **Two, three-year cleanup projects completed:** Cleanup work has been on-going in the EFNM basin since 2013. In 2024, the remaining remedial action work was completed at the Dayrock Mine/Lower East Fork Ninemile Creek and Tamarack Complex sites. **This represents the completion of priority cleanup actions in the EFNM basin.**
- **Dayrock Mine/Lower East Fork Ninemile Creek:** Approximately 91,000 cy of contaminated waste rock and mine tailings were hauled from the Dayrock Mine/Lower East Fork Ninemile Creek remediation site and placed and compacted at the EFNM WCA. Approximately 7,000 cy of contaminated waste rock and mine tailings were hauled from the project to the Canyon Creek Repository after the EFNM Waste Consolidation Area reached full capacity. In addition, approximately 2,360 feet of EFNM Creek stream channel was re-constructed as part of the project.



Dayrock tributary reconstruction. Provided by the CDA Trust.

- **Tamarack Complex:** Approximately 108,000 cy of contaminated waste rock and mine tailings were hauled from the Tamarack Complex and placed in the EFNM WCA. In addition to the removal of mine waste rock and tailings approximately 1,780 feet of tributary channel was re-constructed within the Tamarack Complex.



Tamarack remediation and reconstruction. Provided by the CDA Trust.

Other activities conducted in 2024 included the following:

- **EFNM WCA:** Operation of the EFNM WCA (see separate section in this report titled “Contaminated Waste Disposal Areas and Management”).
- **Monitoring:** Continued surface water monitoring in the EFNM Basin.
- **Operations and maintenance (O&M):** O&M of the Interstate Callahan Mine Rock Dumps, the Success Mine Complex, Interstate Millsite and Rex Mine No. 2/ Sixteen-to-One.

Canyon Creek Drainage

In 2024, activities in the Canyon Creek drainage consisted of the following:

- **Star Complex:** Approximately 23,000 cy of mine waste rock and tailings were hauled from the Star Complex and placed and compacted at the CCR. In addition, approximately 1,100 feet of concrete box culvert was installed to convey Canyon Creek through the site and approximately 180 feet of Canyon Creek stream channel was re-constructed as part of the project.



Box culvert install in Canyon Creek. Images provided by the CDA Trust.

- **Gorge Gulch:** Conducted initial characterization and sampling activities in the Gorge Gulch area (5 sites) located in the upper reaches of Canyon Creek.

- **Canyon Silver (Formosa):** Conducted initial characterization and sampling activities at the Canyon Silver (Formosa) mine site located in the lower reaches of Canyon Creek.
- **Standard-Mammoth Millsite:** Conducted initial characterization and sampling activities at the Standard-Mammoth Millsite located in the lower reaches of Canyon Creek.
- **Standard-Mammoth Reach:** Conducted design activities at the Standard-Mammoth Reach (10 sites) located in the upper reaches of Canyon Creek.
- **Monitoring:** Continued surface water and groundwater monitoring in the Canyon Creek Basin.
- **Canyon Creek Quarry:** Continued development of the Canyon Creek Quarry (CCQ). The CCQ will supply clean aggregate materials to future Canyon Creek remedial action projects.

Other activities conducted in 2024 included the following:

- **Repository Operation:** Operation of the Canyon Complex Repository/WCA (see separate section in this report titled “Contaminated Waste Disposal Areas and Management”).

South Fork Coeur d’Alene River Drainage/Upstream of Wallace, ID

In 2024, activities in the South Fork Coeur d’Alene River drainage consisted of the following:

- Conducted initial characterization and sampling activities in the Upper South Fork Coeur d’Alene River area (18 sites) located upstream of Wallace.
- Conducted surface water monitoring in the South Fork Coeur d’Alene River upstream of Wallace.

LOWER BASIN REMEDIES

The cleanup described in the 2002 OU-3 ROD for the Lower Basin includes actions for the wetlands and lateral lakes, the riverbanks, splay areas, and riverbed. These remedial actions, envisioned primarily as pilot studies, are being evaluated for implementation. The remediation objectives in the Lower Basin include reducing risks to human health and wildlife by reducing exposure to particulate lead and improving habitat quality in the CDA River system. Remedies that address human health or ecological exposure, coupled with continued evolution of our understanding of sediment transport and recontamination in the Lower Basin, are interconnected with natural resource restoration actions.

In 2024, EPA and the CDA Trust finalized the Lower Basin Prioritization Plan which is published on EPA’s website (<https://semspub.epa.gov/src/document/10/100589579>). The Lower Basin Prioritization Plan provides an initial approach to the prioritization of remedial actions in the Lower Basin. EPA and the CDA Trust will reevaluate the prioritization of Lower Basin remedial actions annually in the prioritization and 10-year plan for both Upper and Lower Basins.

Gray's Meadow Remedial Action and Restoration

In 2024, EPA continued work on the Gray's Meadow (formerly Black Lake Ranch) project. Gray's Meadow is a collaborative effort between the EPA, the CDA Trust and the Restoration Partnership with Idaho Department of Fish and Game as the landowner, to remediate and restore approximately 700 acres of publicly owned contaminated agricultural land to clean, diverse, productive wetlands and riparian waterfowl/wildlife habitat.

In 2024, progress on the Gray's Meadow project included:

- Cultural resource monitoring activities for both the Cave Lake and Lamb Peak Wetlands.
- Localized dewatering of the Cave Lake and Lamb Peak Wetlands.
- Construction of ten water control structures in the wetlands to convey and control water surface elevations within the wetlands.
- Excavation and hauling of approximately 430,000 cubic yards of soil that were consolidated on site and used to build twenty-five loafing islands and five miles of water control berms to create the wetland basins.

For more information on restoration projects that were implemented (or initiated) in the Lower Basin, please refer to the Restoration Partnership section of this report.



Aerial view of Cave Lake Wetland. Photo Courtesy of CDA Trust.

Lead Bioaccessibility

In 2024, EPA continued studies related to lead bioaccessibility and amendments, as well as metrics for measuring lead exposure in waterfowl as discussed in the BEMP section of this report. Several studies were completed or are ongoing including:

- A bench-scale treatability study with EPA’s Office of Research and Development (ORD) to explore the application of jarosite-based remediation technologies to significantly decrease lead (Pb) bioavailability in contaminated soils. Bunker Hill soils were included among other Superfund site samples and treated using jarosite-based techniques via batch and soil column approaches, followed by subsequent speciation and X-ray mapping analyses at advanced synchrotron facilities. These data will be paired with in vitro bioaccessibility and mouse model in vitro bioavailability measurements to determine pre- and post-treatment efficacy. The research will enable continued development of PLJ-based remediation technologies as well as facilitate future field application. This is building off previous published work from ORD (DOI: 10.1021/acs.est.1c06067).
- Field studies measuring the effects of oxidizing and reducing conditions in seasonal wetland sediments on lead bioaccessibility were concluded and published (<https://www.sciencedirect.com/science/article/pii/S004896972408210X?dgcid=author>). The results show that both time of year and hydrology are important when considering metal exposure risks in contaminated floodplains.

