



BEIPC

Basin Environmental Improvement Project Commission

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Terry Harwood
Executive
Director

February 24, 2023

To: BEIPC Commissioners, Alternates, Staff, TLG and CCC Chairs

From: BEIPC Executive Director

Subject: BEIPC March 15, 2023, Quarterly Meeting

Enclosed is the meeting packet for the upcoming March 15, 2023, BEIPC Meeting. The meeting will be held at Center Place, 2426 N. Discovery Place, Spokane Valley, Washington, and will begin at 9:30 AM and conclude at 3:00 PM. The meeting will include election of a new Chair for the BEIPC as well as the review and approval of the Draft 2022 Annual Report. Lunch will be provided for Commissioners, Alternates, TLG and CCC Chairs and BEIPC Staff.

If you have any questions call me at 208-783-2528 or e-mail at terry.harwood@deq.idaho.gov.

Terry A. Harwood, PE
Executive Director

Enclosure

March 15, 2023, BEIPC Meeting Packet Items

- Meeting Guidelines
- Draft November 9, 2022, Meeting Notes
- Abbreviations and Acronyms
- Draft March 15, 2023, Meeting Agenda
- Draft 2022 Annual Report

BEIPC MEETING GUIDELINES

- The Executive Director is directed to manage these guidelines.
- The agendas for BEIPC meetings are draft agendas and may be modified by the Commissioners by motion and majority vote at the beginning of the meeting to accommodate unanticipated program and scheduling changes.
- Parties requesting a scheduled time slot on BEIPC meeting agendas to present technical or other information shall discuss the request with the Executive Director a minimum of four (4) weeks prior to the meeting date. If the draft agenda can accommodate the subject matter and time needed for its presentation and at the request of the Executive Director, the requesting party shall forward an electronic copy of the proposal for the item to the Executive Director a minimum of three (3) weeks prior to the meeting date. If the item is of a technical nature, the Executive Director will present the technical proposal and or presentation to the TLG for information and review prior to the BEIPC meeting. TLG consideration of the proposal shall not prevent its presentation to the BEIPC.
- Parties making presentations needing overhead equipment, utilizing Power Point or other projection presentations shall furnish their own equipment or make arrangements with the Executive Director. Projection screens shall be provided by the BEIPC at meeting locations.
- At each BEIPC meeting, an open public comment and presentation period shall be set aside for any member of the public to make comments and presentations concerning the Basin or issues being discussed by the BEIPC and presenters on the meeting agenda. The Executive Director is responsible for adjusting the public comment periods on the agenda to ensure that the public is afforded the opportunity to comment concerning an issue of discussion at BEIPC meetings. Each presenter shall have a maximum of three (3) minutes to comment or make a presentation. These presentation times will be monitored by the Executive Director. Presenters shall be recognized by the Chair of the BEIPC meeting prior to speaking. If a presenter needs more time, they shall make arrangements with the Executive Director for a scheduled time slot on the agenda.
- Issues requiring BEIPC discussion and voting such as programs of work, five year work plans, annual work plans, and budget and funding issues shall be presented prior to the final vote on each such issue. The public comment time slot will be managed as outlined above.

Basin Environmental Improvement Project Commission
Draft Meeting Agenda

March 15, 2023, 9:30 AM – 3:00 PM

Center Place

2426 N. Discovery Place, Spokane Valley, Washington

9:30 AM	Call to Order
9:35 AM	Nomination, Discussion and Election of a New BEIPC Chair – Terry Harwood (Action Item)
9:55 AM	Review and Approve Draft November 9, 2022, Meeting Notes – Terry Harwood (Action Item)
10:10 AM	Process for Recruiting a replacement for the BEIPC Executive Director – Andy Helkey, BEIPC Core Staff
10:25 AM	Break
10:40 AM	Review Draft 2022 Annual Report- – Terry Harwood
11:20 AM	Public Comment on Draft Report
11:30 AM	Approval of Draft 2022 Annual Report (Action Item)
11:40 AM	Update on Lower Basin WCA Selection Process – Jocelyn Carver, EPA
Noon	Lunch Executive Session Under Idaho Code 74 - 206 (1)(b) to Discuss New Executive Director Recruitment, Commissioners, Alternates and Executive Director; Separate Lunch for BEIPC Staff, TLG and CCC Chairs
1:15 PM	Results of 2022 Blood Lead Screening Event – Mary Rehnborg, PHD
1:55 PM	Update on CCC Activities – Jerry Boyd, CCC Chair
2:05 PM	Update on Final National Academy of Sciences Study and Report for CDA Lake and the CDA Lake Advisory Committee Work on Lake Nutrient Loading Project Selection – Jamie Brunner, IDEQ
2:35 PM	Update on Restoration Partnership and Status of Future Project Solicitation – Rebecca Stevens, CDA Tribe
2:50 PM	Public Comment and Input on Agenda Items or Requests for Information and Assistance
3:00 PM	Adjourn

ABBREVIATIONS AND ACRONYMS

AMD: Acid Mine Drainage
ARAR: Applicable or relevant and appropriate requirement
ARRA: American Recovery and Reinvestment Act
ATV: All Terrain Vehicle
AWQA: Ambient water quality criterion/criteria
BCR: Big Creek Repository
BCRA: Big Creek Repository Annex
BEIPC: Basin Environmental Improvement Project Commission
BEMP: Basin Environmental Monitoring Plan
BLM: Bureau of Land Management (US Department of the Interior)
BPRP: Basin Property Remediation Program
CCC: Citizen Coordinating Council
CCR: Canyon Complex Repository
CDA: Coeur d'Alene
CDC: Center for Disease Control
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CIA: Central Impoundment Area
CICs: Community Involvement Coordinators
COC: Chemical of concern
CPT: Cone Penetrometer Testing
CSM: Conceptual Site Model
CTP: Central Treatment Plant
CWA: Clean Water Act
DCIRP: Drainage Control Infrastructure Revitalization Plan
ECSM: Enhanced Conceptual Site Model
EFN: East Fork Ninemile
EIS: Environmental Impact Statement
EMFR: East Mission Flats Repository
EMP: Environmental Monitoring Program
EPA: Environmental Protection Agency
ERA: Ecological Risk Assessment
ESD: Explanation of Significant Differences
FESL: Fabric Enclosed Soil Lift
FFS: Focused Feasibility Study
FS: Feasibility Study
GPM: Gallons per Minute
HH PFT: Human Health Project Focus Team
I-90: Interstate 90
I-C: Interstate-Callahan
I & I: Inflow and Infiltration
ICP: Institutional Controls Program
IDAPA: Idaho Administrative Procedures Act
IDEQ: Idaho Department of Environmental Quality
IDFG: Idaho Department of Fish and Game
IDPR: Idaho Department of Parks and Recreation
ITD: Idaho Transportation Department
LLC: Limited Liability Company
IP: Implementation Plan
LBC: Lower Basin (Citizen's) Collaborative
LBCR: Lower Burke Canyon Repository
LMP: Lake Management Plan
MAU: Multi-attribute utility

MOA: Memorandum of Agreement
NCP: National Contingency Plan
NPL: National Priorities List
NRDA: Natural Resource Damage Assessment
NRT: Natural Resource Trustees
ODBO: Operate Design Build Operate
OSWER: Office of Solid Waste and Emergency Response (EPA)
OTI: Osburn Tailings Impoundment
OU: Operable Unit
PFT: Project Focus Team
PHD: Panhandle Health District
PM: Project Managers
PRP: Potentially Responsible Parties
PRRACA: Paved Road Remedial Action Cooperative Agreement
QA/QC: Quality Assurance / Quality Control
RA: Remedial Action
RACA: Remedial Action Cooperative Agreement
RAO: Remedial Action Objectives
RD: Remedial Design
RFP: Request For Proposal
RI: Remedial Investigation
RI/FS: Remedial Investigation/Feasibility Study
RPM: Remedial Project Manager
RP: Remedy Protection
RP: Restoration Plan
ROD: Record of Decision
RODA: Record of Decision Amendment
ROW: Right-of-Way
SARA: Superfund Amendments and Reauthorization Act
SCIP: Superfund Cleanup Implementation Plan
SFCDR: South Fork Coeur d'Alene River
SJTI: Superfund Job Training Initiative
SOP: Standard Operating Procedure
SSC: State Superfund Contract
SST: Superfund Straight Talk
STI: Star Tailings Impoundment
SVNRT: Silver Valley Natural Resource Trust
TCD: Typical Conceptual Design
TLG: Technical Leadership Group
TMDL: Total Maximum Daily Load
Trust: Successor Coeur d'Alene Custodial and Work Trust
UMG: Upstream Mining Group
UPRR: United Pacific Railroad
USDA: United States Department of Agriculture
USFWS: United States Fish and Wildlife Service
USGS: United States Geological Survey
WAC: Waste Acceptance Criteria
WAG: Watershed Advisory Group
WCA: Waste Consolidation Area
WMS: Waste Management Strategy
WENI: West End Natural Infiltration Area
WCX: Waste Quality Exchange
WY: Water Year

(Updated January 2018)

DRAFT

BASIN COMMISSION (BEIPC)

November 9, 2022

MEETING MINUTES

Basin Environmental Improvement Project Commission
Draft Meeting Summary Minutes
November 9, 2022, 9:30 AM – 3:30 PM
CDA Inn Best Western
506 W. Appleway, Coeur d'Alene, ID

These minutes are summary notes of the reports and presentations and are intended to capture key topics and issues, conclusions, and next steps and not every detail of discussion or individual quotes

Attendees included the following:

Terry Harwood (BEIPC Executive Director)

Commissioners and Alternates present:

Brook Beeler (Washington State), Jess Byrne (IDEQ), Bill Brooks (Kootenai County), Calvin Terada (EPA), Caj Matheson (CDA Tribe), Phil Lampert (Benewah County), Jay Huber (Shoshone County)

Staff present:

Gail Yost (BEIPC, Assistant to E.D., Note taker), Kim Prestbo (EPA), Andy Helkey (IDEQ), Dan McCracken (IDEQ), Sandra Treccani (Washington State), Rebecca Stevens (CDA Tribe), Jamie Sturgess (Kootenai County), Jeri DeLange (Kootenai County), Jamie Brunner (IDEQ)

Attendees via Zoom

Michael McCurdy (IDEQ), Dana Swift (IDEQ)

Call to Order

Brook Beeler called the meeting to order – introductions were made by the Commissioners and Alternates. Changes to today's agenda – there will be no results of the 2022 Blood Lead Screening from Mary Rehnborg, these will be updated at the March 2023 meeting; and no update from Jerry Boyd as he is absent from today's meeting due to his wife's illness. A motion was made from Calvin Terada to adjust the changes in the agenda, second from Phil Lampert– all approved **M/S/C**

Approve the minutes from the August 17, 2022, meeting (Action Item)

Rebecca Stevens has one edit from page 3, under the Migratory Waterfowl Update – it should show USFWS collected data and not USGS. She also pointed out on page 4 that the work piloted by Tim Kiser was in Harrison Slough and not Grays Meadow.

A motion to approve the minutes with Rebecca's changes was made by Calvin, second from Phil – all approved **M/S/C**

Discussion concerning election of a new BEIPC Chair – Terry Harwood

Due to the resignation of Mike Fitzgerald, a decision was made to push the election of a new BEIPC Chair to the March 2023 meeting to be held in Spokane Valley. Terry wanted to wait until county elections were over to see who would be filling seats in Kootenai and Shoshone. Brook Beeler will run today's meeting as Vice-Chair. Terry also advised the group on BEIPC meeting dates for 2023.

Review Draft 2023 Annual Work Plan – Terry Harwood

Terry Harwood shared the process of creating the annual and 5-year work plans. The work plans are divided into two sections – Part 1 covers environmental cleanup work performed through CERCLA (Comprehensive Environmental Response, Compensation and Liability Act) by the EPA, IDEQ and CDA Trust. It includes work to implement the Record of Decision (ROD) for Operable Unit 3 (OU-3) and the Upper Basin ROD Amendment (RODA) for OU-2 and 3.

Part 2 includes Other Activities and Responsibilities – Lake Management Plan, Natural Resource Trustees, work on recommendations from the National Academy of Sciences (NAS) and requests from the communities and citizens of the Basin

Terry started with an update on the residential and commercial property remediation. In 2022, three properties were remediated and five were sampled. Properties remaining can still be sampled and/or remediated if above action levels for owners granting access. Currently about 204 in the Upper and Lower Basin require sampling and 39 properties require remediation; 9 remain to be remediated in the Box. A total of 3,931 properties in the Basin and 3,236 properties in the Box have been remediated at the conclusion of 2022. Oversight and coordination between the Trust and IDEQ will continue to encourage property owners to have their properties sampled and remediated, if necessary.

In 2023, PHD will continue to offer free blood lead screening for residents living within the Bunker Hill Superfund Site boundaries. This program 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 health professional to identify ways to reduce lead exposure. At their annual summer screening, a \$50 incentive will be given for children ages 6 months to 6 years of age residing within the Basin.

The Recreation Sites Program was created to address and manage human health risks from exposure to lead and other metals in the Upper and Lower Basin. The Recreation Team includes EPA, IDEQ, PHD, CDA Tribe, BEIPC and CDA Trust. Meetings are held at least biannually to evaluate and discuss priorities and addresses human health risks while maintaining the benefits of recreation. In the Basin, the CDA Trust expects to start design and cleanup at Lower Basin beach areas, sample other Upper and Lower Basin areas that are known to have high usage by young children 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. 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.

There are currently three operational repositories within the OU-3 area: Big Creek Repository (BCR), which includes the Big Creek Repository Annex (BCRA), East Mission Flats Repository (EMFR) and Lower Burke Canyon Repository (LBCR). The Page Repository provides for disposal of remedial and ICP wastes in the Box (OU1 and OU2). There are two Waste Consolidation Areas (WCAs) in the Upper Basin: The East Fork Ninemile (EFNM) WCA and the Canyon Complex Repository (CCR) /WCA. The WCA's are constructed close to remedial action cleanups to receive their waste, and not waste from the community. A Lower Basin WCA Project Focus Team has been formed to consider WCA needs in the Lower Basin.

