

BEIPC Coeur d'Alene Basin Calendar Year 2024 Work Plan

SITE BACKGROUND

The Bunker Hill Superfund Site, sometimes referred to as the Coeur d'Alene Basin Site, is located in northern Idaho, sections of the Coeur d'Alene Tribe's Reservation, and in northeastern Washington along portions of the Spokane River. The Site includes mining-contaminated areas in the Coeur d'Alene River corridor, adjacent floodplains, downstream water bodies, tributaries, and fill areas, as well as the 21-square-mile Bunker Hill "Box" where historical ore-processing and smelting operations occurred. The Bunker Hill Superfund Site, which was listed on the Superfund National Priorities List (NPL) in 1983, is divided into the following three study and cleanup areas called Operable Units or OUs:

- OU-1 includes the populated areas of the Bunker Hill Box.
- OU-2 comprises the non-populated areas of the Bunker Hill Box.
- OU-3 includes all areas of the Coeur d'Alene Basin outside the Bunker Hill Box where mining-related contamination is located. OU-3 is often called "the Basin."

The Site is also divided into two geographic areas with common sources of contamination: The Upper Basin and the Lower Basin. The Upper Basin is primarily in the eastern portion of OU-3 and extends from the headwaters of the South Fork Coeur d'Alene River (SFCDR) close to the Idaho/Montana border to the confluence of the South and North Forks of the Coeur d'Alene River near Kingston, Idaho. The Box is included as part of the Upper Basin when referring to remedies that improve water quality and lessen migration of contaminated sediment to the Lower Basin. It does not include, however, remedies in the Box that focus on reducing risks to people. The Lower Basin is primarily in the western portion of OU-3, west of the Upper Basin and Box. It includes the mainstem of the Coeur d'Alene River, and all lateral lakes, floodplains, and associated wetlands adjacent to this stretch of the Coeur d'Alene River to the mouth of the Coeur d'Alene River. It does not, however, include CDA Lake or the portions of the Spokane River in Washington State which are within OU-3.

INTRODUCTION

This work plan covers proposed environmental cleanup and improvement activities in the Coeur d'Alene (CDA) Basin scheduled for 2024 by the Basin Environmental Improvement Project Commission (BEIPC) and coordinating agencies and governments in accordance with their responsibilities as stated in the Memorandum of Agreement (MOA) dated August 2002. Actions noted in the work plan are intended to implement the goals and objectives of the BEIPC's 2024 - 2028 Five Year Work Plan. This work plan has been prepared by the BEIPC's Executive Director working with the coordinating agencies and governments with review, input, and approval by the Technical Leadership Group (TLG) and review and input from the Citizen Coordinating Council (CCC). The work plan is organized as follows:

- Part 1 – Environmental cleanup work performed through the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) by the Environmental Protection Agency (EPA) and State of Idaho through the Idaho Department of Environmental Quality (IDEQ) or work performed by the Coeur d'Alene Custodial Work Trust (CDA Trust) and Potentially Responsible Parties (PRP).
- Part 2 - Other Activities and Responsibilities

Part 1 includes work to implement the 2002 OU-3 Interim Record of Decision (ROD) and the 2012 Upper Basin (Box and OU-3) Interim ROD Amendment (RODA).

Part 2 includes work and responsibilities concerning management of Coeur d'Alene Lake (CDA Lake) by the Coeur d'Alene Tribe (CDA Tribe) and the State of Idaho, restoration of natural resources by the Natural Resource Trustees (Restoration Partnership) and work the BEIPC has assumed based on recommendations from the 2005 National Academy of Sciences (NAS) Study and requests from citizens and communities of the Basin.

The five-year plan outlines activities and work proposed to be implemented over the next five years; however, it does not sequence these activities. This one-year plan establishes and maintains the sequencing of activities that will be needed to complete the activities and work approved in the five-year plan. It may not address all work items noted in the five-year plan because some will not be initiated until later years.

PART 1 – ENVIRONMENTAL CLEANUP WORK

For Part 1, the scope of the proposed work corresponds to the source and level of funding anticipated for 2024 and work anticipated to be performed by the responsible parties. The proposal includes the following work:

- Human Health Issues including Residential and Community Property and Private Water Supply Remediation, Basin Property Remediation Program; Lead Health Intervention Program; and Recreation Use Activities.
- Repository and Waste Consolidation Area Development and Management.
- Remedial actions in the Upper Basin including source control actions, water treatment, and related human health activities provided for in the 2012 Upper Basin RODA.
- Remedial actions and/or Pilot Projects in the Lower Basin.
- Basin Environmental Monitoring Program.
- Operation and Maintenance Responsibilities for Remedial Actions.

1.1 HUMAN HEALTH REMEDIES

Remediation in areas where human health exposures exist is a remedial action priority as defined in the 2002 OU-3 ROD. It includes maintaining the Institutional Controls Program (ICP) implemented by IDEQ and managed by the Panhandle Health District (PHD) and conducting cleanups in residential, and community and recreational areas in the Upper and Lower Basin. The 2012 Upper Basin RODA addresses source control remedies, water treatment remedies, and ecological cleanup projects with related human health activities.

1.1.1 Residential and Commercial Property Remediation

During 2023, the CDA Trust's Basin Property Remediation Program (BPRP) remediated four properties and sampled two including residential, rights-of way, and private drinking water sources. At the conclusion of 2023, a total of 3,236 properties in the Box and 3,935 properties in the Basin have been remediated. Properties remaining to be sampled and/or remediated are those whose owners have refused access or have been unresponsive to repeated contact attempts by the CDA Trust and IDEQ.

The goal for 2024 is to complete sampling and remediation if sampling results are above action levels on parcels whose owners have granted access. Nine properties in the Box remain to be remediated once owners grant access, and 202 properties in the Basin require sampling and 36 properties require remediation based on previous sampling results.

EPA will continue to direct and oversee the CDA Trust BPRP work in 2024. IDEQ will continue an oversight and coordination role initiated in 2015 and will continue to encourage property owners to have their properties sampled and remediated, if necessary.