River Channel Data Collection

In 2024, data collection efforts associated with the river channel included the following:

- Riverbank erosion pin monitoring at 63 locations in the Coeur d’Alene River. The number of monitoring stations per reach are below:
 - Cataldo Reach:36
 - Dudley Reach: 12
 - Killarney Reach: 10
 - Springston: 5
- Completion of the 2024 Cataldo Riverbank 165.9 – 167.1 Pilot Project Design Investigation including the following:
 - Collection of soil and sediment samples for metals analysis and geotechnical testing from borings and test pits, collection of topographic survey information, evaluation of existing vegetation to aid future pilot project designs, and cultural resources monitoring during investigation work.



Cataldo Riverbank Pilot Project. Photo courtesy of CDA Trust.

STATE OF WASHINGTON PROJECTS

The Department of Ecology continued to monitor Spokane River beaches to ensure the continued protection of recreationalists and to track redeposition of contaminated material. Beaches were monitored using x-ray fluorescence equipment, and visually surveyed for evidence of usage or degradation of cap material. Results of 2023 comprehensive sampling were made available to the public and shared in BEIPC forums.

RECREATIONAL SITES PROGRAM

In 2024, work under the Recreational Sites Program included sampling, placement of access controls and installation of new signs, and public education/outreach activities for areas in both the Box and Basin.

Box Activities

EPA, DEQ, and PHD continued public outreach efforts to inform recreational users of ways to protect their health when recreating in areas where they may be exposed to contaminated soils and water. As part of the draft Box Human Health Recreational Exposure Management Strategy, information on more than 80 recreational sites in the Box were reviewed to determine whether site characterization or remedial action should occur. In addition, samples were collected from seven recreational sites during the summer of 2024. Remedial design and/or institutional control plans for certain sites will occur after results are reviewed.

Basin Activities

During 2024, work focused on recreational sites in the Lower Basin. EPA and the Coeur d'Alene Trust completed sampling at two recreational sites to determine if future cleanup or engineering controls are required. In addition, access controls were installed at two recreational sites to reduce exposure to contaminated soils and sediment, and seven signs were installed throughout the Lower Basin. Of these seven signs, six signs were installed at sites where signs were previously installed and had to be repaired, or additional signage was installed. One sign was installed at a recreational site for the first time. Installation locations included areas along the Coeur d'Alene River, informal river access points, and beach areas.

EPA and the CDA Trust continued to evaluate other recreational areas in the Upper and Lower Basin for future cleanup work.



Recreational signs at West of the Blue Lake and Rose Lake adjacent to the Coeur d'Alene River. Photos courtesy of CDA Trust.

BASIN ENVIRONMENTAL MONITORING PROGRAM

The Coeur d'Alene Basin Environmental Monitoring Program (BEMP) supports the Bunker Hill Site's OU2 and OU3 decision documents by establishing a site-wide environmental monitoring plan for the collection, analysis, and interpretation of environmental data. Environmental data includes surface water, sediments, groundwater, and biological resources. The goal of the BEMP is to provide a framework for how the environmental monitoring data will support management goals, guide and prioritize remedial actions, and document progress toward Remedial Action Objectives (RAOs).

Programmatic Plan

In 2021, the BEMP Programmatic Plan was updated to optimize how environmental monitoring requirements in OU2 and OU3 will be met. This environmental data is used to assess long-term trends of contaminants in site media, evaluate the effectiveness of pilot projects and remedial actions, evaluate progress toward meeting RAOs, and improve the understanding of

environmental processes in the Coeur d’Alene Basin. The BEMP Programmatic Plan incorporates adaptive management principles to provide flexibility and is anticipated to evolve over time during the cleanup and is structured into three geographically based tiers that range in size from the narrow focus of cleanup actions at specific sites to a Basin-wide focus to see the “bigger picture.” These geographically based tiers include:

- Site-specific Remedial Action (RA) effectiveness and performance monitoring,
- Area-wide monitoring, and
- Basin-wide long-term monitoring.

Site-specific RA effectiveness and performance monitoring is geographically the smallest tier with a focus on sites with implemented RAs and waste consolidation areas/repositories and the effectiveness on groundwater, surface water, sediments, and biological resources. Area-wide monitoring focuses on geographical areas encompassing multiple source sites with a wider focus on changes in an area from cumulative remedial actions. Area-wide monitoring focuses on ecological and biological monitoring as applicable to the area (birds, fish, and/or benthic macroinvertebrates). Area-wide examples include watersheds, wetlands, lakes, and river reaches (e.g., Ninemile Basin, Canyon Creek Basin, and the Lower Basin). Site-wide monitoring is geographically the largest tier as it focuses on surface water throughout the entire BHSS. RA effectiveness monitoring plans are created for each monitoring tier as specified in the BEMP framework.

Multi-Agency Collaboration

An interagency workgroup consisting of technical staff from DEQ, USGS, USFWS, the Coeur d’Alene Tribe, the Coeur d’Alene Trust, and EPA meets annually to share and review basin-wide environmental monitoring results. This collaboration encourages all partners to stay updated on the wide variety of projects and research being conducted. The annual workgroup meeting also allows for the opportunity to discuss data trends and make recommendations for future actions. The workgroup assists with the development of environmental monitoring plans, such as the Canyon Creek Basin Area-Wide Remedial Action Effectiveness Monitoring Plan prepared in 2023 and the upcoming Lower Basin Area-Wide Remedial Action Effectiveness Monitoring Plan (anticipated in 2025).

Environmental Monitoring

Environmental monitoring conducted in 2024 is outlined below:

Surface Water

In 2024, the USGS collected water quality samples from 20 sites as part of the surface-water BEMP. Four sites in OU-2 were sampled twice. Sixteen sites in OU-3 were sampled under a variable frequency schedule ranging from four to twelve times per year. Sampling up to twelve times per year is expected to help better characterize conditions in the Lower Basin and inputs

to Coeur d'Alene Lake, which was recommended in the 2022 report from the National Academy of Sciences, Engineering, and Medicine (<https://nap.nationalacademies.org/catalog/26620/the-future-of-water-quality-in-coeur-dalene-lake>).