Upper Basin remedies work includes remediation identified for the Upper Basin – including the South Fork Coeur d’Alene River (SFCDR) and its tributaries above its confluence with the North Fork. The 2012 Upper Basin Interim RODA identified \$635 million dollars of work including potential work at 125 mine and mill sites. Additional information about the RODA and documentation are located at the following web site: <https://www.epa.gov/superfund/bunker-hill>

The BEIPC 2023 works plan focuses on those cleanup actions that have either already started or been planned for the coming year. The following is expected to be the focus of the CDA Trust in the Upper Basin:

East Fork Ninemile Basin

Tamarack Complex Cleanup – the prioritization of the Tamarack Complex cleanup is based on metals loading, accessibility to the public, impacts to adjacent roadways, and the upstream location of the sites relative to other source sites in Ninemile basin. The design is complete, and construction is currently underway with completion expected in 2024.

Dayrock Complex and Lower East Fork Ninemile Creek Riparian Area – cleanup of the EFNМ riparian area is divided into Upper and Lower EFNМ. Remediation of the upper section was completed in 2021 – the design for the lower section was combined with the Dayrock Complex design and was completed in late 2021. Construction of the Dayrock Complex/Lower EFNМ Creek section is currently underway and is expected to be completed in 2024.

Canyon Creek Basin

Canyon Complex Repository/WCA – is being constructed to receive waste from the numerous source areas that will be cleaned up in the Canyon Creek Basin. The old SVNRT repository was moved into the new repository in 2021, with a final cover system installed over the wastes placed in the facility in 2022. The facility will take waste from other cleanup sites in Canyon Creek beginning in 2023.

Canyon Creek Quarry – as part of the construction activities at the CCR/WCA, the CDA Trust purchased a 23-acre parcel to be used as a source of uncontaminated rock and gravel to use as clean fill materials. Work will continue at the Quarry to haul uncontaminated rock and gravel fill for future use at cleanup site in the Canyon Creek area.

Hecla Star Mine Complex – design was finished in 2022 with cleanup beginning in 2023. This will 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 site. Cleanup will last 4 construction seasons and is anticipated to be completed in the fall of 2026.

Canyon Creek Designs/Investigations – design activities for the Flynn and Black Bear Fraction Mine sites were initiated in 2022 with design completion planned for 2023. Design investigations will also continue at the Standard Mammoth Reach, the Frisco Reach, the Gem Complex, and the Lower Canyon Creek Riparian Area.

Central Treatment Plant (CTP) / Central Impoundment Area (CIA) – IDEQ has been operating the upgraded CTP and Groundwater Collection System (GCS) since October 2021. The CTP upgrades were necessary to treat additional influent flow from the GCS, improve system reliability, meet current discharge requirements, and to operate in High-Density Sludge (HDS) mode. These upgrades also provide dependable and more efficient water treatment of the Bunker Hill Mine discharge water. The removal efficacy from the upgraded CTP is excellent, showing over 99% removal for zinc. EPA is also monitoring phosphorus which showed removal range between 92% and 99%, thus resulting in significant removal of dissolved metals being discharged into the SFCDAR.

Lower Basin Remedies include actions for wetlands and lateral lakes, riverbanks, splay areas, riverbed dredging, and cleanup at identified recreational areas along the CDA River. Objectives focus on reducing human exposure to lead-contaminated soils and sediments, improving water quality, and reducing particulate lead and other heavy metals in the Basin ecosystem. The Draft Final Riverbed Management Plan (RMP) was completed in June 2021 with its purpose to guide the interim remedy for the Lower Basin riverbed and banks by providing information and analyses for selected remediation scenarios and identifying high-priority riverbank segments for removal or stabilization. Additional investigation in the channel 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. EPA will continue to coordinate with the Restoration Partnership and various landowners in 2023 to characterize and identify off-channel areas for remedial actions. Construction is underway at the Idaho Department of Fish and Game (IDFG) owned Gray's Meadow to create clean waterfowl feeding habitat. This will continue in 2023 with completion planned for 2024. Two important infrastructure projects associated with Gray's Meadow were complete in spring of 2022; relocating the Cave Lake discharge point from Black Lake to the CDA River; and relocating the Lamp Peak pump discharge from Black Lake to the CDA River, widening the access road and replacing the vehicular bridge, relocating the water transfer locations, remediating the soil, and improving processes for managing water levels is expected to improve water quality in Black Lake and throughout the watershed.

To address contaminated sediment transport in the CDA River channel, the CDA Trust has begun planning for remedial design characterization for an in-channel pilot project to be implemented in the upper part of the River's Dudley Reach. This reach is considered the most significant upstream lead loading segment in the river system. The Trust also began remedial design characterization in the Cataldo Reach of the CDA River which will continue into 2023.

Several recreation areas will be considered to address lead exposure associated with recreating along the river channel. This work in the Lower Basin will be accomplished while continued cleanup focuses on human health and addressing source stabilization in the Upper Basin. The Upper Basin cleanup is expected to compliment cleanup activities in the Lower Basin by reducing the loading of contaminated materials to the watershed and reducing the potential for recontamination from Upper to Lower Basin.

EPA has continued to optimize and restructure the Basin Environmental Monitoring Program (BEMP), and has implemented this program for over 15 years. Highlights of the data collected are in the 2020 Five Year Review (9/2021). Annual USGS surface water sampling results are made available on the EPA webpage. Results for 2021 are summarized in the following report:

Coeur d'Alene Basin Environmental Monitoring Program – Surface Water, Annual Data Summary – Water Year 2022 – <https://semspub.epa.gov/sre/document/10/100421937>. EPA continues to work with CDA Trust, IDEQ, USFWS and the CDA Tribe to update the BEMP to guide 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. Operation and Maintenance responsibilities for Remedial Actions – CERCLA prohibits EPA from the use of funds from the Superfund Account on O&M of remedies. Responsibilities on completed and accepted remedial work may vary. O&M on EPA selected cleanup actions will be performed by the CDA Trust, the State of Idaho, and local governmental jurisdictions or parties who are required to perform O&M activities by judicial or administrative settlement, environmental agreements, covenants, and conservation easements

Other activities and responsibilities include the following work:

- IDEQ Lake Management Activities
- Coeur d'Alene Tribe Lake Activities
- Flood Control and Infrastructure Revitalization
- Communications and Public Involvement
- State of Washington Activities
- Coordination with the Restoration Partnership

Lake Management Activities – As of the summer of 2018, the CDA Tribe asserted that the LMP is inadequate as an effective tool to protect water quality in the lake and has been in discussions with IDEQ and the EPA to determine what additional actions are needed to manage the hazardous substances in the lakebed sediments. The State of Idaho initiated and received a third-party review of lake management data by the National Academy of Sciences (NAS). Observations and recommendations from the 2022 NAS report will be used to help inform an appropriate response to undesirable water quality trends. IDEQ staff continues to operate under the LMP as discussions with the CDA Tribe and EPA continue. The 2023 work plan outlines Lake Management activities for both IDEQ and the CDA Tribe.

Flood Control and Infrastructure Revitalization – Under a 2018 MOA, participating governments of the BEIPC and the Upper Basin jurisdictions will continue to work on potential flooding issues on the SFCDAR and Pine Creek. The local flood group and the BEIPC will continue to work with the COE and FEMA to complete a Flood Map Revision to update the 2009 Flood Inundation Maps. Based on new flood maps, it is anticipated that updated analysis of the need for certified levees in the SFCDAR will be completed in 2023. The working group will also support the City of Pinehurst's request for COE assistance in performing 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 will continue to assist Upper Basin communities and utilities in pursuing funding to implement the remainder of the DCIRP.

Phil asked why the updated flood lines are so much less than the old maps – Terry answered that the old maps were based on old data. Seventeen years of actual flood data from the gauging system in the valley were added to the overall data for consideration. Dave Leptich also mentioned land use has changed – 25 years ago there was heavy logging, now those clear-cuts have grown in, and the water comes off slower with less surge. Phil suggests that St. Maries and Benewah County area

levees would maybe benefit from an update also. Terry told Phil they would get him the information on how to contact the COE.

Communications and Public Involvement – Multi agency coordination worked together to carry out public involvement, communication, and education related to BEIPC and agency activities. They will continue to facilitate the public involvement process in the Basin.

Sandra Treccani reported the Washington State Department of Ecology will continue to monitor the status of previous cleanups along the Spokane River. A sampling initiative that started in the fall of 2022 will be continued. Three beach sites will be sampled for soil, sediment, and surface water, along with measurements of suspended and settled sediment, at low, medium, and high river flow rates. Once completed, Ecology will prepare a report documenting the results. 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.

Rebecca asked if the initial cleanup in 2013 used Department of Ecology contaminants program funding and not Superfund dollars – which Sandy answered correct. Rebecca asked if future cleanup would follow suit as well – Sandy stated they do not anticipate the outcome of this sampling and report to lead to another round of cleanup, but we know that will happen in the future based on their XRF data, they do not believe they are there now. If future removal of contaminated sediments were to happen, they would be paid by the State of Washington. Brook asked if EPA was supporting them through funding for this work – Sandy replied yes.

Restoration Partnership – The Restoration Partnership will continue to implement natural resource restoration projects in 2023. There will be ongoing coordination on remedy and restoration activities and participation in BEIPC and associated groups and committees.

Public Comment on Draft Plan

Sandy Emerson, a local appraiser, asked a question to Terry about his telling the Forest Service to put materials off the ramps back in the river, was it possible to take that material to one of the repositories – like Cataldo? Terry answered they were paved surfaces and the residue would be hard to get to and hard to scrape off. Andy also commented that they removed as much sediment as they could then washed the asphalt off. Sandy made the comment that Cast Away Fly shop are now offering paid float trips on the SFCDAR and catching fish!

Brook thanked Terry and the staff for pulling all this together. She thinks this really represents the work that will be happening in the next year and a good overview for everyone.

Terry referenced an email that was sent in from Jamie Sturgess. It covers concerns in the Lower Basin for prioritizing work and budgets for both the Upper and Lower Basin. There is also frustration with the first pilot project being put on hold due to the delay in the selection process of a Lower Basin WCA. Other items include - action on the pilot testing for stream bottom armoring; prioritize and initiate riverbank armoring below Cataldo Boat Ramp down to Dudley Reach on both sides; release a schedule for CDA stream bottom stabilization or remediation studies and pilot project feasibility study results for review by the TLG; and set a five-year schedule to complete the stream bank stabilization. Ed Moreen stated they are currently working on design for the pilot project and the WCA siting. The in-channel work, which would be a hybrid cap/dredge project, needs the repository for waste. They are also looking at prioritizing riverbanks in the Cataldo Reach

area and are currently working to gain access to properties so analysis can be completed. Terry realizes the frustrations – and asked that we keep working together.

Jamie thanked Terry for going through his concerns – his hope is that the streambanks can be separated administratively and schedule-wise from the stream bottom. From EPA estimates, there is 18% particulate loading from phosphorus going into CDA Lake every year and so every year that this gets pushed back just adds to more going downstream. The other projects are great, and he doesn't want to cut anything else out, but the streambank stabilization needs to be addressed. He referenced the NRCS streambank stabilization project and how well that has held up – we should get a parallel project started while figuring out what to do with the stream bottom.

There were no further questions or comments on the 2023 Annual Work Plan from commissioners or panelists

Approval of Draft 2023 Work Plan (Action Item)

Brook asked for a motion to approve the 2023 Annual Work Plan - Phil made the motion to approve followed by a second from Jess Byrne, all approved **M/S/C**

Review Draft 2023-2027 Five Year Work Plan – Terry Harwood

Terry reviewed and reported on the five-year work plan. This work plan also has two sections – the work under CERCLA by the implementing agencies and other activities. The first part includes human health directed activities; lead health intervention program; repository and WCA development and management; remedial actions in the Upper Basin; remedial actions and/or pilot projects in the Lower Basin; Basin Environmental Monitoring; and O&M responsibilities for Remedial Actions.

Human health activities – the Basin Property Remediation Program (BPRP) will continue at the request of the property owners when access is granted. Remediation of high-risk properties will continue as agencies and the CDA Trust become aware of them. Human health risks associated with basin wide recreational activities will be addressed and educational resources and health advisories will be provided to manage the potential for metals exposure through the consumption of fish.

Dan McCracken had a question on the recreational site work – in the past there had been some actively eroding banks on the Lower CDA River that had created areas that were beach-like and publicly used. If any of these areas overlap with areas that Jamie has identified for possible bank stabilization, work could occur. Then perhaps the opportunity to address the human health exposure area through bank stabilization and revegetation where the objective is primarily to prevent kids from getting exposed to the bare sediment on the bank, and not so much as a long-term remedy but to stabilize and make it not worth playing in and meet two objectives. Andy said EPA will be starting the beach augmentation of Hwy 3 probably next week which is basically riprapping the beach and stabilizing the bank through that section by Black Rock Bridge.

Rebecca asked for clarification when they refer to Upper Basin, does that include recreation sites along the South Fork – Terry said yes. The Upper Basin is from the confluence of two rivers at Enaville all the way to the headwaters of the SF, and the Lower Basin is from there to the mouth of the river at the lake.

The Lead Health Intervention Program – PHD will continue to administer screening of children and others living or recreating within the BHSS for elevated blood lead levels. The threshold value for levels in young children is now 3.5 micrograms per deciliter. These screenings help to identify children with elevated blood lead levels and provide in-home follow-up services to identify sources and ways to reduce lead exposures.

Repository and WCA Development & Management – operation and management will continue at the current repositories and WCA's with potential site development of future WCA's in the Lower Basin.

Upper Basin Remedies – operate the groundwater collection system and upgraded CTP; source control actions in the Ninemile and Canyon Creek watersheds; and implement source control and water treatment remedies, ecological cleanup projects, and related human health activities identified in the Upper Basin Interim RODA along with any accompanying coordination on natural resource restoration actions.