1.1.2 Lead Health Intervention Program

As part of the Site's Lead Health Intervention Program (LHIP), screening of children for elevated blood lead levels has been occurring annually in the CDA Basin since 1996 as a public health service to identify children with elevated blood lead levels and to provide follow-up from a public health professional to identify ways to reduce lead exposures. The screening program also provides information to the Basin cleanup efforts; however, cleanup decisions are not based on annual blood lead testing results since the cleanup goal is to prevent lead exposures that could result in elevated blood lead levels.

In early 2012, the Centers for Disease Control & Prevention (CDC) changed its "level of concern" associated with childhood lead poisoning from a blood lead reference value (BLRV) of 10 micrograms per deciliter ($\mu\text{g}/\text{dl}$) to a new BLRV of 5 ($\mu\text{g}/\text{dl}$). On 10/28/2021, the CDC again lowered the BLRV to 3.5 ($\mu\text{g}/\text{dl}$) in children. This new lower value means that more children will be identified as having lead exposure allowing parents, doctors, public health officials, and communities to act earlier to reduce the child's future exposure to lead.

In 2024, the LHIP will continue to offer free blood lead screening for residents living within the Bunker Hill Superfund Site boundaries, individuals recreating in the CDA Basin, and workers in occupational settings that pose an exposure risk. In addition, the LHIP will be conducting its annual summer screening with a \$50 incentive for children between ages 6 months to 6 years of age residing within Site boundaries.

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

Additional Services offered by the LHIP:

- Year-round blood lead screening and free follow-ups.
- High efficiency particulate air (HEPA) EPA vacuum loan program for cleaning residences.

- Education, outreach, and awareness for parents, children, community members, recreationalists, and visitors.
- Education classes in local school's grades K-12.
- Education and outreach at community events.
- Sampling of soil, dust, paint, water, and other media as appropriate.
- Education and outreach at community events.

1.1.3 Recreation Use Activities

In 2016, a Recreation Sites Program was created to address and manage human health risks from exposure to lead and other metals that can occur during recreation activities throughout the CDA Basin. A Basin strategy document was developed to lay out goals, ways to inventory recreation areas, ways to manage risks to people, and current outreach activities. This strategy was issued for public and stakeholder comments and suggestions. The same approach is being undertaken in the Box with plans to complete the strategy document in 2024.

Addressing contamination at recreation sites is different than other cleanup activities. Many places are re-contaminated with each high water or flood event making it difficult to just remove contaminated soil and replace it with clean soil. Other recreation areas are remote, hard to access, and spread out (example: hiking trails or all-terrain vehicle (ATV) areas), making cleanup of the entire area difficult. Overall, different approaches are needed for the diverse types and locations of recreation sites. In addition, community outreach and education are important ways to help people manage health risks while recreating. An outreach and education program has been in place for years and will continue to be implemented and expanded.

In addition to completing the Box strategy document, the Recreation Sites Program team, which includes the EPA, IDEQ, PHD, CDA Tribe, BEIPC and the CDA Trust, will meet at least biannually in 2024 to evaluate and discuss priorities. In the Basin, the CDA Trust expects to monitor completed remediation projects and continue to update and install new signage at identified recreation sites. In the Box, IDEQ and PHD will continue to update signage and evaluate access controls at mine and recreation sites where public use has been identified. Planning for further remediation recreation sites will continue as prioritized by the team and strategy document criteria. The overall goal is to address and manage human health risks from exposure to lead and other metals while maintaining the benefits of recreation for people's health and the local economy.

1.2 REPOSITORY AND WASTE CONSOLIDATION AREA DEVELOPMENT AND MANAGEMENT

Waste disposal area development and management is an ongoing process that must meet the demand for disposal of historic mining-related contaminated wastes from cleanup activities performed by IDEQ, EPA, and the CDA Trust, and waste generated by private parties and local government agencies under the Bunker Hill Superfund Site's Institutional Controls Program.

There are three types of waste disposal areas at Site:

- Repositories
- Waste Consolidation Areas
- Limited Use Repositories

Repositories, Waste Consolidation Areas (WCAs), and Limited Use Repositories (LURs) differ in the waste streams they accept, the proximity to a cleanup action or waste generation source, and how they are constructed based on, in part, how long they are to remain open. All three types, however, are engineered waste storage options and an effective way to remove and consolidate contaminated materials away from people and wildlife. Each waste disposal area is monitored during construction and placement of wastes, and after the waste disposal area is capped and closed to ensure wastes remain in place and to prevent contaminants from being released to surface water, groundwater, or air in concentrations above state and/or federal standards.

1.2.1 Repositories

Repositories are large, centrally located waste disposal areas where a variety of wastes from a variety of projects are transported to and secured. Repositories typically remain open for a longer period than WCAs and LURs.

There are currently six open or operating repositories at the Site. In general, the following tasks are performed each year of operation including in 2024:

- Receipt and placement of remedial action and ICP wastes.
- Segregation and appropriate re-use of non-soil waste such as wood and root wads, concrete, asphalt, large (greater than 6 inches) rock fragments and miscellaneous demolition debris to minimize disposal.
- Equipment decontamination, site stabilization, erosion, and sediment control installation.
- Surface and ground water monitoring and associated reporting.

Additional information about each of the repositories is provided below:

Page Repository: The Page Repository, operated by IDEQ, is in the city of Smeltonville and receives waste from Box remedial actions and from the ICP. Having reached its previous design capacity in 2010, Page is being expanded westward to provide capacity for an additional 700,000 cy of waste. At the end of 2022, 403,074 cy of disposal space was available at Page as noted by the year-end survey. Work in 2024 will include placement of concrete debris to continue construction of starter berms and foundation mattress in the Page expansion cells. Geotechnical monitoring equipment will be installed in the new expansion cells.