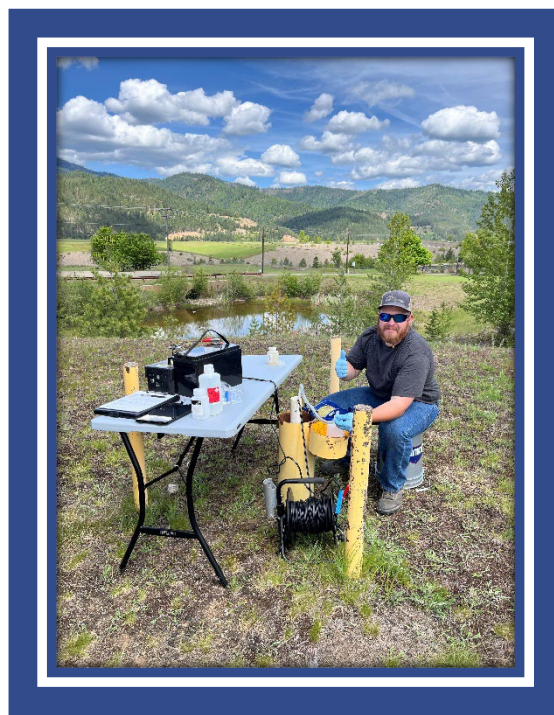
Samples were collected during a range of hydrologic events: peak runoff conditions in early May, baseflow conditions in September, and fall storm conditions in November. All samples were analyzed for nutrients, selected trace metals and major ions, and suspended sediment. In addition, 32 samples were analyzed for total and filtered mercury. Sixteen samples were analyzed for constituents (dissolved organic carbon and additional cations and anions) needed for the last year of evaluation for the biotic ligand model to calculate the state of Idaho copper criteria. Three OU-3 sites were also sampled two additional times (during winter low flows in January and runoff recession in July) to help evaluate efficacy of the groundwater collection system.

Twelve of the sixteen OU-3 sites are collecting continuous streamflow data and are telemetered with real-time streamflow access. Information can be viewed at <https://waterdata.usgs.gov/id/nwis/rt>. All gaging station stream discharge and water-quality records for the BEMP gages for water year 2024 are worked up, approved, and furnished electronically at <https://waterdata.usgs.gov/id/nwis/current/?type=BEMP>. The annual data summaries will be completed and delivered to EPA during the first quarter of calendar year 2025.

Groundwater

Groundwater monitoring continued for remedy effectiveness monitoring of the Groundwater Collection System (GCS) at the CIA. During high flow conditions in May, 91 groundwater sites were sampled including 59 monitoring wells, 3 piezometers, and 9 extraction wells. During base flow conditions in October, 95 sites were sampled including 72 monitoring wells, 3 piezometers, and 9 extraction wells. In 2024, additional groundwater and surface water samples were collected for Government Gulch to improve site characterization including groundwater and surface water interaction.

The laboratories analyzed samples for metals, phosphorus, and other parameters. Sampling was conducted to capture baseline data across the site that reflects the conditions of groundwater quality



BEMP sampling. Photo courtesy of EPA.

following stabilization of hydrogeologic conditions to full GCS pumping operations and to characterize groundwater quality at the A-4 Gypsum Impoundment. EPA and DEQ are currently reviewing preliminary data from the 2024 baseflow sampling event which will be evaluated in the 2024 Annual Groundwater Quality Report for OU 2. Water level monitoring continued through 2024 with approximately 72 in situ transducers installed across the site; water level data will also be incorporated into the Annual Report. The next water quality monitoring effort will be performed during high flow conditions around April/May 2025.

Suspended Sediment

Suspended sediment sampling is conducted to obtain information regarding the amount and characteristics of sediment being transported at specific times and locations in the river system. The CDA Trust currently collects suspended sediment samples opportunistically by boat during high-flow events only. The river flow threshold criterion for conducting opportunistic sampling of suspended sediment is approximately 8,000 cubic feet per second (cfs) at Cataldo (USGS station 12413500). The Water Year (WY) 2024 flow at Cataldo did not meet the flow threshold criterion for conducting boat-based sampling.

Biological Resources

The USFWS conducted annual waterfowl surveys from early February to late April in Lower Basin floodplain wetlands, recording observations of waterfowl use and tundra swan mortalities during the spring migration. In 2024, EPA scientists continued working with state, federal, and Tribal partners on a collaborative effort to monitor migratory birds that rely on Coeur d'Alene river basin resources for survival.

An EPA-lead waterfowl study expanded in 2024 to include both tundra swan and wood ducks monitoring. As swans forage deeply for rooted aquatic plants, they incidentally ingest contaminated sediment with lead concentrations that can be many times greater than the concentration considered safe for waterfowl, often leading to impairment and death. Wood ducks nest throughout the Lower Coeur d'Alene river basin and forage on invertebrates in shallow sediment, providing the study with a different exposure indicator of Pb contamination compared to Tundra Swans. The objective of the study is to develop efficient and cost-effective surrogate monitoring tools for swans (feces) and wood ducks (eggshells) to allow for long term tracking of remedy effectiveness. It will also provide information for project remedial design to ensure waterfowl most susceptible to lead exposure access clean areas preferentially instead of unremediated wetlands with high lead concentrations.



USGS field technician conducts telemetry survey for radio-collared wood ducks in the Lower Basin. (photo credit: USGS)

Data Management

Data management is an ongoing process that requires utilization of an interagency workgroup for implementation to ensure consistency, completeness and consensus of data warehoused. Under the 2023 interagency Bunker Hill Site Data Management Plan (DMP), data and access platforms continue with ongoing development. Until these tasks are complete, stakeholders can make specific data requests to the EPA Remedial Project Manager (Jennifer Crawford) associated with the work being conducted.

2024 Work Accomplishments Part 2: Other BEIPC Activities and Responsibilities

LAKE MANAGEMENT ACTIVITIES

The Coeur d'Alene Lake Management Plan (LMP), developed by the CDA Tribe and DEQ, was finalized in 2009. Since then, the CDA Tribe and DEQ have been implementing core aspects of the LMP such as water quality monitoring, modeling, nutrient source inventory, and education/outreach.

In 2018, the CDA Tribe asserted that the LMP has been inadequate, as implemented, as an effective tool to protect water quality in the Lake. The CDA Tribe withdrew their support of the LMP, as an alternative to a CERCLA remedy, in 2019. DEQ continues to implement the LMP.