Lower Basin remedies – evaluate and prioritize potential source control remedies; conduct pilot projects to address contaminated riverbed source areas and implement remedies as appropriate; characterize and prioritize additional riverbank segments for stabilization; ensure that remedies are coordinated with natural resource restoration activities; identify recreation areas for remediation and implement programs to educate recreation site users regarding human health risks along the river corridor. Also, continue to implement the Gray's Meadow Remediation and Restoration Project and evaluate and further characterize additional wetland properties for increasing feeding habitat for waterfowl.

Terry asked Dan about the concerns the public has had over contaminated water from CDA Lake getting into the Spokane Valley/Rathdrum Prairie Aquifer. Dan answered there is data that would indicate some influence from the water in the lake that goes out to the river, but not high metal concentrations. There are some areas with gaining and losing reaches, and a question that has come up from the NAS that perhaps this would be an area that could use additional studying to better understand, but they do not have wells in the aquifer that show high metal concentrations. Brook asked if there are some monitoring points, are they just looking at ground water protection areas from Kootenai water systems or are there other monitoring wells that you pull data from? Dan will have to look and see where that data was pulled from as there are lots of municipal wells that are sampled with the Safe Drinking Water Act and source water protection plan. He's not sure if there is a specific spot, he'll check to see what other samples have been compiled and summarized. Rebecca made an announcement that IDEQ will be coming out with a revised aquifer atlas, working jointly with Idaho/Washington Aquifer Collaborative – revising this atlas for the last five years and will be coming out soon. She highly recommends folks look at this as it shows all the recharge areas, not just CDA Lake but others like Hayden, Hauser, Ponderay and Bayview.

Basin Environmental Monitoring – continue implementing the Basin Environmental Monitoring Program (BEMP) under the updated plan produced in 2020.

O&M Responsibilities for Remedial Actions – Terry briefly covered responsibilities for remedial actions and cleanup work on the site. Each program defines its responsible parties and required maintenance to protect the work completed as already described earlier in the 2023 Annual Work Plan.

Part 2 – Other Activities and Responsibilities – the five-year work plan recognizes work items the BEIPC will be involved in, and items of work needed to accommodate some of the observations and recommendations of the 2022 NAS study; it also includes Lake Management activities by both the CDA Tribe and the State of Idaho; flood control and infrastructure revitalization; communication and public involvement; and coordination with Restoration Partnership.

Flood Control and Infrastructure Revitalization – under a 2018 MOA, participating governments of the BEIPC and the Upper Basin jurisdictions will continue to work on potential flooding issues on the SFCDAR to implement a LOMAR to update the 2009 Flood Inundation Maps based on current flood zone analysis by the COE. Based on new flood maps, it is anticipated that updated analysis of the need for certified levees in the SFCDAR will also be initiated. This group will also support the City of Pinehurst’s request for assistance in performing similar flood zone analysis in Pine Creek.

Communications and Public Involvement – will continue to address issues and facilitate public involvement and education in BEIPC activities.

Restoration Partnership – will continue to coordinate with the BEIPC and provide updates on restoration planning efforts and implementation of restoration projects that will be solicited by the Trustees and from interested parties. Terry asked Rebecca if she wanted to talk about the RP plans for the next five years – Rebecca acknowledge her other technical staff present - Wade Jerome from the Forest Service and Dave Leptich from Fish & Game – in the RP accomplishment report you will see what was done last year and goals for the following year, a more robust update will be provided after the Trustee Council this winter.

Valerie Wade from the CDA Tribe asked about a comment made earlier on the goal to clean up all the contaminated sites in the Upper Basin, and she wondered if the SFCDAR is included in that. Terry said in the RODA there was a million cubic yards of contaminated river sediments identified, Ed Moreen said it is in the planning stage.

Public Comment on Draft Plan – there were no further comments on the five-year work plan.

Approval of Draft 2023-2027 Five Year Work Plan (Action Item)

Brook asked for a motion to approve the Five-Year Work Plan - Jess made the motion and Caj seconded - all approved M/S/C

Lunch and Executive Session, Commissioners, Alternates and Executive Director under Idaho Code 74 – 206(1)(b) - a motion was made by Phil to move into Executive Session, Calvin seconded - all approved M/S/C

Phil made the motion to move out of Executive Session – Calvin seconded - all approved M/S/C

Update on Lower Basin WCA selection process – Patrick Hickey, EPA
The update on the Lower Basin WCA will be included in Kim's presentation.

Update on Construction Season accomplishments in Upper and Lower Basin and Trust Fund Balances – EPA RPMs

Kim gave a quick orientation on the Bunker Hill Superfund Complex – its spans 1,500 square miles and 166 river miles. Historic mining and milling operations in the Upper Basin has passed contaminants down through the flood plain and into the Lower Basin. Today Kim will give a basin-wide update on the Basin Property Remediation Program (BPRP); Recreation Sites; construction in Ninemile and Canyon Creek Basin; Disposal Facilities; Lower Basin Updates on Gray's Meadow, Cataldo Investigations and Dudley Reach Pilot Project, and Lower Basin WCA; and an update on the CDA Trust budget.

BPRP program – a lot of work has been done and we are closing in on finishing this important part of the site. Cleanup has been completed on 7,167 properties and those remaining await property turnover for previous refusals or non-responsive owners. 9 properties in the Box and 204 in the Basin either require sampling or remediation. In 2022, 3 properties were remediated and 5 were sampled along with maintaining drinking water treatment systems at 6 properties. Part of the BPRP also includes the Basin House Dust program. Mats are placed by geographic areas and targets are set and compared to what was actually sampled and the number of vacuum samples collected which are measured for metals.

Recreational Sites – In September 2022, the Cataldo Boat Launch was completed. The cleanup included soil removal in some areas, capping with sod or gravel and application of new asphalt. A second recreation project will start next week on Hwy 3 with removal of contaminated sediments and bank stabilization, riprapping and plantings along the bank. Education is also key to this program – signage is an important way to communicate the risks of lead in sediments and soil at these rec sites across the basin.

Ninemile Basin – consists of various mine and mill sites, tailing piles, rock dumps, creek channels and riparian areas - all identified in the RODA. Three project areas have been worked on this past construction season – Dayrock Complex, Lower East Fork Ninemile Creek Riparian area, Tamarack Complex, and the WCA.

Dayrock Complex – 2022 was the first year in a 3-year construction period, 96,000 cu/yd of waste material was excavated and disposed of at the WCA.

Tamarack Complex – Also the first year in a 3-year construction period, 148,000 cu/yd were excavated and taken to the WCA. Areas of excavation included rock dumps, riparian area, unnamed adit area, and Adit Areas No. 3 and No. 4. Other work included installation of water control channels, seeding, mulching and placement of woody debris on excavated hillsides; mulching and planting in riparian areas. Monitoring of surface and groundwater throughout Ninemile will continue to measure the effectiveness of their work.

East Fork Ninemile WCA – various work continues at the WCA – quarrying fill material for Dayrock and Tamarack; placing waste materials from Dayrock and Tamarack; layering 1"minus cushion material and placing lime-amended soil atop liner system; applying bonded fabric material on North Slope; and clearing slash & brush from final expansion area. The development of the WCA began in 2013 to consolidate the mine waste materials from projects in the EF Ninemile. The expansion of the original footprint began in 2019 to provide capacity for all the estimated areas waste materials.

Going forward, we estimate the cleanups will be completed by 2024, the construction of the final cover system will begin in 2025 with completion in 2026.

Canyon Creek Basin – there are many mine and mill sites in Canyon Creek that were identified in the RODA. Some of these include Frisco/Black Bear Complex, Gem Complex, Standard Mammoth Reach, Flynn Mine and Black Bear Fraction.

Canyon Complex Repository – Construction was completed in 2022 - all the waste from the SVNRT Repository has been excavated and moved to the Canyon Complex Repository. This repository is designed to handle all the waste materials from Canyon Creek work as it is a WCA/Repository, so it will potentially be able to accept ICP waste in the future. There is already a wash facility available at Lower Burke Canyon Repository so one will not have to be built to handle the ICP waste.

Frisco/Black Bear Complex – investigations will continue in 2023.

Gem Complex – pre-design investigations are occurring with hopes to complete in 2023.

Standard Mammoth Reach – conducted site monitoring in 2022 and will continue site investigations in 2023.

Flynn Mine & Black Bear Fraction – completed pre-design investigation in 2020-2021, with the remedial action design started in 2022. Both the work plan and the 30% design are complete with the 60%-100% design planned for completion in 2023. Both are a high priority due to the potential for residential and recreational exposure.

Disposal Facilities – the CDA Trust monitors and maintains the Upper and Lower Basin Repositories (BCR, BCRA, LBCR, and EMFR) and IDEQ for the Box Repository located at Page. Projections are made from year to year to estimate and accommodate for all waste received at the repositories. A waste management strategy looks at volumes coming in and estimates what volume remains at each site.

Lower Basin Updates – the Lower Basin starts at the confluence of the North Fork and South Fork of the CDA River and extends to the mouth of the river at Lake CDA. While the bulk of legacy mining occurred in the SF, the Lower CDA River was at the receiving end of direct discharge of these mine tailings and today the primary source of contaminated sediments to the floodplain, lateral lakes, and Lake CDA. EPA is making strides in reducing the source of metals in the Upper Basin, but to really address the source of lead depends on our ability to address contaminated sediments in the Lower CDA River.

The Lower Basin consists of the Cataldo Reach, Dudley Reach, Killarney Reach and Springston Reach. Kim will talk about four projects they are working on in the wetlands and the channel. EPA is constantly monitoring through the BEMP program. One of the most important pieces of data they collect for the Lower Basin is the concentration and volume of suspended sediment that is moving through the CDA River and the concentration of metals in that sediment. They conduct opportunistic sampling as the river does not wonder a lot unless it gets to a certain level of flow. When opportunities come up like in March 2022, sampling is conducted in high flow events to collect and analyze the concentrations of sediment in the river and the metal concentrations. This year we sampled 49 locations, some at dual depths, to help understand that volume of sediment in metals, the function of flow and the locations where we are mobilizing the most and highest concentrations. This data is plotted over many years and helps to target those areas that are their biggest sources. The Dudley Reach pilot project was selected as strong evidence in this reach shows it contributes significant lead load to the system. The highest concentrations occur near a scour hole

at river mile 158 where the lead concentrations have exceeded the benchmark by over 50 times. We estimate in the river itself to contain 5 to 11 million metric tons of impacted sediment in the bed and banks. Frequent flooding continues to remobilize this contamination. From their data, they estimate 86% of sediment lead is coming from the riverbed and banks. They also estimate the flux to the lake at Harrison is about 73%. Work must be done on the channel and tackle the primary source, but we also have to be in tandem working on all the important exposure points – the places where wildlife and people are impacted. Our recreation work planned to mitigate the exposure to people that live and recreate along the banks of the river. Our work in the wetlands anticipates improving oasis of clean areas for waterfowl and other wildlife to exist.

Gray's Meadow - is a partnership between CDA Trust and Restoration Partnership (including IDF&G). It is 700 acres agricultural to wetland conversion – Lambs Peak and Cave Lake Wetlands. Project goals were to reduce soil lead concentrations to below cleanup level; restore clean and functional wetlands; minimize recontamination; redirect discharges from Black Lake to CDA River; and provide clean recreational, educational, and cultural opportunities. Completed to date – infrastructure improvements; new bridge over the Black Lake tie-channel; redirected the Lambs Peak and Cave Lake water discharges to the CDA River; new pumps and pumphouse at Lambs Peak; and completed this integrated design between remediation and restoration. The next phase of construction has been awarded to Northwind Construction Services. Part of the remediation strategy is to till the soils with low level top contamination mixed with clean underlying soils in areas where concentrations are sufficiently low enough. That was started this year with mobilization of materials and equipment. This season allowed them to do the bulk of the tilling in all the accessible areas in both Cave Lake and Lambs Peak. This sets the stage for the excavation and consolidation of the more contaminated soils to begin next summer. These soils will be consolidated in the core of some of the infrastructure – dikes, access roads, some habitat features – with the goal to manage all the waste material on-site. Construction completion is expected in the summer of 2024.

Gleason Property – this property is projected to start in 3-4 years. A conservation easement has been granted, working closely again with the Restoration Partnership and easement through Inland Northwest Land Conservancy. They have just started characterization of the hydraulics, conducted field investigations, drilled monitoring wells, surveying, and collecting ground and surface water samples. The first report is being completed and should be out this year.

Cataldo Reach – this reach consists of steeper and gravelly portions of the river before it levels out and starts dropping. The riverbed is not considered a high priority area but some of the banks are highly contaminated. The timing for starting work will depend on obtaining access. This year a lot of investigation work was completed, outreach and communication with property owners, and starting to get access agreements. Also, characterizations of beds, banks, and side channels, along with sampling of the riverbed and banks. New erosion pins were installed which seems to work best to monitor and address how quickly the banks are eroding. A pre-design investigation was conducted in river mile 167 & 166, and that included 26 locations along the islands and bars, and up to 20 locations in the riverbed where we could see the fine grain material. All this data is under review and should be available soon.

Dudley Reach Scour Hole Pilot Project – this is a combination of dredge and cap from river mile 158.6 through 158.2. Project goals are to reduce particulate lead loading to the river through combination of dredging and capping; stabilize unarmored and unstable riverbanks; minimize

changes to river hydraulics; and evaluate construction means and methods. The earliest potential schedule depending on the pause for the WCA siting would have the characterization completed by 2022/2023, design completed in 2025 and construction completed in 2027-2028. This fall, the CDA Trust will be conducting a data gap investigation along this area – including geophysics, collecting core samples from the riverbed and slopes for geotechnical and environmental analysis, and the riverbed and side slopes will be surveyed. The Dudley Reach will be the first pilot project needing management of dredge material. Contamination is extensive throughout this Lower Basin and we all acknowledge it is not feasible to remove all the contaminated sediments in 37 river miles, but we will be dredging portions of the river. Technologies and natural restoration are going to be required go forward, controlling the source will reduce the concentrations and the total load of the metals entering CDA Lake.