Big Creek Repository: The Big Creek Repository (BCR), operated by the CDA Trust, is located at the mouth of Big Creek Canyon, and primarily receives wastes from the Upper Basin. The BCR has received waste since 2002. The BCR has undergone expansions in 2009 (200,000 cy), 2011 (126,000

cy), and 2017 (127,000 cy) increasing its waste holding capacity. BCR currently has a remaining capacity of approximately 85,400 cy.

Big Creek Repository Annex: The Big Creek Repository Annex (BCRA) was constructed in 2015 and is located adjacent to the original BCR, just southwest of the original site on the west side of Big Creek. BCRA uses the existing BCR access, decontamination, and ICP staging facilities. The initial design waste capacity of BCRA was approximately 190,000 cy and has approximately 168,250 cy remaining.

Lower Burke Canyon Repository: The Lower Burke Canyon Repository (LBCR), also operated by the CDA Trust, is in Canyon Creek/Burke Canyon on the Star Tailings Impoundment near the community of Woodland Park and primarily receives waste from the Upper Basin. The CDA Trust completed the LBCR design and construction in 2015. The remaining capacity at LBCR is about 1,025,000 cy.

East Mission Flats Repository: The East Mission Flats Repository (EMFR), operated by the CDA Trust is located north of Interstate 90 off Exit 39, near Cataldo, and primarily receives waste from the Lower Basin. EMFR has been receiving waste since 2009. The EMFR was designed with a waste capacity of approximately 410,000 cy. At the current and estimated future waste disposal rates the EMFR is estimated to reach its design capacity in approximately 30 years. EMFR has approximately 156,100 cy of volume remaining.

1.2.2 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 IDEQ. 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 wastes are encountered during the selected remedial actions. Currently, there are two operating WCAs within the Upper Basin as described below.

East Fork Ninemile WCA: Development of the East Fork Ninemile (EFNM) WCA began in 2013. This WCA was designed to consolidate mine waste materials, including waste rock and tailings from select remedial actions identified in the Ninemile Creek Basin. Wastes from the completed Interstate-Callahan Mine/Rock Dumps, the Success Complex, the Interstate Millsite and a portion of the EFNM Riparian Area cleanups were placed and consolidated in the original footprint of the EFNM WCA.

Expansion of the original footprint of the EFNM WCA began in 2019 to provide capacity for estimated waste materials from additional Ninemile Creek Basin source sites. Starting in 2022, waste materials from the multi-year Tamarack Complex and Dayrock Complex cleanups began to be placed in the expansion area. These cleanups are estimated to be completed in 2024 after which construction of the final EFNM WCA cover system will begin in 2025 and completed in 2026.

Canyon Complex Repository/Waste Consolidation Area: Development of the Canyon Complex Repository (CCR/WCA) began in 2019. Wastes from the completed Silver Valley Natural Resource Trustee (SVNRT) Repository cleanup have already been placed and consolidated in the CCR/WCA. While the facility was designed as a repository, it will generally function as a WCA for the near future accepting waste materials from nearby identified Canyon Creek remedial actions. The CCR/WCA is designed to accommodate approximately 1,200,000 cy in addition to the transferred volume of the SVNRT Repository. Wastes from the Hecla Star Complex cleanup will begin to be placed in the CCR/WCA in 2024.

1.2.3 Limited Use Repositories

The third type of waste disposal area are Limited Use Repositories or LURs. These are developed for specific waste streams and with future redevelopment in mind. LURs have only been used at the Site for disposal of waste from the Paved Roads Program. These wastes were mostly inert bulky pavement material such as concrete and asphalt. Placing this waste in LURs conserved capacity at existing Site repositories. The four LURs were capped and closed within three years of being developed. Currently there are no plans to develop future LURs.

1.2.4 Siting of Lower Basin Waste Consolidation Area

In 2020, EPA began seeking public opinion for siting a WCA in the Lower Basin to accommodate nearby planned remedial actions such as the Dudley Reach Scour Hole Pilot Project. Geotechnical evaluations and surveying were performed in 2021 on two CDA Trust-owned properties in the Lower Basin, and in 2022 these properties were monitored to assess groundwater elevations. A Lower Basin WCA Project Focus Team (PFT) was formed in 2022 to verify the analysis of potential WCA Locations. Pending a decision, design activities will commence in 2024.

1.3 REMEDIAL ACTIONS

1.3.1 Upper Basin/Box Remedies

As stated earlier, the Box is included as part of the Upper Basin when referring to remedies that improve water quality and lessen migration of contaminated sediment to the Lower Basin. The 2012 Upper Basin RODA identified \$635 million dollars of work in the Upper Basin including potential work at 125 mine and mill sites. The goals of the 2012 Upper Basin RODA include:

- Prioritizing Upper Basin/Box source areas for cleanup to improve water quality and address risks to human health and the environment.
- Moving forward on the Box's OU-2 Phase 2 cleanup to improve water quality in the South Fork Coeur d'Alene River (SFCDR).
- Addressing changes in water treatment to accommodate additional contaminated water.
- Focusing on source control actions that address particulate lead which poses a risk to human health and ecological receptors.
- Protecting remedies in community areas from tributary flooding and heavy precipitation events (the construction portion of this work was finalized at the close of 2019 with completion of the Remedy Protection Program).

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.

In 2024 the CDA Trust, with approval from EPA, will conduct the following Upper Basin work:

Ninemile Creek Basin

The Ninemile Creek Basin is located west of Wallace, Idaho and north of Interstate 90 (I-90). In 2024, the CDA Trust will complete cleanup at the following two project areas within this Basin:

Dayrock Complex and Lower East Fork Ninemile Creek Riparian Area: The design of the cleanup of the 32-acre Dayrock Complex, which consists of the Dayrock Mine and a portion of Ninemile Creek south of the confluence of the West and East Fork Ninemile creeks, and the Lower EFN Creek Riparian Area, was completed in 2021. Cleanup of these two areas began in 2022 and 2024 marks the last year of construction.