National Academy of Sciences & Coeur d'Alene Lake Advisory Committee

In 2019, at the Our Gem Coeur d'Alene Lake Symposium, Idaho Governor Brad Little called for a neutral third-party review of Coeur d'Alene Lake data to take a closer look at observed water quality trends to guide management decisions moving forward. In 2020, the State of Idaho, Kootenai County, and EPA sponsored a contract with the National Academy of Sciences, Engineering, and Medicine (NAS) to conduct this review of Coeur d'Alene Lake data. The final report was completed in 2022 (<https://www.nationalacademies.org/our-work/the-future-of-water-quality-in-coeur-dalene-lake>). Observations and recommendations from the NAS report will help inform an appropriate response to undesirable water quality trends.

One recommendation from the NAS was the need to better coordinate data collection, utilization, and reporting throughout the basin. DEQ convened a Science Coordination Team (SCT) in 2023, including representatives from DEQ, the CDA Tribe, EPA, USGS, and the University of Idaho. The SCT will be instrumental in guiding scientific efforts related to management of Coeur d'Alene Lake and in working through the other recommendations included in the NAS report. In the meantime, DEQ staff continues to operate under the 2009 LMP.

While the NAS review was underway, recognizing community concern that on-the-ground action needed to occur, Governor Little launched the Leading Idaho Initiative for Coeur d'Alene Lake. This initiative provided funding for projects throughout the Coeur d'Alene Basin intended to reduce phosphorus loading to the lake. Between 2020 and 2024, \$35 million dollars was allocated for this purpose. Governor Little appointed the Coeur d'Alene Lake Advisory Committee (CLAC) to prioritize projects proposed for this funding. Implementation of Leading Idaho projects is ongoing. The CLAC includes membership from the Coeur d'Alene Tribe, City of Coeur d'Alene, Kootenai County, Kootenai Environmental Alliance, Hagadone Marine, community business owners, a Coeur d'Alene lakeshore property owner, and members of the public at large.

Discussions among the CDA Tribe, IDEQ, and EPA related to NAS recommendations and future lake management activities are ongoing and may be shaped by deliberations of the SCT. The objectives outlined in the LMP and listed below continue while additional approaches to augment lake management work are being considered.

DEQ Lake Management Activities

IDEQ Lake management accomplishments in 2024 consisted of the following activities:

Science Core Program

- Filled three vacancies on the lake management team and commenced training.
- Routine CDA Lake core monitoring.
- Coordination with AVISTA, the Idaho State Department of Agriculture (ISDA), and CDA Tribe staff on aquatic plant surveys and responses to infestations of aquatic invasive species.
- Coordinated with the University of Idaho on a continued wave/wake study to better understand the impacts of waves on nutrient and metals entrainment into the water column in Coeur d'Alene Lake. This study is partially funded by Kootenai County.
- Conceptual model report editing continued, describing the lake's structure and mixing. The report incorporates river hydrography, DEQ electronic sonde data from 2014 – 2019, lake wind fields, preliminary AEM3D modeling, and data from a stable isotope study from 2015 into a physical description and analysis of the lake's structure and mixing. Staff at DEQ are incorporating edits from SCT review of the draft. A final report is expected in 2025.
- Participated in Science Coordination Team (SCT) discussions to develop SCT priorities. The SCT will eventually address the NAS recommendation for better coordination of basin science efforts. The team is also helping facilitate an EPA-led initiative to get better transparency/access to basin data by the public.
- Coordinated with Alta Science and Engineering to conduct a risk-based evaluation of recreational areas around Coeur d'Alene Lake and the Spokane River. Field work was completed in 2024, and a draft report is expected in 2025. This study was pursued in response to concerned citizens and a recommendation of the NAS review and is a more focused repeat of data collection and analyses performed in the late 1990s.
- Coordinated with the Tribe, via the SCT, to develop a study design and proposal and perform field work for the Comprehensive Coring Project (previously referred to as the paleolimnological study). The Tribe is sponsoring this study, which is funded through the Restoration Partnership, Leading Idaho, and Avista funding allocated to the State of Idaho for water quality monitoring through their FERC license requirements.

Education & Outreach Core Program Activities

- Provided updates on Coeur d'Alene Lake management activities for a variety of community groups and the public.
- Participated in The Confluence Project (TCP) steering committee, teacher workshops, classroom activities, and field trips for high school students (including the Youth Water Summit).
- Participated in the Our Gem Coeur d'Alene Lake Collaborative (OG Collab), providing regular articles to the CDA Press related to the lake, including Leading Idaho information and updates.

- Provided Leading Idaho updates to the CLAC.
- Participated in the Coeur d'Alene Regional Chamber of Commerce Natural Resource Committee and their Local Gems program.
- Coordinated with the Bay Watchers program, organized by the U of I through the Idaho Water Resource Research Institute, exploring ways to expand volunteer monitoring.
- Participated in the Panhandle Stormwater and Erosion Education Program (SEEP) steering committee and assisted in delivering educational programming related to water quality to the construction/development community.

Nutrient Inventory/Reduction

- Continued analyzing tributary data collected for 11 tributaries and 10 smaller drainages to CDA Lake to fill data gaps identified in the basin-wide nutrient inventory report.
- Coordinated with EPA staff to include phosphorus analysis in the Lower CDA River high river flow events study targeting suspended sediment sample collection.
- Coordinated with the CDA Tribe on their Leading Idaho award to fill data gaps in tributaries to the southern end of CDA Lake, including the St. Joe and St. Maries Rivers.
- Worked with recipients of Governor Little's Leading Idaho Initiative funding to implement projects throughout the basin to reduce phosphorus loading to CDA Lake. Project implementation began in 2021 and continued through 2024:
 - *South Fork Sewer District (SFSD) tertiary wastewater treatment project*
A pilot test of the selected technology was completed and a groundbreaking took place at the site in Page in 2024. Construction for the necessary building and treatment area is expected to go out to bid in 2025.
 - *Santa-Fernwood wastewater treatment upgrade*
Land was purchased in 2024, and plans are under development for improvements and land application of treated wastewater.
 - *East Side Highway District roadway stormwater improvements*
Marmot Trail and Sunnyside Road work was completed in 2024.
 - *City of Coeur d'Alene Stormwater Outfall Volume reduction projects*
Three of four stormwater outfall capture/treatment projects are completed. The fourth outfall design is complete and was out for bid January 2025.
 - *City of Kellogg Stormwater Improvements*
Three outfall treatment projects are completed and a vac truck was purchased for stormwater system maintenance. Designs are complete for two more outfalls, which will go to bid in early 2025.
 - *Kellogg School District Stormwater Goes to School*
Construction of stormwater treatment improvements was completed 2024.