Lower Basin WCA Siting - a time critical step in initiating this work is to identify, design and construct a WCA for managing waste material. EPA and the CDA Trust have been working to identify a site, talking to property owners, and using various criteria to identify potential areas. In 2020, we started a public engagement process and asked the citizens to re-examine the 2009 criteria that had been used for siting repositories and WCA's and from that develop some draft criteria for the Lower Basin. Through fact sheets that were mailed to residents, informational sessions held during COVID, and communicating through the Basin Bulletin – these community comments were considered when the CDA Trust ultimately developed their final set of technical criteria. After several years, two properties were identified – a South River Road property and the Dredge Road property, with this being identified as the best potential for a WCA site. As additional important considerations were raised, we found it necessary to pause and circle back with our stakeholders to review and validate the options for siting this new WCA. A Project Focus Team (PFT) was developed and is managed under the Technical Leadership Group (TLG) of the BEIPC – this allowed us to get more feedback and input from the CDA Tribe, State and Federal partners, land managers, and representatives from the BEIPC. The purpose of the PFT is to provide input to EPA in identifying and evaluating a feasible location for the WCA. The input from the PFT will help inform EPA on where the WCA will be located as they will have the final decision-making authority. With the development and implementation of the PFT, the Dudley Reach project has been pushed out a year or maybe two. The delay will allow time for us to complete the design and plan for construction. Kim also compared schedules if the WCA siting is pushed back further and how the timeline would need to be adjusted.

Jess said he was not as familiar with the Dudley pilot project as he would like to be, but he is curious why they would have to wait for a WCA before starting the pilot project, is it too large of a scale that they couldn't haul that one project's waste to a different WCA? Kim said they estimate 30,000 yards from this project and there is not a lot of room at any of the repositories. If you put the waste at East Mission Flats, you wouldn't allow other ICP projects to use it. They would like the WCA to be close to where they are working and have the flexibility to go forward. Terry agreed on using EMF, we would use up ten years of volume at an ICP repository to get rid of the waste from this pilot project. EMF is the only ICP repository in the Lower Basin. Kim said you want to be efficient in selecting a place that you will expand into to accommodate other work. Ed Moreen added that you're dealing with dredge materials that will have to be dewatered so you will have to have a location to do that. The less this material is hauled, the more efficient you are. Having a site close by will be a huge way to optimize your operation.

Dave Leptich asked about Gleason, if we are using in-situ methods for remediation and do not need a WCA, do you anticipate these delays to cause a delay in that schedule? Kim replied not at this time. Rebecca wanted to know about Dudley Reach, we know through the Enhanced Conceptual Site Model that there has been a lot of site characterization done already in the river – is this additional characterization being conducted because it's higher resolution and it's associated with the anticipated design being a dredge and cap? Kim answered its more pre-design investigation, we are now at the stage where we are getting geotech and seismic data to help us design the cap and dredging, just much more specific. Terry mentioned that the in-situ remediation does work, you just need to do a good job of on-site disposal. Kim agreed saying the point is to protect and isolate too. CDA Work Trust Update – the 2023 budget going forward is going to be \$30 million annually for Upper and Lower Basin for the next 10 years. The CDA Trust was established as part of the Asarco Bankruptcy Settlement in 2012 with an initial deposit of \$437 million. As of 9/30/22 this balance stands at \$520 million. The CDA Trust funds can only be used to fund ROD selected Basin (OU-3) cleanup actions. It cannot be used to fund Box cleanup actions, or to fund oversight of the CDA Trust. They also cannot be used to fund State, Tribe, local governments, or other Federal agencies work in the Box of Basin.

Val Wade questioned the kind of sampling that was performed in the Lower Basin by Dudley Reach, was the same type of sampling done in the SFCDA? Kim said they have collected high event sampling in the SFCDA and have a strong record of total and dissolved metals throughout the Basin that is collected by USGS. It is not the same focus as in the Lower Basin, but we have a very good sense of the amount of particulate lead that is coming out of the SFCDA and into the lower CDA River. We know enough to know that the amount of lead at least that is in the SFCDA is significantly less than in the Lower Basin. It doesn't mean that we are not focusing on it as there are plans to do work in the SFCDA River. Val also wanted to know if there was community input on the pilot project site at Dudley Reach – and Kim answered yes. They have been reporting out on their investigations, went through a significant public review process as a site already identified as an area for concern. Since it is post ROD, it is not required for EPA to go through a public process for every specific design but compared to a lot of Superfund sites, we have a lot more community engagement. Terry commented on Jamie Sturgess' input into the pilot project – so yes, the community was involved. Kim also mentioned that all this information went through the technical work group and CCC meetings. Val was curious when they were deciding on a pilot project, if putting the project near an already established repository or WCA. Kim also mentioned that part of the waste management strategy that they work on with the CDA Trust, always dialing in how much waste will be generated. The Trust does this on a regular basis – all the repositories out there are already dialed in to the existing work that is going to be done. As well as this important ICP program, the repositories are a necessary element of waste management.

Dan McCracken had a follow-up comment since we were talking about the tailings removal projects in the SFCDA, he wanted to remind everyone that they removed about 1 million cu.yds. of tailings from the SFCDA at Smelterville Flats in the late 1990s to early 2000s, which was a major accomplishment. Val's asked if there had been recontamination there, and has it been monitored or tested? Dan said there has been some follow-up monitoring, there is different components – the portion that is on the riverbed itself does still have high levels, but that was factored into the removal criteria, we planned for that to be around 3,000 ppm – the higher benches that were remediated and capped are still clean.

Brook asked if the erosion pins used were a box that collected sediment? Kim answered they are stakes that you can measure the erosion that is occurring. Brook also said that even though backing off the WCA siting feels like a setback, she wanted to thank EPA for slowing down, pulling together the PFT and thinking about this forever decision.

Results of 2022 Blood Lead Screening Event – Mary Rehnborg, PHD – the results of the 2022 Blood Lead Screening will be available at the March 2023 BEIPC meeting.

2022 Outreach Report – Terry Harwood, Mary Rehnborg, PHD

Mary showed a presentation on all the outreach that was accomplished in 2022. General Lead Health Intervention Program (LHIP) duties include participation in weekly EPA/IDEQ calls, weekly IDEQ state team calls, bi-weekly Silver Valley Economic Development Council meetings, monthly Lead Advisory Committee meetings, quarterly HUD/EPA/PHD meetings, perform over the phone and in-person follow ups for elevated blood lead referrals, contribute articles to the Basin Bulletin and help distribute bulletins around the community, and attend quarterly IDHW's Childhood Lead Poisoning Prevention Program meetings.

One of our biggest outreach programs is the K-3 classroom awareness presentations. This year we visited 8 local schools and provided outreach & educational materials to 843 students. We held our annual pizza party at the Canyon Side Apartments located up Burke and are working with the Amy Lynn Apartments in Kellogg and possibly apartments in Pinehurst to start doing them there as well. We participated in a Soil Shop that was held at Kellogg's Music in the Park where people could bring in their soil for examination with the XRF, planning again for next year's event. The summer lead screening event ran from August 8th – 13th, we had 351 total participants – 216 of those were children ages 6 months to 6 years and the results are currently being calculated. The North Idaho Fair is a 10-day event and a big effort with all the groups coming together, volunteering, and helping us pull that off. It included an interactive booth, answering questions to win a prize in which thousands of those were distributed – a lot of engagement and a great turnout. The Shoshone Medical Center Kid's Health Fair where we provided over 300 children with educational materials, healthy snacks and fun giveaways. Andy helped lead a tour for the Silver Legacy Bike Group where they took teachers from around the state on a site tour from Kellogg to Cataldo with historic information presented along the trail. At Silver Mountains Truck or Treat, we were able to hand out 300 bags of treats with educational tips attached. Other events: booth at CDA Earth Day, University of Idaho President's Tour, CDA Realtors Association presentation, tours and education to Kootenai Health residents, guest lecturer at Gonzaga University fall and spring semesters, and Central Treatment Plan tour with Idaho Public Television.

Jess said great job! He asked if all this was funded through the Institutional Controls Program and Mary said yes. Terry is able to assist in other areas through presentations, tours, inquiries and helping to address concerns from constituents and the public.

Update on CCC Activities and Public Input – Jerry Boyd, CCC Chair

Terry filled in for Jerry Boyd on the update on CCC activities. All work plans and information are shared with the public through the CCC email list. If there are meetings for specific purposes, then these are also broadcast via email. We may possibly have a meeting on the WCA even though we have a PFT, to discuss the decision process and address any questions.

Final Update on NAS Study of CDA Lake – Jamie Brunner, IDEQ

Jamie updated us on the current status of the National Academies of Science (NAS) Study and third party review of CDA Lake. The Governor asked the NAS to conduct a review of CDA Lake data at the end of 2019. Since then, we have been working through this process. The study was sponsored by IDEQ, Kootenai County, and EPA – and once again the scope was to evaluate current water quality as far as nutrients and metals, the impacts of anoxia on fate of nutrients and metals, impacts of reduced zinc levels on algal growth, will metals be released if current trends continue? Or what data do we need, and the relevance of metals release to human/ecological health risks. The NAS released their draft report on September 30th followed by a webinar that was available to the public. It is a living document still in draft form. We are having an event Tuesday, November 15th hosted by Our Gem. Some of the NAS members will be there to present, along with an opportunity for the State, EPA, the Tribe, and Kootenai County to give their perspective on the findings followed by a questions and answer period.

Leading Idaho - \$2 million was allocated for phosphorus-reducing projects in the State FY 2022. These projects are ongoing and include stormwater, wastewater, and nonpoint source projects such as riverbank stabilization. After that, Governor Little allocated another \$20 million for more of these kinds of projects. We are evaluating the applications that have been received, but from the advice of the Coeur d'Alene Lake Advisory Committee (CLAC) they asked that we follow-up with previous applicants that are ARPA eligible to see if they would like to be considered for this round of funding. CLAC also asked if we would review the NAS recommendations that comply with the ARPA requirements to evaluate those and present at their next meeting December 16th.

Terry announced that he will be retiring after the BEIPC is able to elect a new Chair and time allows for mentoring his replacement.

The meeting was adjourned at 2:35 pm

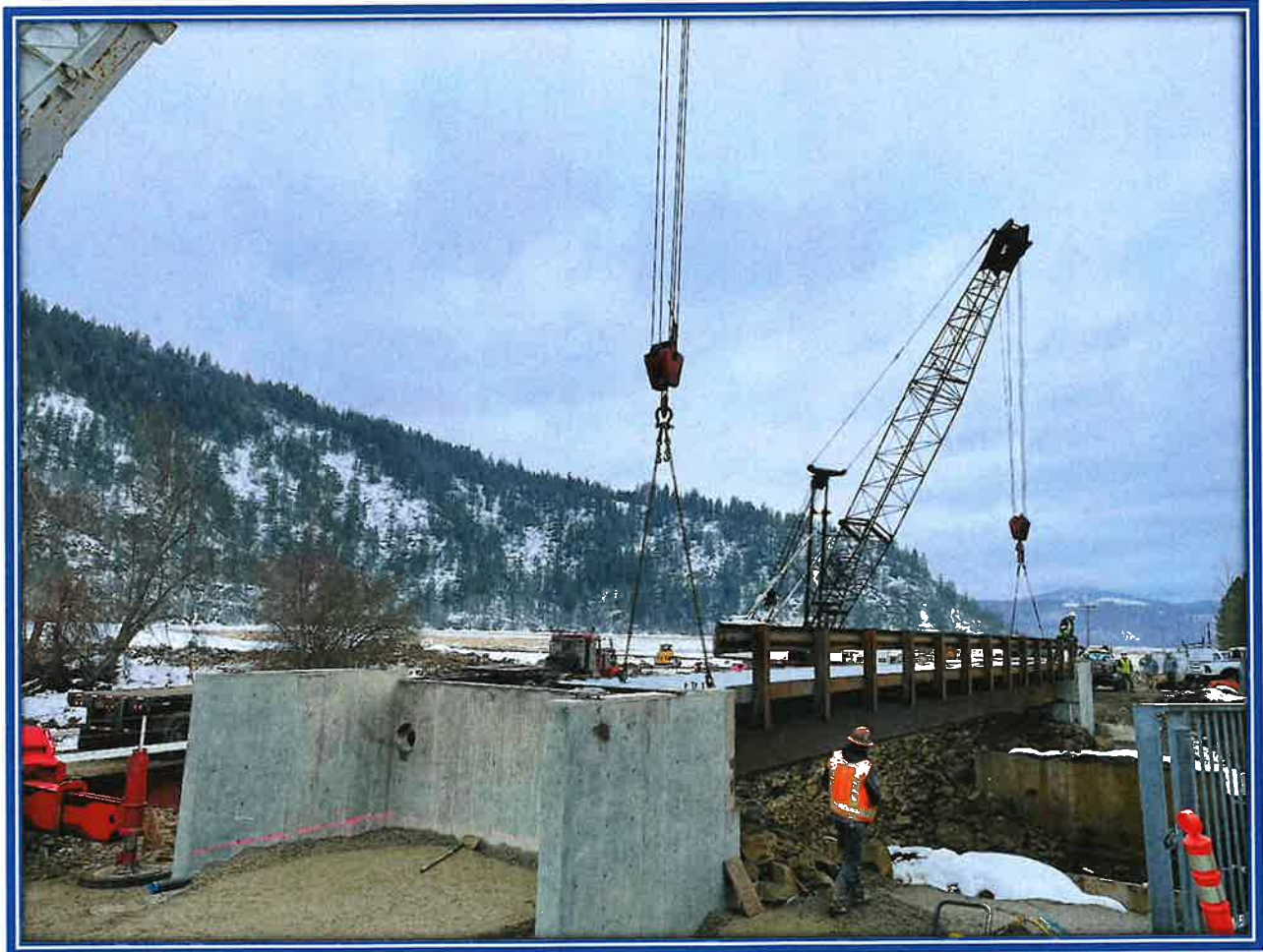
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BASIN COMMISSION (BEIPC)

2022 ANNUAL REPORT

02/27/23

2022 Draft ANNUAL REPORT



*Basin Environmental Improvement
Project Commission*

March 2023

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To obtain a copy of this report or other information visit www.basincommission.com

Or contact:

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Cover Photo, Gray's Meadow Remedial Action and Restoration Project New Bridge Construction Over Tie Channel to Black Lake

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.