Tamarack Complex: The Tamarack Complex covers approximately 20 acres and consists of multiple mine waste sites as well as portions of the EFN Creek riparian area below the Interstate Millsite boundaries and extends downstream through the confluence of the Tamarack Tributary with EFN Creek. The design of the Tamarack Complex cleanup was completed in early 2022 and construction was initiated several months later. 2024 marks the 3rd and last year of construction of the Tamarack Complex cleanup.

Canyon Creek Basin

The Canyon Creek Basin is also located north of Wallace and I-90, but is east of the Ninemile Creek Basin. In 2024, the CDA Trust will investigate contamination sources at several areas, initiate a design, and continue a multi-year cleanup as summarized below:

Canyon Creek Investigations/Designs: Several investigations and designs are planned in 2024. Investigations will continue within the Lower Canyon Creek Riparian Area and will potentially begin at the Canyon Silver (Formosa) Mine and the Standard-Mammoth Millsite. The design of the Standard Mammoth Reach cleanup will be initiated in 2024 and is expected to be completed in 2025.

Hecla Star Mine Complex: The Hecla Star Mine Complex, near the town of Burke, is approximately 22 acres in size and consists of numerous mine and mills, mine adits, waste rock dumps, as well as mining-impacted floodplains along Canyon Creek. The design for cleanup of the Complex was completed in 2022 and cleanup initiated in 2023. Cleanup will continue in 2024 to include removal of mine wastes, placement of clean backfill materials, reconstruction of Burke Road and Canyon Creek following removal of mine wastes, and installation of a concrete box culvert to convey Canyon Creek flows through a portion of the Complex. Cleanup is anticipated to be completed in the fall of 2026.

Canyon Creek Quarry: The Canyon Creek Quarry is a 23-acre parcel located 2.7 miles east of the Canyon Creek Repository/Waste Consolidated Area (CCC/WCA). The Quarry is a source of uncontaminated rock and gravel for use as clean backfill at cleanups within the Canyon Creek Basin. In 2024, Quarry clean materials will be hauled and used at the Hecla Star Mine Complex cleanup.

The Box's Central Treatment Plant/Central Impoundment Area

The IDEQ has been conducting operations and maintenance of the recently upgraded Central Treatment Plant/ Ground Water Collection (CTP/GCS) since Oct 21, 2021, using Hecla settlement monies that had been placed in a Registry Account Fund for the purposes of performing mine impacted water collection and treatment.

The CTP was upgraded to treat mine water, primarily from the Bunker Hill Mine, and groundwater from below the Central Impoundment Area (CIA). The upgrades allow for treatment to current effluent standards and reduction of the amount of solids called “high-density sludge” or “HDS” that are produced by the plant. Sludge storage has been transferred to the new sludge impoundment cells on the CIA as of June 2023. System optimization is ongoing at the plant to run as efficiently as possible and reduce operating costs while still meeting effluent discharge limits.

The GCS project includes an approximate 8,000-linear feet cutoff wall between the CIA and I-90, a series of extraction wells, and a conveyance pipeline to the CTP that extends along the north side and over the top of the CIA. Operation of the GCS has been continuous since startup. Groundwater monitoring is completed during high and low flow each year to build a database to determine remedial action effectiveness of the system.

Following treatment, the effluent (combined mine water and extracted groundwater) discharged from the CTP to the SFCDR must be in compliance with current water quality standards. The removal efficacy from the newly upgraded CTP is excellent, showing over 99% removal efficiency for zinc and lead. Phosphorus monitoring continues and is showing an average removal efficacy of 98%.

1.3.2 Lower Basin Remedies

The major components of work described in the 2002 OU-3 ROD for the Lower Basin can be separated into Lower Basin Riverbeds and Banks, and Lower Basin Floodplains. Work in the Lower Basin also includes cleanup at identified recreational areas along the CDA River. Objectives of remediation in the Lower Basin focus on reducing human exposure to lead-contaminated soils and sediments, improving water quality, and reducing particulate lead and other heavy metals in the CDA Basin ecosystem.

The Draft Final Riverbed Management Plan (RMP) was completed in June 2021. The purpose of the RMP is to guide the interim remedy for the Lower Basin riverbeds and banks by providing information and analyses for selected integrated remediation scenarios for the riverbed and identifying high-priority riverbank segments for removal or stabilization. The RMP targets areas within the river for active remediation and divides the riverbed into sediment management areas (SMAs), evaluates the effects of remedial technologies, and identifies areas for natural recovery. The RMP will feed into a broader Lower Basin Prioritization Plan (LBPP) that is anticipated to be completed in 2024. The purpose of the LBPP is to provide an initial approach toward remedial action and related data gap prioritization, to aid in pilot project selection, and to apply an adaptive framework to guide pilot projects and remedial actions in the Lower Basin. Additional investigation of the riverbeds, banks, and the floodplains will be used to inform the conceptual design and feasibility of specific pilot projects that are being considered for implementation over the next two to five years under the LBPP. The results of these efforts continue to be shared with the subgroups of the BEIPC [e.g., TLG, Lower Basin PFT, and the CCC, interested stakeholders, and other citizen groups.

Lower Basin Riverbeds and Banks Projects

In 2024, EPA will continue with planning the following pilot projects focused on the riverbeds and banks of the CDA River.

Dudley Reach Scour Hole Pilot Project: To address contaminated sediment transport in the CDA River, the CDA Trust began remedial design characterization and planning for a pilot project to be implemented in the upper part of the Dudley Reach. Dudley Reach is considered the most significant lead loading segment in the river system. The current area considered for a pilot project within the

Dudley Reach is an approximate one-half mile scour hole located about one mile downstream of the Mission Boat Launch (near River Mile 158.8). The technologies to be constructed are a cap/dredge hybrid. The exact location for the pilot within this reach may be adjusted or the technology being considered may be modified, through adaptive management, as new information is obtained. Unarmored riverbanks adjacent to the pilot segment will be addressed as part of the pilot project. The pilot project will help inform future approaches to cleaning up mine waste in the river and allow evaluation of methods to prevent mine waste from moving downstream while getting some cleanup done. The 30% design for the pilot project was completed in 2023 with the full design anticipated to be completed in 2025; however, this may be delayed until further analysis on a waste disposal area that serves this project is completed.