- *Kootenai-Shoshone Soil and Water Conservation District nonpoint source projects:*
 - Schlagel Draw – Beaver Dam Analogs were completed in 2023. Further erosion control/runoff improvements completed 2024.
 - Riverside Tracks (North Fork CDA River) bank stabilization project completed 2024.
 - Mica Creek Floodplain Restoration project – Final stabilization of floodplain reconnection was completed in fall 2024.
 - Wolf Lodge Creek erosion control/bank stabilization - on-the-ground work, including a culvert replacement and streambank willow plantings, was completed in 2024.

Partnerships with Other Entities

- Following recommendations of the NAS review report, worked with Alta Science and Engineering to convene a Coeur d’Alene Basin Science Coordination Team (SCT) to begin tackling basin-wide science questions related to CDA Lake. The SCT is comprised of scientists from DEQ, the CDA Tribe, USGS, the EPA, and the University of Idaho.
- Coordinated with AVISTA Corp to identify and prioritize projects to enhance wetland habitat, reduce stream/riverbank erosion, and improve fisheries throughout the Basin, in addition to monitoring aquatic invasive species in CDA Lake and tributary rivers.
- Participated in the Coeur d’Alene Regional Chamber of Commerce Natural Resource Committee, the OG Collab, Panhandle SEEP, the 4-County Natural Resource Committee, and other groups focused on water quality protection to facilitate communication and collaboration.
- Facilitated and participated in Panhandle Basin Advisory Group meetings.
- Organized/participated in Watershed Advisory Group meetings for the North and South Fork Coeur d’Alene River watersheds.
- Developed Leading Idaho project updates for the CDA Lake Advisory Committee (CLAC).
- Coordinated with EPA staff to include phosphorus analysis in the Lower CDA River high river flow events study targeting suspended sediment sample collection.
- Worked with the BEIPC Executive Director to provide Lake updates for the BEIPC.

This continued level of coordination with BEIPC forums maximizes opportunities for information exchange and advice, while recognizing that DEQ retains its respective decision-making authorities.

Coeur d'Alene Tribe Lake Activities

In 2022, Tribal staff worked with DEQ to assess the National Academy of Sciences priorities moving forward and worked with the CDA Lake Advisory Committee on ranking projects that were submitted from numerous stakeholders in the Basin. In 2023, the Tribe was awarded ARPA funding to initiate the implementation of the St. Joe Watershed Nutrient Assessment project through the end of 2025. In 2024, Tribal staff continued to participate in the Lake Science Coordination Team. The Tribe also began work on the Paleolimnological study of CDA Lake sediments in 2024 with DEQ, University of Oregon, Indiana State University, and other partners.

Discussions among the CDA Tribe, DEQ and EPA have continued in order to determine what additional mechanisms/actions are needed to manage the hazardous materials in the lakebed sediments. Therefore, although various aspects outlined in the LMP and listed below are essential to continue, additional approaches to augment work conducted under the auspices of the LMP are being reconsidered by the Tribe. These discussions are ongoing.

CDA Tribal Lake Activity accomplishments in 2024 consisted of the following staff activities:

Science Core Program

- Routine Lake water quality monitoring and modeling by the Tribe continued through 2024.
- Tribal staff continued their milfoil control program in southern waters during 2024, including bottom barrier and mechanical harvester treatments. The Tribe has also continued to monitor treatment efficacies and native plant community dynamics. Control efforts are focused at high-use public sites such as boat launches, swim areas, and boating lanes. Mechanical harvesting is used to remove nuisance aquatic vegetation from high-use sites at Benewah Lake, Chatcolet Lake, and Round Lake. Harvesting also helps remove an oversupply of nutrients from nearshore areas. The Tribe removed approximately 188,278 lbs. (wet mass) of aquatic vegetation in the summer of 2024, which translates to 74 lbs. (dry mass) of phosphorus and 373 lbs. (dry mass) of nitrogen.

Education & Outreach Core Program

- Throughout 2024, Tribal staff provided updates on Lake activities to a variety of community groups and made presentations to the public upon request.
- In 2024, Tribal staff worked with the Confluence Project (TCP) and Coeur d'Alene Basin high school science classes with hands on based research on water quality, groundwater, and snow water equivalency which included science field trips for high school students and teachers in North Idaho.

- The Our Gem CDA Lake Collaborative (Collaborative) worked throughout 2024 to provide regular articles in the CDA Press related to CDA Lake and water quality conditions to keep this subject present in the community. For more information on the articles visit: <https://www.uidaho.edu/research/entities/iwrri/outreach/our-gem/articles> . The Collaborative is made up of the Tribe, DEQ, U of I Community Water Resource Center (CWRC), Kootenai County, the BEIPC, and the Coeur d’Alene Regional Chamber of Commerce.
- Tribal staff continued to work with the CDA Regional Chamber of Commerce Natural Resource Committee to implement the “Local Gems” program.
- Tribal staff continued to collaborate with the U of I IWRRI and agency partners to conduct Baywatchers workshops for CDA Lake Bay community involving volunteers/liasons utilizing combined virtual and in-person meetings.

Lake and River Water Quality Sampling 2024

- Tribal staff continued to sample from the CDA River at Harrison, St. Joe River, Chatcolet Lake, and CDA Lake sampling locations.
- Tribal staff continued data analysis and writing the water quality reports for CDA Lake and the Tribe’s Limnologist continued calibration of the AEM3D CDA Lake model.

Partnerships with Other Entities

- Tribal staff continued to be involved in the Panhandle Basin North fork and South fork CDA River Advisory Group meetings as well as the Basin Advisory Group.
- Tribal staff worked with the BEIPC ED to provide Lake updates to the BEIPC during quarterly meetings upon request.
- Tribal staff continued coordination with local governmental entities and CDA Regional Chamber of Commerce Natural Resources Committee.

This continued level of coordination with BEIPC forums maximizes opportunities for information exchange and advice, while recognizing that the Coeur d’Alene Tribe retains their decision-making authorities.