During Calendar Year 2022, the BEIPC coordinated and monitored accomplishments by various implementing entities for environmental remediation and natural resource restoration work included in the BEIPC 2022 Annual Work Plan and the five-year operating plan. It also developed a 2023 Annual Work Plan and an updated five-year plan. The environmental remediation work was performed through the federal Comprehensive, Environmental Response, Compensation and Liability Act (CERCLA/Superfund) Program and 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) including the Coeur d'Alene Tribe (CDA Tribe), State of Idaho Department of Environmental Quality (IDEQ) and Idaho Department of Fish and Game (IDFG), U.S. Department of Interior through the U.S. Fish and Wildlife Service (USFWS) and Bureau of Land Management (BLM) and U.S. Department of Agriculture through 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

Authorization and Duties

The BEIPC was established by the Idaho State Legislature and implemented through a Memorandum of Agreement (MOA) among implementing parties.

The Basin is considered to be Operable Unit 3 (OU-3) of the Bunker Hill Mining and Metallurgical Complex Superfund Facility 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, Smelterville, Wardner, and Kellogg and outlying Shoshone County lands known as the "Bunker Hill Box" located within the Basin. OU-3 includes the remainder of the site outside the Box in the Basin where contamination has come to be present.

The BEIPC's primary purpose is to work with the EPA and IDEQ 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 work in OU-2 included in the Amendment designed 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).

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.

The Executive Director of the Basin Commission is Terry Harwood.

BEIPC Membership as of December 2022:

Name	Title	Representing
Philip Lampert	Benewah County Commissioner	Benewah County
Leslie Duncan	Kootenai County Commissioner	Kootenai County
Vacant	Shoshone County Commissioner	Shoshone County
Hemene James	Tribal Member	Coeur d'Alene Tribe
Brook Beeler Alternate	Regional Director, Washington Dept. of Ecology	State of Washington
Jess Byrne	Director, Idaho Department of Environmental Quality	State of Idaho
Calvin Terada Alternate	Regional Superfund & Emergency Management Division Director EPA, Region 10	Federal Government

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 and to coordinate efforts to protect the cleanup remedies, human health, and the environment from the release and migration of contaminants through the implementation and management of Institutional Controls in the Box and Basin (ICP).

The Executive Director (ED) works with the seven governmental entities and their agencies to establish annual work priorities and operating plans, manages the activities and programs of the BEIPC, and assists governments on various engineering and environmental issues at their request. To assist the Executive Director in program management, planning, and implementation, volunteer staff “on loan” to the BEIPC from the states of Idaho and Washington, the EPA, the Coeur d’Alene Tribe and the Counties coordinate with the Executive Director 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 with its Project Focus Teams (PFTs) 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 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 2022, the ED and TLG developed the 2023-2027 Five-Year and Calendar Year 2023 draft work plans and studied and developed project and program proposals to implement the remedy in OU-2 and 3.

Public Outreach and Citizen Involvement

Community Involvement

During Calendar Year 2022, all BEIPC meetings were held virtually or in-person/virtual. The August meeting and field trip were held in-person. The BEIPC maintained an up-to-date Basin website at: www.basincommission.com. Meeting information was announced on the website, in local newspapers, flyers posted throughout the community and at the BEIPC office in Kellogg, Idaho. The BEIPC also participated in public education/outreach efforts. The joint information booth at the North Idaho Fair was provided and was occupied by representatives from the various government agencies participating in the Basin.

Citizen Coordinating Council (CCC)

The CCC serves as an information conduit to and from the BEIPC on citizen, community, and special interest issues, and on environmental cleanup and restoration concerns. 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.

CCC Meetings and Communication

The CCC facilitated communications to its members and the public on an as-needed basis by e-mail, flyers, newspaper ads and posting to the BEIPC website and EPA Facebook.

Throughout 2022, the CCC arranged for transmission of information to its members and the public regarding activities in the Basin.

Chronology of Selected CCC Activities and Input to the BEIPC in 2022

In addition to receiving various reports for review and comments, CCC members were involved in the following BEIPC activities in 2022:

March 30

The CCC sponsored a public discussion meeting concerning the construction of a Waste Consolidation Area in the Lower Basin for wastes developed from remedial actions. This was a virtual meeting.

July 12

The CCC sponsored an in-person/virtual meeting in CDA to discuss the need for IDEQ and PHD to develop a new Idaho State Statute to continue implementation of the Institutional Controls Program (ICP) in OU-1,2 and 3 from the head waters of the South Fork CDA River to the mouth of the main river at Harrison.

August 16

The CCC sponsored a second in-person/virtual meeting to review and discuss the draft ICP statute prepared by IDEQ and PHD with concerned citizens, industry, and local government officials.

November

At the November BEIPC meeting, the CCC reaffirmed that the CCC would continue to concentrate on holding special meetings to discuss specific issues and keep the CCC members informed of activities through the extensive mailing list maintained at the BEIPC office.

December 6

The CCC sponsored a third in-person/virtual meeting to review and discuss the draft ICP statute prepared by IDEQ and PHD with concerned citizens, industry, and local government officials.

Additional Outreach Activities

In addition to the activities of the CCC, the various governmental entities represented by the BEIPC continue to support the TLG and CCC by being involved in the activities of those groups. The governmental entities have been involved in outreach activities including meeting with citizen groups, giving technical presentations, participating in Basin events, holding tours of Basin project areas, maintaining information posting throughout the Basin, and publishing various information documents to provide updates on Basin activities and to give answers to common environmental cleanup and improvement questions.

As part of the public outreach program, the Basin Commission ED continued to make numerous presentations to local business and community groups concerning activities of the BEIPC and planned cleanup actions and activities required to protect the remedy, human health, and the environment.



North Idaho Fair Booth

BEIPC Communications and Public Involvement

In 2022, the BEIPC continued its efforts to ensure public involvement concerning BEIPC activities and communication between the Basin community, the BEIPC and agencies involved in the cleanup. The CCC continued to be the focus organization to help implement this process.

The following is a partial list of BEIPC and ED community involvement activities throughout the year:

- ED assisted IDEQ in the IDEQ Board Meeting and Site Tour.
- ED met with Silver Valley Transportation Team numerous times to update them on Superfund activities in the Silver Valley and impacts on transportation facilities.
- ED met with Kootenai County Commissioners to brief them on environmental issues in the Basin.
- ED provided comments and recommendations to NAS on their draft CDA Lake Report.
- ED met with Kootenai County TLG representatives to brief them on issues before each BEIPC meeting.
- ED and Assistant operated the booth on a number of occasions at the North Idaho Fair.

- ED attended meetings of the Idaho Four Counties Natural Resource Committee in January, February, March, April, September, November, and December to update them on cleanup actions and discuss other topics of concern.
- Assistant publicized BEIPC and CCC meetings by posting the dates and agendas to the BEIPC website, newspaper advertising, and through electronic media and distribution of informational flyers with assistance from EPA and IDEQ.
- Assistant sent out reports and activities updates, CCC and BEIPC meeting notices as well as BEIPC work plans to TLG and CCC members by email for review and comment.
- Assistant shared BEIPC related information with the Community Involvement Coordinators (CICs) of EPA, IDEQ and the Lake Management Plan (LMP) staff for publication on their Facebook pages.
- Assistant continued to populate the BEIPC website with new information about BEIPC related activities and other information as requested by various agencies and advisory groups. 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.
- ED worked with BEIPC Consultant, U.S. Army Corps of Engineers (ACOE), FEMA and the local Flood Group concerning remapping of flood zones in the South Fork CDA River channel from Elizabeth Park to Pinehurst. BEIPC funded some of the Consultant work.

EPA Community Involvement Activities

EPA Region 10 makes coordinating with local communities and residents a priority. 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 IDEQ, BEIPC, and PHD. We are happy to report another productive year of important community involvement accomplishments in the Basin. Highlights include:

- EPA continued to follow its Community Involvement Plan (CIP) for the cleanup: <https://semspub.epa.gov/src/document/10/100137919>. The plan lays out how community members can get information and be involved, summarized local concerns, and input. It also outlines how EPA collaborates with its partners. Many local people helped develop this plan.
- EPA continued to partner with IDEQ 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. Five new signs were posted in 2022, and well over thirty signs have been posted to date.
- In March 2022 EPA and the CCC hosted a virtual public information session to share information about EPA's new Waste Consolidation Area (WCA) site selection process in the Lower Coeur d'Alene River Basin, and answer questions from the public.
- The agency, in coordination with its partners, conducted outreach on several projects this year, distributing flyers locally: *Canyon Complex Repository/Waste Consolidation Area; Work starts up again; Ninemile Basin seasonal cleanup activities, Canyon Creek Basin seasonal cleanup activities, Cataldo Boat Launch Cleanup, Trucks will Resume Hauling to Lower Burke Canyon Repository,*

Sampling at Beach near Cataldo Bridge, and Cleanup at Highway 3 Bridge. Outreach was also conducted for lead health education; the Bunker Hill Central Treatment Plant/Groundwater Collection System Project; soil testing and property cleanups; recreation and health; repositories; the Gray's Meadow agriculture to wetland conversion project; and more. EPA also produced a handout for participants on the BEIPC August 2022 cleanup tour, and a fact sheet on a study to monitor swan health.

In addition to the above, EPA continued the following activities in 2022:

- 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 2022 year, due to the continuing COVID-19 pandemic, BEIPC quarterly meetings were held both in-person and virtually. This year, however, marked the return of the in-person tour of select cleanup projects across the site. This was held immediately after the August BEIPC meeting.
- EPA continued to maintain the website for the Basin Cleanup. It offers the 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.
- Project managers met several times with local officials, interest groups, and others to provide updates and answer questions in 2022.
- EPA continued to work with the media in 2022, arranging several press availability sessions, fielding questions from reporters about the site, running newspaper display ads, and issuing press releases on high-interest activities.

IDEQ and Panhandle Health District (PHD) Community Involvement Activities

IDEQ 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 2022 activities:

- Taught ICP course for the North Idaho College's Annual Safety Fest
- Guest lecture at Gonzaga's School of Nursing (Spring & Fall)
- Restocked Play Clean Brochures in local laundromats and other public locations.
- Attended Idaho's Lead Advisory Committee Meetings, providing updates on Lead Health Intervention Program (LHIP) events and outreach activities. Discuss statewide activities around lead screenings and lead education.

- Virtually attended Boise's Fettuccine Forum presentation of Idaho's Coeur d'Alene's and the Promise & Perils of Industrial Modernity on a Western Resource Frontier
- Attended Community Based Marketing Training workshops & consultation for ways to improve community outreach efforts
- Judge for the North Idaho High School Stem Science Fair
- Attended the Silver Valley, State of the Mines event hosted by the Silver Valley Chamber of Commerce
- Presentation and site tours provided to new Kootenai Health Resident Doctors
- Participated in Lower Basin Waste Consolidation Area planning meetings.
- Hosted a booth at City of Coeur d'Alene's Earth Day event
- Presented and provided site tour to PHD's Health Promotions Team for lead awareness training
- Collaborated with HUD and Idaho Housing and Finance Association (IHFA) to discuss HUD housing in the BHSS and provide lead awareness training
- Hosted mayor's coalition meeting on proposed changes to ICP Rule to Statute
- Youth Water Summit Judge and Presenter
- Arranged for Public Service Announcements from May 3 to August 29, 2022, three times a day on KPND-KTPO-FM, KICR-KIBR-FM through Blue Sky Broadcasting and twice a day on KXLY and KZZU through KXLY Radio Group
- Assisted The Confluence Project at Lake City High School to prepare for the Youth Water Summit
- Presented to Kootenai County Realtor's Association on ICP and site history
- Attended Silver Valley Chamber meeting to give updates on 2022 remedial activities and site projects
- Attended Silver Valley Economic Development Council Meetings to give updates on 2022 remedial activities and site projects
- Provided education to the Kindergarten through Third Grade classes at 9 local schools, distributing 843 bags with educational information and goodies to each student
- Hosted three public meetings for proposed ICP Rule/Statute changes
- Presented and provided tour to IDHW's new Childhood Lead Poisoning Prevention Program's toxicologist.
- Gave presentation to PHD's Nutritional Services team about lead awareness
- Managed Annual Blood Lead Screening Event (6-day event)
- Hosted and manned a booth at the North Idaho Fair (10-day event)
- Hosted a soil shop event at Kellogg's Music in the Park event. Collaborative effort with IDHW and ATSDR
- Provided health and safety training to Silver Mountain's Bike Park crew
- Site Tour with Panhandle Area Council and Department of Commerce Representatives
- Present at the Spring, Summer, and Fall Basin Environmental Improvement Project Commission Meetings
- Hosted a pizza party and provide educational materials to residents at the Canyon Side Apartments
- Met with Shoshone County's newly appointed County Commissioner and provided information about services ICP and LHIP programs offer
- Presented and provided site tour for Mountain View Academy
- Presented to PHD's Board of Health on results of annual lead screening event
- Hosted booth at Shoshone Medical Center's Kid's Health Fair, provide each child with bag of educational information, goodies and health snacks

- Posted flyers for EPA's work projects throughout the year
- Disbursed Basin Bulletin and EPA project updates throughout site. EPA released three Basin Bulletins in 2022: March 2022, July 2022, and November 2022.
- Provided brochures and information at the Cataldo Mission State Park Visitor Center
- ICP staff attended the Idaho Department of Water Resources National Floodplain education training
- Presented and provided site tour for area teachers for continuing education credits
- Attended Silver Valley Transportation Team meetings
- Tours of the Central Treatment Plant were provided to multiple groups
- Presented on ICP, site history and lead awareness to PHD's All District Staff Meeting
- Hosted a booth at Silver Mountain's Halloween Trunk or Treat event
- Attended EPA meetings on identifying a Lower Basin Waste Consolidation Area
- Attended National Academy of Sciences findings on Lake Coeur d'Alene Study
- Attended Silver Valley Chamber of Commerce Members Meet and Greet
- Attended Silver Valley Economic Development Council's Uptown Kellogg Revitalization Meeting

Calendar Year 2022 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 2017 – 2022 for children residing in the Basin 6 months to 6 years of age.