Cataldo Reach Riverbank Investigation: In 2022, the CDA Trust began remedial design characterization of a riverbank pilot project in the Cataldo Reach of the CDA River. Characterization activities in the Cataldo Reach will continue in 2024 and the information obtained will be used to inform prioritization of potential pilot projects to address contaminated sediment transport in this reach of the river.

Lower Basin Floodplains Projects

In 2024, EPA will continue to coordinate with the Restoration Partnership and various landowners to characterize and identify project areas in the floodplains of the Lower Basin, including the lateral lakes and wetlands.

Gray's Meadow Remediation and Restoration: Gray's Meadow is 695 acres of former agriculture land to be converted to productive wetlands and waterfowl habitat. The property is owned by the Idaho Department of Fish and Game (IDFG) and is located within the Coeur d'Alene River Wildlife Management Area near the Coeur d'Alene River and Black Lake in Kootenai County, Idaho. The design for the cleanup was completed in June 2022. Remediation and restoration will continue in 2024 to create clean waterfowl feeding habitat with anticipated completion in late 2024.

Wetland Restoration through Conservation Easement: In 2022, the CDA Trust began remedial design characterization of a privately-owned, 250-acre conservation easement property located near East Killarney Lake Road. Characterization activities included installing monitoring wells, monitoring water levels, and collecting samples of groundwater, surface water, and soil. This property is a potential agriculture-to-wetland conversion project to be remediated and restored to provide clean habitat for water birds and other wildlife. In 2024, water levels will continue to be monitored at these well locations to support the future design of the project.

1.4 BASIN ENVIRONMENTAL MONITORING

The objectives of the Basin Environmental Monitoring Program (BEMP) are the following:

- Assess long-term status and trends of surface water, sediment, groundwater, and biological resource conditions in the Basin.
- Evaluate progress toward meeting Remedial Action Objectives (RAOs), Applicable or Relevant and Appropriate Requirements (ARARs), and Preliminary Remediation Goals (PRGs).
- Improve the understanding of Basin environmental processes and variability to improve the effectiveness and efficiency of remedial actions.

- Provide data for CERCLA required Five-Year Reviews of remedy performance.

EPA collaborates with the CDA Trust, IDEQ, the CDA Tribe, the United States Fish and Wildlife Service (USFWS), and the United States Geological Survey (USGS) to periodically update and optimize the BEMP, which is the umbrella document that provides the framework for implementing basin-wide monitoring, area-wide monitoring, and project-specific remedial action effectiveness monitoring. The BEMP guides the collection, analysis, and interpretation of environmental data while providing flexibility for adaptive management as remediation work is completed and information regarding Site conditions evolves. In Spring 2024, the BEMP workgroup will continue annual meetings during the spring field planning season to effectively coordinate and communicate BEMP activities across all agencies and organizations. The following sections discuss EPA's planned BEMP activities in 2024 at different geographically related areas.

1.4.1 Ninemile Creek Basin

Remedial action effectiveness monitoring has been ongoing in the Ninemile Creek Basin since 2012 to establish baseline conditions, help prioritize work, and assess the effect of source area cleanups. The Area-wide Remedial Action Effectiveness Monitoring Plan for the Ninemile Creek Basin was finalized in 2021. As identified earlier in this workplan, cleanup of the Tamarack Complex and the combined Dayrock Complex/Lower EFNM Riparian Area will be completed in the fall of 2024. In 2024, surface water quality samples will be collected and analyzed four times per year during winter storms, peak spring runoff, late summer base flow, and late fall conditions. Results of area-wide remedial action effectiveness monitoring will be summarized annually in a Ninemile Creek Basin monitoring report.

1.4.2 Canyon Creek Basin

Remedial action effectiveness monitoring has been ongoing in the Canyon Creek Basin since 2015 to establish baseline conditions, help prioritize work, and assess the effect of source area cleanups. The Area-wide Remedial Action Effectiveness Monitoring Plan for the Canyon Creek Basin was finalized in 2023. As identified earlier in this workplan, cleanup will continue at the Hecla Star Mine Complex in 2024 and is anticipated to be completed in the fall of 2026. The remainder of cleanups in the Canyon Creek Basin are being prioritized for future years. In 2024, surface water quality samples will be collected and analyzed four times per year during winter storms, peak spring runoff, late summer base flow, and late fall conditions. Results of area-wide remedial action effectiveness monitoring will be summarized annually in a Canyon Creek Basin monitoring report.

1.4.3 The Box

In the south fork of the CDA River, surface water upstream and downstream of the GCS will continue to be monitored as part of the BEMP. Four stations, which are associated with the Box's OU-2, are monitored twice per year, during peak spring runoff and late summer baseflow conditions.

1.4.4 Lower Basin

The goal of area-wide monitoring in the Lower Basin is to evaluate progress towards RAOs through assessment of biological conditions in fish and wildlife, and chemical conditions in surface water and suspended sediment after the implementation of remedial actions. The Lower Basin Area-wide Remedial Action Effectiveness Monitoring Plan is in progress and will continue to be drafted in 2024.

Surface water quality samples will be collected and analyzed twelve times per year at seven locations in the Lower Basin targeted for high flow events and a fixed frequency approximately every 6 weeks. In 2023, EPA increased BEMP surface water monitoring up to 12 times per year at 7 of the 20 total USGS monitoring sites, in response to recommendations from the 2022 NAS report to better characterize conditions in the Lower Basin and inputs to CDA Lake. The increased sampling frequency represents 60% more samples and will continue in 2024.

1.4.5 Biological Monitoring

Ongoing biological waterfowl research will continue in 2024 for wood ducks and tundra swans, with potential future use under the BEMP. A multi-year applied research project has been occurring in the Lower Basin of the CDA River to develop monitoring tools to observe changes in lead exposure over time in tundra swan fecal samples and wood duck eggshells. Using analytical chemistry and molecular tools, it has been discovered that tundra swan fecal samples can be used to understand lead exposure as it relates to their diet. Wood duck eggshells projects are just beginning next spring of 2024. Non-invasive tools like these will be used to help EPA monitor remedy progress in collaboration with the CDA Tribe, IDFG, and the USFWS.