RESTORATION PARTNERSHIP

The Restoration Partnership (Partnership) is a collaborative effort comprising the Coeur d’Alene Basin Natural Resource Trustees which are the U.S. Department of the Interior, represented by the U.S. Fish and Wildlife Service (USFWS) and Bureau of Land Management (BLM); the Coeur d’Alene Tribe (Tribe); the U.S. Department of Agriculture, represented by the U.S. Forest Service (USFS); and the State of Idaho, represented by the Idaho Department of Fish and Game (IDFG) and Idaho Department of Environmental Quality (DEQ). The Partnership’s primary mission is to implement a restoration plan to help restore the health, productivity, and diversity of injured natural resources from releases of mine waste contamination and the services they

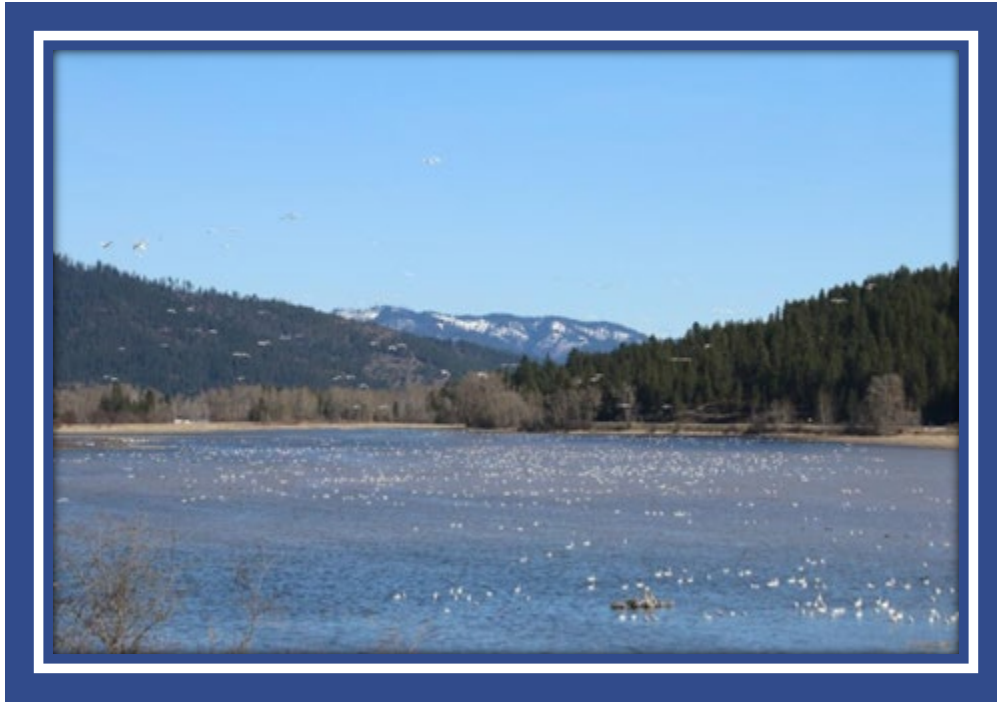
provide in the Coeur d'Alene Basin for present and future generations. This includes compensation for lost human use services of those resources by developing and implementing projects under the framework of a Restoration Plan for the Coeur d'Alene Basin. The following Partnership activities occurred throughout federal fiscal year 2024 (FY24):

The following RP activities occurred throughout 2024:

- The Partnership continued support for ongoing operations and maintenance by USFWS, Ducks Unlimited (D.U.), and private landowners for wetlands at the Schlepp Agriculture to Wetlands Conversion Project. The construction and implementation of this restoration project has been completed and Operations and Maintenance (O&M) is underway. For more information visit: <https://www.restorationpartnership.org/projects/schlepp.html>
- The Trustees coordinated quarterly reporting and site visits with the Project Sponsors and Project Leads as appropriate throughout FY24.
- Implementation of the following projects continued in FY24 and the expenditures are noted with a brief narrative of work that was completed.

Implementation of the following projects continued in 2023 and the expenditures for 2023 for each are noted with a brief narrative of work that was completed.

- **Wetland and stream enhancement at Cougar Bay on Coeur d'Alene Lake (BLM and USFWS sponsors)**
 - Funds Originally Allocated in 2018 and 2019 on Cougar and Johnson parcel jointly: \$407,000.
 - Amount Expended in FY24: \$3,267
 - FY24 Activities: 1) In the Spring and Fall of 2024 hand crews planted wetland nursery- stock spirea along the new channel. Wetland species included Nebraska sedge, Beaked sedge, Baltic rush, Small-fruited bullrush, Small-winged sedge, Creeping spike rush, Common rush, Dagger-leaf rush, Slender rush, Water birch, Geyer willow, and Douglas spirea. Upland species including snowberry were planted on the raised mounds, and 2) Noxious weed treatments targeting Canada thistle, common tansy, spotted knapweed and absinthe wormwood were conducted in May and June. Additional treatments to the reed canary grass on the edges of the floodplain. These treatments were intended to slow the invasion of reed canary grass into the floodplain and streamside areas.



Schelpp wetland after restoration. Photo courtesy of RP.

- **Guł Hnch'mchinmsh - Native Willow Nursery for Support of Restoration Actions throughout the Restoration Partnership Project Area (Tribe sponsor)**
 - Funds Originally Allocated in 2018: \$205,462
 - Amount Expended in FY24: \$1,872
 - FY24 Activities: 1) Coeur d'Alene Tribal staff provided survey information on potential harvest opportunities for the Tribe and the partnership, 2) Tribal staff provided up-to-date data on harvest opportunities, once the nursery is in second-generation growth and second-generation harvest opportunities, 3) Staff mowed reed canary grass to keep the rows of willows visible and accessible, 4) Allocations of willow harvest were determined and the numbers were shared with other RP sponsored projects and, 5) Coordination of harvest times was ongoing.
- **Culturally Significant Plants in the Hangman Creek (Tribe sponsor)**
 - Funds Originally Allocated in 2018: \$187,770
 - Amount Expended in FY24: \$154
 - FY24 Activities: 1) Camas seed and bulbs were harvested from the meadow within the Hangman Project Area that is most densely populated with camas and once the seeds and bulbs are harvested, they need to be used to the maximum benefit. Seeds will need to be germinated under controlled conditions in order to provide camas that can be successfully out planted, 2) the Coeur d'Alene Tribe's Ecology Program is looking to establish a horticultural program to focus on the propagation of native plants that should proliferate in the Hangman Watershed. Staff completed beaver surveys and dam reinforcements as well as installed plant protectors and, 3)

Partnerships with Bonneville Power Administration, AVISTA, and the USFS continue to be great efforts on this project.