Year	2017	2018	2019	2020*	2021**	2022**
Number of Children	105	88	84	4	19	40
Minimum (µg/dL)	1.0	1.4	1.9	1.9	<1	<1.0
Maximum (µg/dL)	20.0	9.0	14	6	7	30
Average (µg/dL)	4.3	2.4	2.5	3.5	1.9	4.2
Geometric Mean (µg/dL)	3.5	2.0	1.9	3.1	1.5	2.2

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

**Venous Test Results Only. In 2022 an additional 61 children had capillary test results, 51 of which were below detection (<3.3 µg/dL) and 46 older participants had capillary test results, 38 of which were below detection.

On October 28, 2021, the CDC lowered the blood lead “reference value” (BLRV) from 5.0 µg/dL to 3.5 µg/dL. PHD uses this new lower reference value for all follow-up calls and offers for in-home consultations. Historically PHD has used the Lead Care Plus model of machines for analyzing the capillary draws which has a minimum detection limit of 1.9µg/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 2022 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 draws were encouraged. This higher detection limit impacted overall averages for the 2021 & the 2022 events. Test kits for the Lead Care Plus machines have since been replenished and will be utilized for future screenings.

For the 2022 screening event a total of 101 children between 6 months to 6 years were tested in the Basin but due the use of alternative machines and higher detection limits, only venous results are reported above. In addition to Basin participants, a total of 114 children between 6 months to 6 years residing in the Box received screenings through PHD in 2022, and 68 Box residents over the age of 7 participated.

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 home¹. These in-home consultations help PHD, and individual 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 summer screening in 2023 with a \$50 incentive for children between ages 6 months to 6 years of age.

During 2023, the Lead Health Intervention Program will continue to offer the additional services:

- Year-round blood lead screening and follow-ups
- In-home consultations for individuals with elevated blood lead
- HEPA vacuum loan program for cleaning residences
- Education, outreach, and awareness for parents, children, community members, recreationalists, and visitors
- Education classes in local schools for grades K-12
- Annual Environmental Science and Health Fair
- Education and outreach at community events
- Sampling of soil, dust, paint, water, and other media as appropriate

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.

Basin Property Remediation Program (BPRP)

Sampling and cleanup of residential, commercial, common-use areas, and rights-of-way (ROWs) continued in 2022 as part of the Bunker Hill site's (BPRP). IDEQ implements this program in OU-1; the CDA Trust implements this program in OU-3.

BPRP in the Box

IDEQ did not complete any remediation in the Box this year, as there was not any transfer of ownership or change in access status for the remaining refusal properties. Nine Box properties remain to be remediated once owners grant access. At the conclusion of 2022, a total of 3,236 properties have been remediated in the Box.

BPRP in the Basin

The CDA Trust completed the following BPRP activities in 2022:

- At the commencement of 2022, the CDA Trust continued to maintain six existing reverse osmosis under-sink water filtration systems treating drinking water from private sources.
- Collected a total of 103 soil samples from five residential properties in 2022.
- Collected three private drinking water system samples from one property.
- The construction season started on September 26 and finished on October 11. In that time, three residential properties were remediated for a total of 0.71 acres in 2022. This resulted in 48 truckloads of waste being disposed of in site repositories.
- Collected 306 dust mat samples and 108 vacuum dust samples. The house dust samples were collected from 288 residential properties throughout the Upper Basin geographic areas.
- At the conclusion of the 2022 field season, properties remaining to be sampled and/or remediated in the Upper and Lower Basin are those whose owners have refused access, or who have not responded to repeated contact attempts by the CDA Trust and IDEQ. At the conclusion of 2022, a total of 3,931 properties have been remediated in the Upper and Lower Basin of OU-3.

Contaminated Waste Disposal and Management

Introduction

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 waste 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.

Three Categories of Facilities

The contaminated waste disposal and management program currently includes a three-part approach and category of facility to safely dispose of site-generated wastes. 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 and Lower Basins located adjacent to or near specified remedial action source areas.
- Community Fill Plan (CFP) areas developed in recognition that the ICP allows use of contaminated soils for fill material to create more developable ground in the Upper Basin. Agreements between waste generators and property owners with space available to use the contaminated fill in compliance with the ICP are approved by EPA, IDEQ, and PHD.

Repositories

Five repositories received remedial action and ICP waste in the 2022 field season. The Big Creek Repository (BCR) and the Big Creek Repository Annex (BCRA) near the community of Big Creek and the Lower Burke Canyon Repository (LBCR) serve the Upper Basin, and East Mission Flats Repository (EMFR) near Cataldo serves communities in the Lower Basin. The Page Repository, located near Smelterville receives remedial action and ICP wastes generated by the cleanup activities conducted in the "Box." All but Page are operated by the CDA Trust. Both IDEQ and the CDA Trust directed waste to the repositories to minimize transportation distances and costs. In addition, the Page Repository continues to use recycled construction materials extracted from Box and Basin waste streams which helps to further reduce repository operating costs. A summary of activities completed in 2022 at each repository is described in the following:

Big Creek Repository (BCR)

- In 2022, the BCR received 393 truckloads from the ICP, for an estimated 3,832 cubic yards (cy) of waste placed on the east slope.
- At the end of the 2022 construction season, the BCR contained approximately 679,837 cy of waste soils. BCR currently has approximately 86,322 compacted cy of capacity left for disposal.
- The water quality monitoring program at the BCR found operations have not impacted adjacent surface or ground waters.
- Year-end repository shutdown activities were completed and included:
 - All road surfaces were graded and sloped inward to collect runoff to capture runoff and prevent ponding.
 - Waste was graded and sloped inward to collect runoff to capture runoff into roadside ditches.
- 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.

Big Creek Repository Annex (BCRA)

No new wastes were placed at the BCRA in 2022. This repository has approximately 169,461 cy of capacity remaining.

East Mission Flats Repository (EMFR)

- In 2022, the EMFR repository received 422 truckloads from ICP, 286 truckloads from recreational site remediation, and 63 truckloads from BPRP.
- Final in-place, compacted volume calculated from truckload count was approximately 6,726 cy. EMFR currently has approximately 162,960 cy of capacity left for disposal.
- 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.
- 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.

Lower Burke Canyon Repository (LBCR)

- Stabilized slopes by track walking.
- Created low area sump near decontamination pad to ensure that runoff from the asphalt area is contained on site.
- Constructed 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 straw waddles, shredded wood, and silt fencing on steep slopes to further protect against erosion.

Page Repository

- In 2022, construction of cell #4 continued.
- Page received 4,534 truckloads of ICP waste, including 537 truckloads of concrete and 202 loads of woody debris. The total estimated volume of material placed at Page in 2022 based on the year-end survey was 16,300 cy. Page has approximately 473,000 cubic yards of remaining waste capacity.

Waste Consolidation Areas

The following two Upper Basin WCA's were operated in 2022:

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

- 2022 was the first year of construction of the Phase 2 Final Cover and Expansion effort primarily focusing on installation of a portion of the final cover. The final cover was installed over a completed portion of consolidated waste (approximately 170,000 square feet). The expansion (in 2023) will increase capacity at the EFNM WCA to allow placement of approximately 580,000 cy of contaminated waste rock and mine tailings from ongoing EFNM projects.
- In 2022, the EFNM WCA received approximately 245,000 cy of waste from remedial actions in EFNM drainage resulting in an approximate compacted volume of 202,000 cy. The total volume of material placed in the WCA to date is approximately 880,000 cy. Temporary cover materials were placed over the contaminated waste rock and mine tailings at the WCA prior to winter shutdown.

- To date, the EFNW WCA site has generated approximately 300,000 cy of rock and 300,000 cy of soil for EFNW 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.



Lower Burke Canyon Repository Waste Material Placement

Canyon Complex Repository and Waste Consolidation Area (CCR/WCA)

- Initial construction was completed in 2022 on the CCR/WCA which is located southeast of the LBCR. This site was developed to receive waste from nearby source remediation sites and other mine remediation areas.
- In 2022, approximately 33,000 cy of mine waste from the old Silver Valley Natural Resources Trustees (SVNRT) Repository was placed into the new CCR/WCA. The SVNRT Repository was constructed in 1995 and had contaminated springs leaking from the base of the Repository which necessitated the removals. The total volume of material placed in the CCR/WCA to date is approximately 604,000 cy.
- Additionally, in 2022 the first phase of the final cover system was installed over a completed portion of consolidated waste. The CCR/WCA footprint was also expanded in 2022 to allow for placement of approximately 270,000 cubic yards of contaminated waste rock and mine tailings from upcoming Canyon Creek cleanup projects.



Canyon Creek Waste Consolidation Area Construction Season End

Community Fill Plan Areas

No CFP areas were developed in 2022.

Additional Disposal Locations

Osburn Tailings Impoundment (OTI)

In addition to the above repositories, the Osburn Tailings Impoundment (OTI) near the town of Osborn was identified in past years and some design work completed for use in the future depending on disposal needs.

New WCA

In 2022, a Project Focus Team (PFT) was formed to evaluate Lower Basin locations proposed by EPA during a public comment period on, and to consider alternative locations for, a new WCA to dispose of wastes generated from Lower Basin remedial actions.

Mullan ICP Transfer Station

The CDA Trust operates the Mullan transfer station which provides City of Mullan residents a convenient place to dispose of their ICP wastes which are then permanently disposed of in a locally engineered facility (e.g., the BCRA or LBCR). No waste was transferred from the Mullan Station to a local facility during 2022.

Upper Basin Remedies

East Fork Ninemile Creek Drainage (EFNM)

The following summarizes the 2022 construction activities conducted in EFNM:

- Approximately 95,600 cy of contaminated waste rock and mine tailings were hauled from the lower portion of the EFNM, Lower East Fork Nine Mile (LEFNM) Riparian Area and Dayrock Mine and placed and compacted at the EFNM WCA. In addition to the removal of mine waste rock and tailings, approximately 2,700 feet of EFNM Creek stream channel was re-constructed at the lower portion of the LEFNM site.
- Approximately 148,700 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 there was approximately 600 feet of EFNM Creek stream channel that was re-constructed within the riparian area of the Tamarack Complex.



Building Removal Operations Day Rock Complex



Completed Stream Reconstruction Lower East Fork Ninemile Creek



Site Grading Tamarack No. 5 Adit Waste Remediation Project

Other activities conducted in 2022 included the following:

- Operation of the EFNW WCA (see separate section in this report titled “Contaminated Waste Disposal Areas and Management”).
- Continued surface water monitoring in the EFNW Basin.
- Operations and maintenance (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 2022, activities in the Canyon Creek drainage consisted of the following:

- Conducted initial characterization and sampling activities at the Frisco Black Bear Reach (7 sites) located in the upper reaches of Canyon Creek.
- Continued surface water and ground water monitoring in the Canyon Creek Basin.

- Completed initial construction of the Canyon Complex Repository/WCA. Finished moving the waste material from the old Silver Valley Natural Resource Trustees repository into the new CCR/WCA.
- Continued development of the Canyon Creek Quarry (CCQ). The CCQ will supply clean aggregate materials to CCR/WCA as well as other future Canyon Creek remedial action projects.
- Completed designs for the Star Complex and Tamarack No. 7 projects to support future cleanups.
- Began design for the Flynn Mine and Black Bear Fraction sites to support future remedial action.

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 objectives of remediation 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.

Gray's Meadow Remedial Action and Restoration

In 2022, 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 to remediate and restore approximately 700 acres of publicly owned contaminated agricultural land to clean, diverse, productive wetlands and riparian waterfowl/wildlife habitat.

In 2022, progress on the Gray's Meadow project included:

- Completion and stakeholder review of the 90 and 100 percent designs for both the Cave Lake and Lamb Peak wetlands.
- The Lamb Peak wetland discharge and access road improvement project construction was completed in June 2022. This project included constructing a new pumphouse, relocating pump discharge from Black Lake to the Coeur d'Alene River, widening the access road, and replacing the existing bridge that leads to the wetland.
- Cultural resource monitoring activities for both the Cave Lake and Lamb Peak wetland construction projects.
- Localized dewatering of Cave Lake and Lamb Peak wetlands.
- Tilling of impacted soil at both the Cave Lake and Lamb Peak wetlands.
- Restoration grading and stockpiling of contaminated soils in the Lamb Peak wetland.



Pump Discharge Structure on the North Side of Trail Gray's Meadows Project



Gravity Drain Outfall Structure to the Black Lake Tie Channel Gray's Meadows Project

Lead Bioaccessibility

In 2022, EPA continued studies related to lead bioaccessibility and amendments, as well as metrics for measuring lead exposure in waterfowl. Several studies were completed or are ongoing including:

- A bench-scale treatability study to explore the efficacy of biochar amendments on Lane Marsh wetland sediment as compared to a control (no amendments), lime, and activated charcoal to reduce soil lead bioavailability under environmental conditions realistic for wetlands. The results of this study were recently published in the journal article: The effects of biochar and redox conditions on soil lead (Pb) bioaccessibility to people and waterfowl (<https://doi.org/10.1016/j.chemosphere.2022.133675>).
- Field studies to measure the effects of oxidizing and reducing conditions in seasonal wetland sediments on lead bioaccessibility
- Field studies to identify non-invasive biological metrics for monitoring tundra swan lead exposure by measuring lead concentrations in sediment, feces and blood.

Dudley Reach Pilot Planning

To address source control in the river channel, planning for the Dudley Reach pilot riverbed remediation project continued in 2022. The location is downstream of the grade break near River Mile 160, near the site of a former dredging operation. The riverbed footprint is over 1,200 acres, spanning 37 river miles and contains approximately 5-10 million cubic yards of contaminated sediment. EPA has developed several alternatives for testing in the Dudley Reach, including capping, dredging and riverbed weirs. A Draft Riverbed Management Plan was completed in 2021 that describes an approach for the entire Lower Basin riverbed below Cataldo and divides the riverbed into sediment management areas (SMAs) as a starting place to conceptualize addressing the riverbed source areas throughout the channel and help facilitate remediation planning. Remedial technologies were assessed for potential effectiveness primarily focused on lead load reduction, system responses (changes in flood water levels), and implementability. The approach includes an initial integrated remediation scenario for the entire riverbed.