1.4.6 Coeur d'Alene Lake

In response to other NAS recommendations regarding CDA River inputs to CDA Lake, EPA has funded the USGS for continuous monitoring of surrogate technologies to estimate concentrations of suspended sediment, lead, and phosphorus. This includes installation, monitoring, and model development at three established USGS monitoring locations in the Lower Basin: Cataldo, Rose Lake, and Harrison. This multi-year project will be initiated in 2024. The resulting models can be used to make real-time estimates of suspended sediment, lead, and phosphorus concentration at each site. Improved and higher-frequency estimates of sediment, lead, and phosphorus concentrations will provide more accurate estimates of contaminant loads within the Lower Basin and entering CDA Lake.

1.5 OPERATION AND MAINTENANCE (O&M) RESPONSIBILITIES FOR REMEDIAL ACTIONS

Operation and maintenance (O&M) responsibilities for remedial actions and cleanup work across the Bunker Hill Superfund Site are as follows:

- Individual owners of properties remediated under the BPRP are responsible for O&M of the remedy and barriers on their properties in accordance with the ICP administered by the PHD.
- Operation and maintenance for public gravel and paved roads remediated in the gravel roads and paved roads remediation programs are the responsibility of the local governments with jurisdiction over those roads. Those jurisdictions include the East Side Highway District and Shoshone County, and the cities of Kellogg, Mullan, Pinehurst, Osburn, Smelterville, Wallace and Wardner.
- Operation and maintenance of projects constructed under the Remedy Protection Program are the responsibility of the governmental jurisdictions noted as the “Holder” of the Environmental Covenants executed for these projects and filed as riders to the deeds for the properties on which the work was performed. If no governmental jurisdiction is noted as the “Holder” the property owner holding title to the property involved is responsible.

- Generally, O&M for remedial work performed by the CDA Trust is the responsibility of the CDA Trust. However, there are exceptions such as with the roads and remedy protection projects. Other project examples where the CDA Trust will not be taking on long-term O&M include Gray’s Meadow where IDFG will take over O&M after the first five years.
- Operation and maintenance of the CTP and GCS in the Box are the responsibility of the State of Idaho for the life of the registry funds.
- Operation and maintenance of remedies performed by various parties under CERCLA authorities utilizing funding from appropriated funds and other sources placed in EPA’s Superfund Account are the responsibility of the State of Idaho.
- Operation and maintenance of remedies on Bureau of Land Management (BLM) and National Forest System Administered Lands within the Site and in the North Fork CDA River Drainage are the responsibility of the BLM and U.S. Department of Agriculture (USDA) Forest Service.

PART 2 – OTHER ACTIVITIES AND RESPONSIBILITIES

For Part 2, the scope of this work plan recognizes a number of work items that the BEIPC will be involved in and items of work needed to accommodate some of the recommendations of the 2005 and 2022 NAS studies; BEIPC and agency communications and public involvement activities; State of Washington activities; implementation of the CDA Lake Management Plan (LMP) by the State of Idaho and CDA Tribe and coordination with activities of the Natural Resource Trustees (Restoration Partnership).

The work plan includes the following work:

- IDEQ Lake Management Activities
- CDA Tribe Lake Activities
- Flood Control, and Infrastructure Revitalization
- Communications and Public Involvement
- State of Washington Activities
- Coordination with the Restoration Partnership

2.1 IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY LAKE MANAGEMENT ACTIVITIES

The 2002 OU-3 ROD did not include CDA Lake in the Selected Remedy. Instead, it anticipated that the State, Tribe, federal agencies, and local governments would implement a Lake Management Plan outside the CERCLA process using separate regulatory authorities. The updated LMP was approved in 2009 and implementation has been underway. The 2012 Upper Basin RODA indicated that a remedy for lakebed contamination is deferred contingent upon successful management through the LMP. The LMP’s goal is to manage metals in contaminated lakebed sediments through reduction of nutrient inputs basin-wide from point and nonpoint sources.

The LMP includes actions related to lake water quality monitoring, coordination among basin stakeholders, education and outreach, and identification of funding sources for lake management efforts. Below are the objectives outlined in Section 3 of the LMP. These objectives are listed in the order they appear in the LMP, which does not necessarily reflect any prioritization.

- Improve Scientific Understanding of Lake Conditions through Monitoring, Modeling, and Special Studies.
- Establish and Strengthen Partnerships to Maximize Benefits of Actions under Existing Regulatory Frameworks.
- Finalize and Implement a Nutrient Reduction Action Plan.
- Increase Public Awareness of Lake Conditions and Influences on Water Quality.
- Establish funding mechanisms to support LMP goal, objectives, and strategies.

As of the Summer of 2018, the CDA Tribe asserted that the LMP is inadequate, on its own, as an effective tool to protect water quality in CDA Lake due to the fact that water quality triggers for lead, phosphorus, and dissolved oxygen, in particular, were being exceeded. These triggers were developed by the CDA Tribe and IDEQ as part of the 2009 LMP. As stated in the LMP, if trends show trigger levels being approached, a comprehensive review to guide future management actions should be conducted.

In response to some trigger levels being approached (and some exceeded), the State of Idaho enlisted the NAS to perform a third-party review of CDA Lake data to provide insight into nutrient, metal, and dissolved oxygen trends and offer recommendations for lake management data collection efforts moving forward. The review was sponsored by IDEQ, Kootenai County, and EPA, with support from the CDA Tribe. The report was completed in late 2022. 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. In response, IDEQ convened a Science Coordination Team, including representatives from IDEQ, the CDA Tribe, EPA, USGS, and the University of Idaho. The SCT will be instrumental in guiding scientific efforts related to management of CDA Lake and in working through the other recommendations included in the NAS report. In the meantime, IDEQ staff continues to operate under the LMP as discussions with the CDA Tribe and EPA continue. The following activities are planned for implementation in 2024.