- **Coeur d’Alene Lake Monitoring and Modeling (Tribe sponsor)**
 - Funds Originally Allocated in 2018: \$268,668 and FY24: \$75,000
 - Amount Expended in FY24: \$8,359
 - FY24 Activities: 1) Collected and analyzed water quality samples from 4 sites over an eight month period as other Tribal budgets were used for the other sampling events, and 2) Continued data analysis and writing the synthesis report for Coeur d’Alene Lake.
- **Hepton Lake (Gul Hnch’mchinmsh) Wetland Restoration Planning and Implementation (Tribe sponsor)**
 - Funds Originally Allocated in FY18: \$ 210,900 and FY21: \$193,638
 - Amount Expended in FY24: \$55,137
 - FY24 Activities: 1) The Tribe, design engineers Alta Science and Engineering, and geotechnical engineering consultant STRATA, provided engineering and geotechnical support and construction oversight during the levee breach repair throughout this reporting period and, 2) The completion of major construction actions to repair the Hepton levee breach has allowed for management of local hydrology across 1,350 acres of wetland habitats to support a more diverse variety of native wildlife, waterfowl, and plant species. The project expands suitable habitat conditions for numerous waterfowl – most notably tundra swans, that use the area during critical spring and fall migration periods. Construction of the project is expected to increase optimal habitat for Sqigwts (*Sagittaria latifolia*), a high energy food (99 kcal/100g) that is also a significant source of minerals and vitamins in the traditional Coeur d’Alene diet, by more than fivefold. The project is well integrated with the Tribe’s goal of recovering sustainable native fisheries – including threatened bull trout and westslope cutthroat trout, a species of special management concern – through management of habitats used by invasive species. The completion of construction has effectively precluded utilization of the site by northern pike, an invasive non-native predator, for spawning and early life stage rearing.
- **Wetlands restoration planning at Gray’s Meadow (IDFG sponsor)**
 - Funds Originally Allocated in FY18, \$250,000 and FY22, \$5.25 M (remedial match provided by the Work Trust)
 - Amount Expended in FY24: \$4,012,830
 - FY24 Activities: 1) Nesting bird surveys continued weekly within the construction footprint through 8/1/24 to comply with the Migratory Bird Treaty Act and any located nests were marked and monitored through fledging or nest failure. Nest sites were marked as off limits to construction personnel/equipment, 2) Excavation, dike/access road construction, and island building continued including placement of wire mesh to block potential wildlife burrowing and placement of clean capping materials.

Placement of precast and construction of cast-in-place water control structures, backfilling and control gate installation started, and 3) Lamb's Peak water transfers were redirected from Lamb's Peak to the CDA River and a water management working group was formed to consult and recommend water management strategies that minimize water transfer effects on the CDA River/CDA Lake while still accommodating construction and wetland management needs.

- **Gene Day Pond Fishing Access (IDFG sponsor)**
 - Funds Originally Allocated in 2018: \$25,000
 - Amount Expended in FY24: \$3,211
 - FY24 Activities: 1) IDFG and BLM finalized the Right-of-Way agreement and, 2) If the weather allows, IDFG hopes to complete the project during the spring of 2025.
- **Conservation Easement, North Fork Coeur d'Alene River (IDFG sponsor)**
 - Funds Originally Allocated in 2021: \$600,000
 - Amount Expended in FY24: \$0
 - FY24 Activities: Palouse Land Trust had a near final CE document prepared for RP review which will provide permanent protection of the natural floodplain communities and cold water hyporheic flow.
- **Conservation of Agricultural to Wetlands Conversion Properties within Canyon Marsh (USFWS sponsor with the Inland Northwest Land Conservancy (INLC))**
 - Funds Originally Allocated in 2018 \$801,480 and in 2019 \$372,400
 - Amount Expended in FY24: \$8,695
 - FY24 Activities: 1) USFWS staff coordinated the development of the Scope of Work for the site with the collection of topographic, hydrologic, and soil agronomic data, 2) INLC resource reports for all three easements provided information on the baseline conditions of the properties prior to remedial and restoration actions that may be useful for future condition comparisons and, 3) the USFWS conducted annual waterfowl surveys at Canyon Marsh as part of EPA's Basin Environmental Monitoring Plan (BEMP); waterfowl use could be compared pre and post remedial/restoration to evaluate project success and inform adaptive management.
- **Conservation of Agricultural to Wetlands Conversion Property Gleason's Marsh (USFWS sponsor with INLC)**
 - Funds Originally Allocated in 2018: \$656,140
 - Amount Expended in FY24: \$16,528
 - FY24 Activities: 1) USFWS staff worked with the Inland Northwest Land Conservancy (INLC) to develop a baseline resource reports along with other administrative documents for the C.E and, 2) USFWS worked with EPA on remedial investigations with remediation planned for 2025 and 2026.
- **Lake Creek Watershed Restoration (CDA Tribe sponsor)**
 - Funds Originally Allocated in 2021: \$615,951
 - Amount Expended in FY24: \$76,980

- FY24Activities: 1) Tribal staff planted willow cuttings and native wetland grass mix was dispersed on site, 2) Restoration designs were finalized for treatment areas and staff developed specific measurable objectives and criteria for stream enhancement, taking into account the existing channel pattern, profile, dimension and the frequency and duration of floodplain engagement, and 3) The restoration treatments on West Fork Lake Creek and upper Lake Creek were implemented along with a rock grade control that was constructed at the downstream end of the project reach to raise the existing streambed within the incised channel, 3) The Tribe worked with the Worley Highway District (WHD) to finalize designs to replace the aging, undersized culverts located at WF Lake Creek at Idaho Rd and EF Bozard Creek at Weller Rd to improve fish passage and connectivity, and 4) All necessary permits were acquired.



In-channel and floodplain placements of large wood on upper Lake Creek. Photos courtesy of RP.

- **Prichard Creek Phase I: Conservation Easement and Restoration Planning (IDEQ sponsor with Idaho Forest Group and Trout Unlimited)**
 - Funds Originally Allocated in 2021: \$3,808,450
 - Amount Expended in FY24: \$1,602,348
 - FY24 Activities: 1) The Prichard Creek CE was signed by Idaho Forest Group which will protect 1,813 acres of upland forest, floodplain and Prichard Creek from future mining and development activities. This includes the entirety of the Prichard Creek Restoration Project, 2) The CE will contribute to the protection of wildlife corridors that provide connectivity along Prichard Creek, which is bordered on either side by federally administered forestlands and is known to serve a diverse array of wildlife species, 3) Project planning, invasive species management, and monitoring occurred and, 4) The

completion of Phase 1 construction has continued to make for more functional stream channel and floodplain wherein there was documented use in the project area by beaver and westslope cutthroat trout.