River Channel Data Collection

In 2022, data collection efforts associated with the river channel included the following:

- Boat-based river sampling of suspended sediment and surface water at 78 locations on the Coeur d'Alene River from Harrison to the Mission Boat Launch.
- Work in the **Dudley Reach** included:
 - Sediment sampling at 14 locations using vibracore.
 - 14 penetrometer tests, geotechnical sample collection, field vane shear testing, and geophysical surveying using electric resistivity imaging (ERI), and seismic survey (multichannel analysis of surface waves [MASW] methods).
 - Riverbank erosion pin monitoring at 5 locations in the Dudley Reach. Samples were collected to characterize riverbank soils.
- Work in the **Cataldo Reach** included:
 - Installed erosion pins every three feet of bank height above the current water level at 28 riverbank locations.
 - Soil sampling for metals analysis from the bank face at 28 riverbank locations.
 - Surface soil composite sampling for metals analysis at 29 bar and island locations.
 - Upland riverbank assessment of bank wedges, including the collection of soil samples for metals analysis from at 6 locations.
 - Discrete surface sediment sampling with a Ponar sampler or hand tools for metals and gradation analysis from 18 riverbed locations.

State of Washington Projects

A periodic review was completed for the Spokane River beach sites in late 2021 and is planned to go out for public review in 2022. It includes a complete survey of each of the remediated beach sites along the Spokane River in Washington that was conducted in 2018, including results from XRF analyses and observations summarized in a technical report dated June 2019, and sediment sampling from a site downstream of the beaches in 2020.

In general, it was observed that the beach sites closest to the Washington-Idaho border have accumulated sediment from upstream sources that contain heavy metals. However, current concentrations at the upstream beach sites have not reached the action levels that were used when conducting the cleanups. Overall, the cleanup at each of the beach sites is in good condition.

Recreational Sites

Work on Recreation Areas in 2022 included sampling, remediation, and public education/outreach activities for areas in both the Box and Basin.

Signage

New health information signs were developed and installed to inform users of contamination and provide consistent health messaging. In 2022, five new signs were installed at Lower Basin locations, one of which had to be replaced shortly after installation due to vandalism. Locations included boat launches, informal river access points, and beach areas.

Box Activities

Recreation site work in the Box focused on finishing designs for the SFCDA River between Elizabeth Park in Kellogg and the Pine Creek trailhead in Pinehurst. A remediation alternative is under development for the East Smelterville Flats in Kellogg, along with an enhanced trail barrier design at the Airport River Walk, with work expected to be implemented in 2023.

Basin Activities

The 2022 cleanup work in the Basin focused on the following Lower Basin recreation sites:

- EPA continued to evaluate previously completed initial actions at the Medimont boat launch, Rainy Hill boat launch, Anderson Lake boat launch, Thompson Lake boat launch and East of Rose Lake boat launch. At four of these boat launches, willows and/or alders that were planted in 2020 to discourage families from recreating on soils near the CDA River were found to be re-contaminated from yearly flooding. Bare soil areas were hydroseeded to promote vegetation establishment. Initial actions such as concrete pavers or enhanced vegetation will continue to be evaluated in areas where ongoing recontamination due to flooding is a concern.
- EPA completed cleanup at the informal recreation site at the beach across from the Black Rock Trailhead, and at the Cataldo Boat Launch.

In addition to work in the Lower Basin, EPA also installed access controls (e.g., fencing) at informal river access points near the South Fork CDA River in the Upper Basin to discourage families from recreating on soils that are re-contaminated with yearly flooding.

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



Cataldo Boat Ramp Completed Project

Basin Environmental Monitoring

The Bunker Hill Basin Environmental Monitoring Plan (BEMP) Workgroup was restarted in Spring 2021 and continued in 2022 as an annual forum to share basin-wide monitoring results and planning amongst partner agencies. This workgroup includes IDEQ, USGS, USFWS, the Coeur d'Alene Tribe, the Coeur d'Alene Trust, and EPA.

BEMP Programmatic Planning

An updated BEMP programmatic plan was finalized in 2021 and provides the framework for ongoing remedy effectiveness and long-term monitoring associated with actions in the Upper, Middle and Lower Basin. The goal of the updated and optimized BEMP is to design efficient data collection plans to support site-wide management decisions. The BEMP incorporates adaptive management principles and is anticipated to evolve during the remedy implementation timeframe. The over-arching plan includes the Site-wide Quality Management Plan (completed in 2015) and media-specific Quality Assurance Project Plans (QAPPs).

Under the updated BEMP programmatic plan, monitoring is structured into three geographically based tiers:

- Site-specific Remedial Action (RA) effectiveness and performance monitoring.
- Area-wide monitoring.

- Basin-wide long-term monitoring.

In 2022, the area-wide Canyon Creek RA Effectiveness Monitoring Plans was drafted and will be finalized in 2023. A Lower Basin area-wide plan was also drafted in 2022.

A programmatic Data Management Plan for the Bunker Hill Site is near finalization with partner agencies and provides guidance with data requirements for all entities collecting environmental data at the Site. Human health related LHIP data, limited access BPRP, and ICP data will not be included in this database and instead maintained in existing IDEQ systems. In 2023, data upload to Scribe.net will be finalized and work begun on an internal and public access data platform. Until these tasks are complete, stakeholders can make specific data requests to the EPA Remedial Project Manager associated with the work being conducted.

During 2022, USGS, IDEQ, USFWS, CDA Trust and EPA continued BEMP sampling. Specific sampling activities are outlined below.

Surface Water

In 2022, the USGS collected 84 stream discharge measurements and water-quality samples from 20 sites as part of the surface-water BEMP. Sixteen sites in OU-3 were sampled four times, and four sites in OU-2 were sampled twice. Samples were collected during a range of hydrologic events: a rain-on-snow event in early March, spring snowmelt runoff in late May, baseflow conditions in September, and during a late-fall rain event in November. All samples were analyzed for nutrients, selected trace metals and major ions, and suspended sediment. In addition, 20 samples were analyzed for total and filtered mercury, and 16 samples were analyzed for constituents (dissolved organic carbon and additional cations and anions) needed for the biotic ligand model to calculate state of Idaho copper criteria. Five 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 2022 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 2023.

The USGS collected 29 discharge measurements and water-quality samples from nine surface-water sites during the August seepage study in the SFCDR between Kellogg and Smelterville. The study is designed to quantify post-remedy groundwater loading to the SFCDR from the Central Impoundment Area (CIA) and will be compared to results of a parallel study (<https://doi.org/10.3133/sir20195113>) conducted prior to installation and operation of the groundwater collection system. The study report will be published in calendar year 2023.

Groundwater

Groundwater monitoring in 2022 focused on collecting baseline data after implementation of the Ground Water Collection System (GCS) at the CIA, and completion of the prescribed optimization period. The GCS completed construction in December 2019 and operated under an optimization period through Fall 2021, at which point operation and maintenance responsibilities were transferred to IDEQ. During high flow conditions in June of 2022, 72 groundwater sites were sampled including 60 monitoring wells, 3 piezometers, and 9 extraction wells. During base flow conditions in October, 72 sites were sampled including 59 monitoring wells, 4 piezometers, and 9 extraction wells. The laboratories analyzed the

samples for metals, phosphorus, and other parameters. Sampling was conducted to capture baseline data across the site that reflects the conditions of groundwater quality following stabilization of hydrogeologic conditions to full GCS pumping operations and to characterize groundwater quality at the A-4 Gypsum Impoundment. EPA and IDEQ are currently reviewing preliminary data from the 2022 baseflow sampling event. Water level monitoring continued through 2022 with approximately 80 in situ transducers installed across the site through November 2022, at which point the network was reduced to approximately 60 transducers. The next water quality monitoring effort will be performed during high flow conditions around April/May 2023.

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) 2022 flow at Cataldo met the threshold criterion and boat-based sampling and data collection were performed.

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 2022 these surveys were successfully completed for all 12 weeks of the survey season. The combined 2020-2022 USFWS OU-3 waterfowl survey report is planned for submission to EPA in January 2023.

In 2022, EPA scientists worked with CDA Tribal, state, federal, and local partners on a collaborative effort to monitor a local migratory bird, the Tundra Swan. As swans dabble and forage in the water and sediment for aquatic plants, they ingest contaminated sediment with lead concentrations that can be 10 times greater than the concentration considered safe for waterfowl. Lead contamination poses a health risk to these swans. Many swans die every year and 2022 was an exceptionally high year for swan mortalities with over 300 documented.

In 2023, EPA together with partners from IDFG, USFWS, USGS, and the CDA Tribe, will continue research into an easier and minimally invasive method of measuring swan lead exposure by collecting and analyzing swan fecal samples. Those results are then compared to lead present in blood samples taken from the swans and nearby sediment. These data are used to determine if a correlation exists and look for ways to optimize remediation planning while monitoring the ongoing clean-up effort effectiveness across the Basin.

Part 2 – Other BEIPC Activities and Responsibilities:

IDEQ Lake Management Activities

The Coeur d'Alene Lake Management Plan (LMP), developed by the CDA Tribe and IDEQ, was finalized in 2009. Since then, the CDA Tribe and IDEQ 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. That same year, Idaho Governor Brad Little called for a third-party review of Lake data to take a closer look at observed Lake water quality trends and guide actions to protect the Lake moving forward. In 2020, the State of Idaho, Kootenai County, and EPA sponsored the contract with the National Academy of Sciences, Engineering, and Medicine (NAS) to conduct this neutral third-party review of CDA Lake data. The final report was completed in 2022 (<https://www.nationalacademies.org/our-work/the-future-of-water-quality-in-coeur-dalene-lake>) and included a number of recommendations to help guide Lake management science activities into the future.

Discussions among the CDA Tribe, IDEQ and EPA related to NAS recommendations and future lake management activities are ongoing. Additionally, various aspects outlined in the LMP and listed below are essential to continue while additional approaches to augment work under the auspices of the LMP are being considered.

IDEQ Lake management accomplishments in 2022 consisted of the following activities:

Science Core Program

- Conducted routine CDA Lake monitoring
- Continue coordination with AVISTA, the Idaho State Department of Agriculture (IDOA), and CDA Tribe staff on aquatic plant surveys and responses to infestations of aquatic invasive species
- Continued conceptual model report development to describe the lake's structure and mixing (the current draft report incorporates river hydrography, IDEQ 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)
- Provided technical support to the NAS committee to conduct a neutral third-party review of lake data
- Met with NAS committee members after the release of the final third-party review report to discuss potential science program considerations moving forward

Education & Outreach Core Program Activities

- Provided updates on Lake management activities for a variety of community groups and the public
- Participated in The Confluence Project (TCP) committee, teacher workshops, and field trips for high school students (including the Youth Water Summit)
- Continued participating in the Our Gem Coeur d'Alene Lake Collaborative (Collaborative), which provided regular articles in the CDA Press related to Coeur d'Alene Lake and organized an event to host the NAS to present their findings on CDA Lake water quality to the local community
- Coordinated with NAS staff to schedule a briefing on the third-party review for Governor Little and his staff, cosponsors (Kootenai County and EPA), and CDA Tribe representatives
- Worked with local media to make information on Governor Little's Leading Idaho Initiative and activities of the Coeur d'Alene Lake Advisory Committee (CLAC) available to the public
- Continued participation in the Local Gems program through the Coeur d'Alene Regional Chamber of Commerce Natural Resource Committee
- Continued coordination with the Bay Watchers program, organized by the U of I through the Community Water Resource Center, exploring ways to expand volunteer monitoring
- Continued participation on 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

- Worked with the City of Coeur d’Alene, U of I, SEEP committee, AVISTA Corp, the CDA Tribe, and IDOA to develop an educational sign depicting stormwater and aquatic invasive species information in the City of Coeur d’Alene (the sign was installed in May and unveiled at a Live After Five event in June of 2022)

Nutrient Inventory/Reduction

- Continued to collect water quality for 11 tributaries to CDA Lake. These include Beauty Creek, Bennett Creek, Blue Creek, Cougar Creek, Fernan Creek, French Gulch, Kidd Creek, Mica Creek, Neachen Creek, Turner Creek, and Wolf Lodge Creek.
- Continued to collect seasonal data for 10 small drainages around the Lake, including Gotham Creek; small streams at Sunnyside road and Boothe Park Road; and 6 locations on the Lake’s west side (along Tall Pines road, at Mica Bay boater park, Lyle Creek, Scott Creek, Stinson Creek, and a small creek on Solitaire Rd at Black Rock).
- Continued to work with the City of Coeur d’Alene and U of I to identify opportunities to monitor stormwater where outfall improvement projects are implemented and gather local data on stormwater nutrient loading.
- Assisted the CLAC and basin stakeholders to solicit, evaluate, and select project applications for funding under Governor Little’s Leading Idaho Initiative. This initiative is focused on implementing projects throughout the basin that will reduce phosphorus loading to CDA Lake. Project implementation began in 2021 and continued in 2022.
- Worked with Leading Idaho funding recipients to develop agreements and initiate project implementation throughout the basin

Partnerships with Other Entities

- Worked with Governor Little’s staff to organize and facilitating meetings of the CLAC, which includes representatives from the State of Idaho, CDA Tribe, Kootenai County, City of Coeur d’Alene, City of Harrison, Kootenai Environmental Alliance, Coeur d’Alene lakeshore property owners, Hagadone Marine, and the public at large.
- Continued coordination with AVISTA Corp on identifying and prioritizing projects to enhance wetland habitat, reduce bank erosion, and improve fisheries throughout the Basin, in addition to monitoring aquatic invasive species in the Lake and tributary rivers
- Continued participation in the Coeur d’Alene Regional Chamber of Commerce Natural Resource Committee, the Our Gem Coeur d’Alene Lake Collaborative, Panhandle SEEP, the 4-County Natural Resource Committee, and other groups focused on water quality protection to facilitate communication and possibilities for collaboration
- Continued participation in Panhandle Basin Advisory Group meetings
- Coordinated with EPA staff to collaborate on collecting phosphorus data in the Lower Coeur d’Alene River from high river flow events targeting suspended sediment
- Worked with the BEIPC Executive Director to provide Lake activity updates for the BEIPC

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

Coeur d'Alene Tribe Lake Management Activities

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

As of the summer of 2018, the Coeur d'Alene Tribe determined that the LMP is inadequate, in itself, as an effective tool to protect water quality in the Lake. The Tribe withdrew their support as a signatory government to the LMP in 2019. In 2020, the State of Idaho, Kootenai County and EPA sponsored a contract with the National Academy of Sciences (NAS) to conduct a neutral third-party review of the Lake data. The final NAS report was released in 2022 and Tribal staff are working with IDEQ to assess the NAS priorities moving forward and will work with the Coeur d'Alene Lake Advisory Committee on recommendations for funding considerations.