Increase Scientific Understanding (LMP Objective 1):

- Conduct water quality monitoring in Coeur d'Alene Lake for metals, nutrients, and physical parameters.
- Coordinate with the Science Coordination Team to review and implement NAS recommendations related to data collection and monitoring.

Nutrient Reduction and Implementation (LMP Objective 3):

- Work with funding recipients under the Leading Idaho (LI) initiative to implement phosphorus reduction projects in Coeur d'Alene Basin.
- Analyze lake tributary monitoring collected 2019-2022 to fill gaps in nutrient loading data identified in the nutrient inventory report.
- Share relevant data gap monitoring results with stakeholders to aid in decision making.
- Coordinate with CDA Tribe staff to facilitate the Tribe's monitoring of nutrient loads in southern lake tributaries, the St. Maries River, and the St. Joe River
- Continue to collaborate on water quality improvement efforts in the CDA with the CDA Lake Advisory Committee, Restoration Partnership, AVISTA Corporation, the Natural Resource Conservation Service (NRCS), the Soil & Water Conservation Districts, Counties, Cities, and others.
- Identify opportunities to align nutrient reduction and remedial efforts in the Lower Basin.
- Continue implementing aquatic plant surveys within the northern lake.

Increase Public Awareness (LMP Objective 4):

- Continue to partner with the CDA Tribe, University of Idaho (UI), Connect Kootenai (formerly CDA2030), CDA Regional Chamber of Commerce, and other stakeholders to share information with the basin-wide community through the Our Gem Coeur d'Alene Lake Collaborative.
- Continue to participate in The Confluence Project to support Basin high schools by providing workshops, field trips, and guidance for teachers and students involved in local watershed science.
- Partner with UI, CDA Tribe, and area high schools and environmental organizations to host the annual Youth Water Summit, the culminating event of The Confluence Project
- Partner with UI to support the Bay Watchers program to provide volunteer monitoring opportunities and land management information and resources to residents around CDA Lake.
- Support the Local Gems program to recognize businesses and organizations that are taking action to protect basin water quality.

Continued coordination with BEIPC forums will maximize opportunities for information exchange and advice for all the parties that participate in the BEIPC activities. Future coordination with the BEIPC recognizes that IDEQ retains their respective decision-making authorities under CERCLA and the Clean Water Act (CWA) with regards to implementation.

2.2 COEUR D'ALENE TRIBE LAKE ACTIVITIES

As noted, the LMP was approved in 2009. However, after collecting and analyzing water quality data under an EPA approved Quality Assurance Program Plan (QAAP), the CDA Tribe retracted their

support of the LMP in 2019 as an adopting government. The CDA Tribe continues to be concerned about increased pressure on the landscape that may lead to declining water quality, as well as a myriad of other concerns prompted by the Tribe's retraction of support of the LMP. The CDA Tribe detailed their concerns about LMP effectiveness in a written critique asking EPA to formally evaluate how they will use their CERCLA authorities to address the legacy of mining pollution in CDA Lake. In 2024, the CDA Tribe will conduct the following activities outside of the LMP process:

- Continue to improve scientific understanding of lake conditions through monitoring and modeling of metals, nutrients, and physical parameters.
- Tribal staff will continue to utilize the AEM3D and WRTDS (USGS) models with data collected from the Lake, meteorological stations, and USGS gage stations.
- Tribal staff will continue to implement a Eurasian Watermilfoil Treatment Program as well as monitor aquatic plant communities in the southern lake.
- Tribal staff will continue to work with EPA to identify potential opportunities to align nutrient reduction and remedial efforts in the Lower Basin through modeling and coordination. Tribal staff will also continue to participate in the Lower Basin Project Focus Team to assist EPA and the CDA Work Trust on identifying locations for Lower Basin Waste Consolidation Areas.
- Tribal staff will continue to partner with the University of Idaho-Community Water Resource Center (U of I CWRC), Connect Kootenai, PHD, CDA Regional Chamber of Commerce, interested citizens, and IDEQ to support the Basin high school students through The Confluence Project (a hands on 'place based' learning program addressing watershed science-based solutions), and the Our Gem Coeur d'Alene Lake Collaborative.
- Tribal staff will continue to support The Local Gems program for local businesses through 2024. This program recognizes businesses and organizations that are taking action to protect basin water quality.
- The Tribe will work with IDEQ to implement the St. Joe River Nutrient and Watershed Assessment Project that was approved for American Rescue Plan Act (ARPA) funding through the Coeur d'Alene Lake Advisory Council.
- The Tribe will continue to request that EPA develops criteria and conducts a review/ evaluation of their decision to "defer" a remedy for the CDA Lake.

2.3 FLOOD CONTROL AND INFRASTRUCTURE REVITALIZATION

Under a 2018 MOA, participating governments of the BEIPC and the Upper Basin jurisdictions (Local Flood Group) will continue to work on potential flooding issues on the SFCDR. During this 5-year planning period, the Local Flood Group and the BEIPC will continue to work with the U.S. Army Corps of Engineers (COE) and Federal Emergency Management Agency (FEMA) to implement an update to the 2009 Flood Inundation Maps based on the current flood zone analysis by the COE on a portion of the river from Elizabeth Park to the Theater Bridge in Smelterville. Based on the new flood maps it is anticipated that updated analysis of the need for certified levees in the SFCDR will also be initiated in the planning period. The working group will also continue to support the City of Pinehurst's request for COE assistance in performing a similar flood zone

analysis in Pine Creek. Although much of the needed work outlined in the 2009 Drainage Control Infrastructure Revitalization Plan (DCIRP) is now complete, the BEIPC Executive Director will continue to assist Upper Basin communities and utilities in pursuing funding to implement the remainder of the DCIRP. The Executive Director will coordinate with the local infrastructure jurisdictions on an O&M plan for existing drainage structures in the Upper Basin. The Executive Director will work with the TLG to develop ideas and potential funding requests for Basin work not covered in the 2002 OU-3 ROD and/or the 2012 Upper Basin RODA.