- **Upper Little North Fork Coeur d'Alene River (USFS sponsor)**
 - Funds Originally Allocated in FY23: \$400,000
 - Amount Expended in FY24: \$34,506
 - FY24 Activities: 1) Initial project work for Hudlow Meadows portion of the project area started in the summer of 2024 with sourcing of large woody debris to be used in meadow and stream restoration. The wood sourcing contract was awarded and is still active and will continue into FY25. The survey work for bridge design over Iron Creek (FSR 1532) has been completed and the design work was initiated using matching funds outside of the RP.
- **Upper St. Joe River Bull Trout Habitat Restoration (USFS sponsor)**
 - Funds Originally Allocated in FY23: \$8,000,000
 - Amount Expended in FY24: \$8,915
 - FY24 Activities: 1) Initial project work began in the summer of 2024 starting with initiating NEPA processes on two key components of the project and initiating survey and design work for replacing an undersized and deteriorating bridge that spans Red Ives Creek, 2) This Initial survey and design work is for replacing the undersized bridge that spans Red Ives Creek and removing the deteriorating bridge, and 3) Stream survey work and wood unit reconnaissance was ongoing to prioritize sections for restoration and to review potential units for large woody debris supply needs for restoration work.
- **Beaver Creek Watershed Enhancement (USFS sponsor)**
 - Funds Originally Allocated in FY23: \$2,430,000
 - Amount Expended in FY24: \$0
 - FY24 Activities: 1) Initial project work of this multi-phased and multi-year project began in the summer of 2024 starting in the headwaters of the tributaries utilizing funding sources other than Restoration Partnership funds this year.
- **Enhancing design to restore fish passage and ecosystem function in Miesen Creek (IDFG sponsor)**
 - Funds Originally Allocated in FY23: \$60,000
 - Amount Expended in FY24: \$23,946
 - FY24 Activities: 1) The engineer successfully completed hydraulic modeling, a key milestone for identifying and communicating the challenges facing Miesen Creek to potential grantors targeted for future implementation funding, 2) Planning meetings among IDFG, the USFS, Benewah County, and the landowner occurred, and 3) Section 106 of the NHPA was initiated.

- **Benewah Creek 'eltumish Stream and Wetland Restoration (Tribe sponsor)**
 - Funds Originally Allocated in FY23: \$455,316
 - Amount Expended in FY24: \$0
 - FY24 Activities: 1) No active field work was completed on this project during this FY however, monitoring infrastructure and survey/design work are anticipated occur during the first quarter of FY25.
- **Lake Creek Corridor Protection and Enhancement (Tribe sponsor)**
 - Funds Originally Allocated in FY23: \$83,750
 - Amount Expended in FY24: \$0
 - FY24 Activities: Tribal staff and Tribal leadership continued to meet with INLC and the landowner to finalize contract documents with INLC to advance the work needed for securing the Conservation Easement.
- **Big Creek Fish Passage Barrier Removal (Tribe sponsor)**
 - Funds Originally Allocated in FY23: \$214,400
 - Amount Expended in FY24: \$0
- FY24 Activities: Tribal staff along with BLM, USFS, Sunshine Mine, and the engineering contractor met to discuss project site survey results, draft designs, Section 7 NHPA Cultural Resource Investigation requirements, FEMA No-rise certification, 404 permitting timelines, NEPA Determination of No Effects requirements, and Right of Way permits previously secured with BLM.



Big Creek fish barrier. Photo courtesy of RP.

- **Assessing Fish Passage at Stream Crossings in the Coeur d'Alene Basin (IDFG sponsor)**
 - Funds Originally Allocated in FY23: \$50,000
 - Amount Expended in FY24: \$0
 - FY24 Activities: 1) IDFG contracted with Trout Unlimited to conduct field surveys under the previously approved Quality Assurance/Quality Control

(QA/QC) and this data will be uploaded into the national database for future RP and partners use in identifying fish passage barrier removal projects.

The paleolimnology of Coeur d'Alene Lake from pre-disturbance to mining impacts and present day- (CDA Tribe sponsor) was underway in FY24 utilizing other matching funds.

Total Funds Expended in FY24: \$5,856,748

- The full annual reports can be found on the website at www.restorationpartnership.org.

In FY24, the RP continued to update their Long Term Operation and Management plans for restoration projects as well as a Financial Strategic Plan. The Trustees plan to go out for future project solicitation in FY26.

Challenges Ahead

A great deal of work was accomplished across the Upper and Lower Basin in 2024. The cleanup and restoration efforts were focused on remediation of human health risks resulting from contaminated residential and commercial properties. This included extensive work by the CDA Trust in the EFNM Creek and Canyon Creek drainages and the Lower Basin that addressed ecological remedies and related human health issues. This year we reached a significant milestone by completing all of the prioritized remedial actions in EFNM. The EPA directed work to address the contaminated groundwater problems and mine discharges in OU-2 noted in the Upper Basin RODA. Human health related projects continue to be a priority with an additional focus on cleanup work in fish and wildlife habitat areas, and water quality improvements. The Restoration Partnership also continued moving forward with implementation of natural resource restoration actions in the Basin.

In addition to the work in the Upper Basin, the involved governments and agencies continue to develop project proposals to address Lower Basin human health and ecological issues. Because the CDA River system contains millions of tons of contaminated sediments, a portion of which is moving downstream every year, recontamination from annual flooding is a major concern for any project planned in the Lower Basin.

Major challenges ahead include:

- Development of any needed additional waste repositories and consolidation areas for disposal of remedial action and ICP wastes.
- Continued implementation of the RODA for the Upper Basin and OU-3 ROD for the Lower Basin.
- Development of a solution to major flooding issues in Lower Pine Creek, SFCDR and Main Stem of the CDA River.

- Continued coordination with the CDA Tribe and State's efforts to address CDA Lake management issues.

The ASARCO bankruptcy settlement continues to be the major source of funding for the environmental remediation actions in the Basin. Careful management will ensure that actions working to implement the Upper Basin RODA, Lower Basin OU-3 ROD, and any additional needed amendments will have funds available for the work that needs to be done. Additional funding will be needed to carry on remedial actions in the Box because funds from the ASARCO settlement cannot be used in the Box. Assuring sustainable funding intended to advance cleanup as planned continues to represent a significant challenge into the future.