2.4 COMMUNICATIONS AND PUBLIC INVOLVEMENT

During 2024, the BEIPC Assistant to the Executive Director and agency Community Involvement Coordinators (CICs) will work together to carry out public involvement, communication, and education related to BEIPC and agency activities. Agency CICs may include staff from EPA, IDEQ, and PHD.

The Office of the BEIPC Executive Director, the CCC and agency CICs continue to facilitate the public involvement process in the Basin. The BEIPC Executive Director and/or Assistant, PF Team Chairpersons, and CCC Chairperson may request CIC support for public outreach regarding BEIPC activities. The CICs may in turn request BEIPC support for their agencies' public involvement activities.

Following is a partial list of community engagement activities and coordination opportunities for 2024:

- As required, the BEIPC will hold quarterly meetings open to the public. The CCC will hold meetings open to members and the public as issues or opportunities arise or discussions are warranted.
- The BEIPC will coordinate its annual tour in August of the Basin cleanup with publicity support from the CICs and technical support from agency project managers. The tour is open to everyone.
- The BEIPC/CCC and agency CICs will continue to sponsor activities such as open houses, workshops, training, or public meetings. The BEIPC Assistant and CICs may assist each other to coordinate public education and outreach associated with these events.
- The BEIPC/CCC will lead the development, production and distribution of BEIPC related items and the agency CICs will lead the development, production and distribution of agency items. The BEIPC/CCC and agency CICs will create and process flyers, public notices, and posting to their respective websites of their meetings and other information. The BEIPC/CCC will also create, process, and distribute their meeting announcements, agendas, and their meeting summary notes and other information by e-mail to CCC members and interested parties. The BEIPC Assistant will update and maintain the BEIPC website.
- CICs will continue to support the CCC meetings, support BEIPC communications, and explore ways to maximize the CCC's value to interested local people. Upon request, CIC's may support BEIPC with suggestions for publicizing BEIPC events and meetings, participate in distributing meeting announcements, posting to social media, or by proposing and/or helping to implement communications strategies.

- Upon request, the BEIPC Executive Director will make presentations to public groups and participate in educational forums such as school district Science, Technology, Engineering and Math (STEM) fairs, etc. Assistance from agency CICs may be requested for these efforts. The Director will participate in quarterly press availability sessions, as scheduled by EPA.
- The BEIPC and agency CICs will help organize and participate in a joint booth for public outreach/education at the North Idaho Fair.
- The EPA will publish BEIPC/CCC information upon request in its triannual Basin Bulletin and on the CDA Basin Facebook page.
- CICs work directly with EPA, IDEQ, PHD, and BEIPC project managers as needed to tailor communications outreach and/or education for specific projects under the programs listed in this work plan.
- CICs will report their outreach activities at the quarterly Basin Commission meetings, and activities are often reported and discussed at CCC meetings.
- The BEIPC Executive Director will participate in Regional Outreach and Educational Committees such as the Our Gem Collaborative and the Confluence Project.

2.5 STATE OF WASHINGTON ACTIVITIES

The Washington State Department of Ecology will continue to monitor the status of previous cleanups along the Spokane River. Fall site visits will be performed, along with visual documentation of cap performance and sediment accumulation. A portable XRF will be used to measure contaminant concentrations. Additionally, the results of the 2022-2023 comprehensive sampling effort will be prepared and made available to interested parties.

2.6 RESTORATION PARTNERSHIP

The Restoration Partnership is a consortium of the CDA Natural Resource Trustees, comprising representatives of agencies/governments who have management and stewardship responsibilities for fish, wildlife, and other natural resources in the Basin. They are the USDA, represented by the USFS; the U.S. Department of the Interior, represented by the USFWS and BLM; the CDA Tribe; and the State of Idaho, represented by IDEQ and IDFG.

The following natural resource restoration projects will continue to be implemented in 2024:

- Conservation easements along the CDA River corridor sponsored by the USFWS.
- Management of a native willow plant nursery adjacent to Hepton Lake on the St. Joe River sponsored by the Tribe.
- Wetlands enhancement at Hepton Lake on the St. Joe River sponsored by the Tribe.
- Projects for the replacement of injured/lost tribal cultural services (culturally significant plants) in the Hangman Creek Watershed sponsored by the Tribe.
- Coeur d'Alene Lake monitoring and modeling sponsored by the Tribe.

- Wetlands restoration implementation/construction at Gray's Meadow along the Lower CDA by IDFG. This is a joint project with EPA conducting the remediation and the Restoration Partnership conducting the natural resource restoration sponsored by IDFG.
- Gene Day Pond Public Access Improvements with the Shoshone County Sportsman Association and sponsored by IDFG.
- Ongoing operations and maintenance for the Schlepp Agricultural to Wetlands Conversion Project with the landowner sponsored by the USFWS.
- North Fork Coeur d'Alene River Conservation Easement sponsored by IDFG.
- Cougar Bay Preserve Wetlands Enhancement and Stream restoration with BLM as the primary sponsor with assistance from the USFWS.
- Lake Creek Watershed Restoration sponsored by the CDA Tribe.
- Prichard Creek Phase 1: Conservation Easement and Restoration Planning with the Idaho Forest Group and Trout Unlimited and sponsored by IDEQ.
- Red Ives Creek Restoration Phase II sponsored by the USFS.
- In early federal fiscal year 2024 the Trustees will be ranking Full Applications for restoration projects that were proposed by the public and other Trustees in FY23 for funding consideration in FY24.

In 2024, there will be ongoing coordination with EPA and the CDA Trust on remedy and restoration activities and participation in BEIPC and associated groups and committees. The Trustees will continue to work with the Public Affairs Officers and Communications staff among the Trustees on an Outreach Plan for future restoration project solicitation from the public.

For more information, refer to www.restorationpartnership.org.