Discussions among the Tribe, IDEQ 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.

Lake management accomplishments in 2022 consisted of the following staff activities:

Science Core Program

- Routine Lake monitoring by the Tribe continued through 2022.
- Tribal staff continued their milfoil control program in southern waters during 2022, including bottom barrier and mechanical harvester treatments. The Tribe is continuing its monitoring of treatment efficacies and native plant communities and is focusing control efforts at high use public areas such as boat launches, swim areas, and boating lanes. Mechanical harvesting has worked well in opening up these areas to recreational activities. Harvesting also helps remove the oversupply of nutrients in nearshore areas. The Tribe removed approximately 188,452 lbs. (wet weight) of aquatic vegetation in the summer of 2022, which translates to ~74 lbs. (dry weight) of phosphorus and ~373 lbs. (dry weight) of nitrogen.

Education & Outreach Core Program

- Throughout 2022, Tribal staff provided updates on Lake activities to a variety of community groups and made presentations to the public.
- In 2022, Tribal staff worked with the Confluence Project (TCP) and Basin high schools with 'hands on' water quality, groundwater, and snow science field trips for high school students and teachers in North Idaho.
- The Our Gem Coeur d'Alene Lake Collaborative (Collaborative) worked throughout 2022 to provide regular articles in the CDA Press related to Coeur d'Alene Lake and water quality to keep this subject present in the community. For more information on the articles and to watch the recorded Speaker Series visit: <https://www.uidaho.edu/cda/cwrc/our-gem>. The Collaborative is made up of the Tribe, IDEQ, U of I Community Water Resource Center (CWRC), Kootenai County,

Kootenai Environmental Alliance, CDA2030, and the Coeur d'Alene Regional Chamber of Commerce.

- Tribal staff continued to work with the Coeur d'Alene Regional Chamber of Commerce Natural Resource Committee to implement the "Local Gems" program through virtual meetings.
- Tribal staff continued to collaborate with the U of I CWRC and agency partners to conduct Baywatchers workshops for Coeur d'Alene Lake Bay community volunteers/liaisons utilizing combined virtual and in-person meetings with appropriate safety measures in place.

Lake and River Water Quality Sampling 2022

- Tribal staff continued to sample from the Coeur d'Alene River at Harrison, St. Joe River, Chatcolet Lake, and Coeur d'Alene Lake sampling locations.
- Tribal staff continued data analysis and writing the water quality report for Coeur d'Alene Lake.
- The Tribe's Limnologist continued calibration of the AEM3D Coeur d'Alene Lake model and reported the model calibration results to the NAS and filled seven data requests from the NAS.

Partnerships with Other Entities (all meetings were held virtually due to the pandemic)

- Tribal staff continued to be involved in the Panhandle Basin Advisory Group meetings, which were held virtually.
- Tribal staff worked with the BEIPC Executive Director to provide Lake updates to the BEIPC during quarterly meetings and for written reports.
- Tribal staff continued coordination with County staff, the CDA 2030 Project and have continued participation in the Coeur d'Alene Chamber's Natural Resources Committee via Zoom meetings.

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

Flood Control and Infrastructure

Working through the MOA developed and implemented for flood control in the Upper Basin, the BEIPC and the Silver Valley Flood Control Group continued to deal with flooding and its impacts on the communities and the Superfund remedies. The formal partnership continued to work with the U.S. Army Corps of Engineers (COE), BEIPC Consultant and FEMA to complete a Flood Map Revision for the River from Elizabeth Park to Pinehurst. The City of Pinehurst anticipates using their Flood Risk Assessment from the COE to request a similar flood mapping change to FEMA for the Pinehurst area for the Pine Creek Drainage.

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 (IDEQ). 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 2022 (FY22):

- 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, for more information visit: <https://www.restorationpartnership.org/schlepp.html>
- The Trustees coordinated quarterly reporting and site visits with the Project Sponsors and Project Leads as appropriate throughout FY22.
- Implementation of the following projects continued in FY22 with some work being delayed due to the COVID-19 pandemic and staff turnovers. The amounts expended in FY22 are noted with a brief narrative of work that was completed. The full annual reports can be found on the website at www.restorationpartnership.org. There was 1 project completed in FY22.
 - **Ongoing: Wetland and stream enhancement at Cougar Bay on Coeur d'Alene Lake (BLM and USFWS sponsors).**
 - Funds Originally Allocated in FY18 and 19 on Cougar and Johnson parcel jointly: \$407,000.
 - Amount Expended in FY22: \$164,121
 - FY22 Activities: 1) Ducks Unlimited awarded a construction contract for the Cougar Bay Wetland restoration project and implementation started in October 2021, 2) BLM donated \$12,000 for purchasing riparian plants and deer fencing to protect the plantings, 3) Additional plantings scheduled for the Spring and Fall of 2023, and 4) Ongoing monitoring of stream becoming sufficiently stabilized by the establishment of both planted and natural riparian vegetation.



Resident Great Blue Heron at Cougar Bay Wetland

- ***Ongoing: Gul Hnch'mchinmsh* - Native Willow Nursery for Support of Restoration Actions throughout the Restoration Partnership Project Area (Tribe sponsor).**
 - Funds Originally Allocated in FY18: \$205,462
 - Amount Expended in FY22: \$8,476
 - FY22 Activities: 1) Coeur d'Alene Tribal staff worked with USFS Panhandle National Forest Tree Nursery to develop a protocol for harvesting willows from the Tribal Willow Nursery, and 2) Created a Standard Operations Procedure to annually allocate willows for restoration projects in the Restoration Planning Area.
- ***Complete: Cultural Harvest opportunities in the Hangman Creek Watershed* (Tribe sponsor).**
 - Funds Originally Allocated in FY18: \$97,335
 - Amount Expended in FY22: \$1,471
 - FY22 Activities: 1) The original scope of the project shifted to newly acquired lands in the Hangman drainage in Washington and RP funds are not to be expended in Washington therefore, 2) The remaining funds for this project were shifted to the Hepton Levee Breach Repair project as per Trustee Council approval.

○ **Ongoing: Culturally Significant Plants in the Hangman Creek (Tribe sponsor).**

-Funds Originally Allocated in FY18: \$187,770

-Amount Expended in FY22: \$13,022

-FY22 Activities: 1) Tribal staff coordinated restoration efforts with ongoing Bonneville Power Administration and AVISTA efforts for cost sharing purposes in the Hangman watershed and, 2) Harvested camas bulbs throughout the Basin to plant along Hangman Creek to restore lost cultural services for Tribal members.

○ **Ongoing: Coeur d'Alene Lake Monitoring and Modeling (Tribe sponsor).**

-Funds Originally Allocated in FY18: \$268,668

-Amount Expended in FY22: \$30,673

-FY22 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, 2) Filled data requests from the National Academy of Sciences (NAS) 3) Continued data analysis and writing the synthesis report for Coeur d'Alene Lake, and 4) Continued calibration of the AEM3D model and reporting to the NAS.

○ **Ongoing: Hepton Lake (*Gul Hnch'mchinmsh*) Wetland Restoration Planning and Implementation (Tribe sponsor).**

-Funds Originally Allocated in FY18: \$ 210,900 and \$85,332 from remaining funds from the Cultural Harvest opportunities in the Hangman Creek Watershed

-Amount Expended in FY22: \$73,808

-FY22 Activities: 1) Tribal staff completed the competitive bid processes to select contractors to deliver structural materials for the project; and to install/remove sheet piling on the river side of the levee breach as a critical component of water management, 2) Submitted the final Wetland Reserve Program of Operations to the Natural Resources Conservation Service (NRCS) and secured matching funds from NRCS for construction with Partnership funds, 3) transitioned Tribal oversight from planning, design, cultural resource inventory and assessment over to construction planning (Phase II), and 4) removed reed canary grass to prepare the Site for establishment of culturally significant plant species as per the Cultural Resources Mitigation Plan under the National Historic Preservation Act Section 106.

○ **Ongoing: Wetlands restoration planning at Gray's Meadow (IDFG sponsor).**

-Funds Originally Allocated in FY18 \$ 250,000 (remedial match provided by the CDA Trust, \$5.2 M)

-Amount Expended in FY22: \$19,338

-FY22 Activities: 1) IDFG staff worked with Pioneer Technical to produce the final construction drawings, 2) Baseline ecological monitoring/evaluation was completed by ALTA (Montana Wetlands Assessment Method) and IDFG (Wetlands Ecosystem Services Protocol for the United States (WESPUS)) to establish a baseline/benchmark wetlands condition against which to evaluate future condition post remediation/restoration completion, 3) A water management working group consisting of IDFG and water quality staff from the CDA Tribe and IDEQ 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, and 4) Water quality monitoring continued on an as needed basis.

- ***Ongoing: Gene Day Pond Fishing Access (IDFG sponsor)***

- Funds Originally Allocated in FY18: \$25,000

- Amount Expended in FY22: \$3,581

- FY22 Activities: 1) Completed a draft Trail of the Coeur d'Alene's' Right of Way permit for infrastructure improvements, and 2) Prepared for FY23 groundwork to commence.

- ***Ongoing: Conservation Easement, North Fork Coeur d'Alene River (IDFG sponsor)***

- Funds Originally Allocated in FY21: \$600,000

- Amount Expended in FY22: \$0

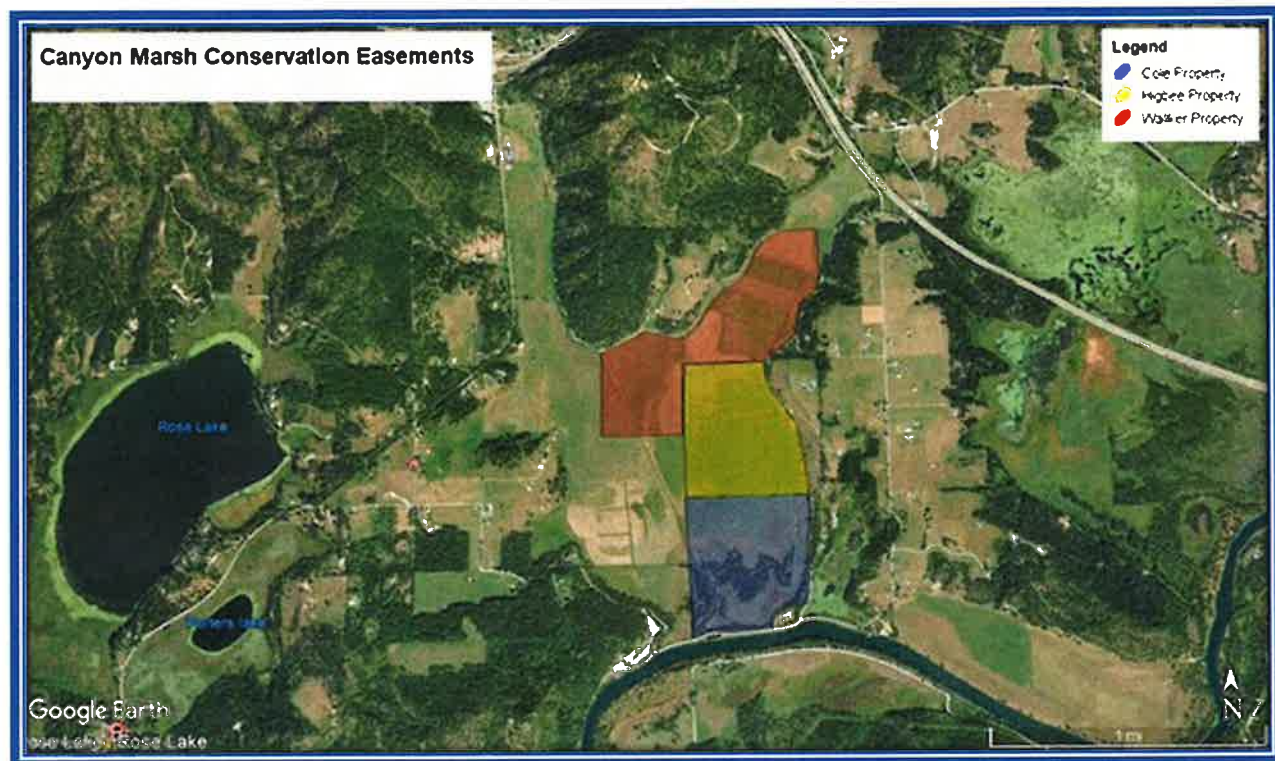
- FY22 Activities: 1) Completed an appraisal with 3 different scenarios being considered, and 2) Met with landowner and coordinated with AVISTA on negotiating the conservation easement while considering permanent protection of natural floodplain communities and cold water hyporheic flow.

- ***Ongoing: Conservation of Agricultural to Wetlands Conversion Properties within Canyon Marsh (USFWS sponsor with the Inland Northwest Land Conservancy (INLC)).***

- Funds Originally Allocated in FY18 \$801,480 and in FY19 \$372,400

- Amount Expended in FY22: \$321,250

- FY22 Activities: 1) Finalized terms of conservation easement with landowners and INLC, 2) USFWS collected soil samples across the a portion of the Canyon Marsh Complex for lead characterization, 3) Established agreements with landowners for pumping infrastructure to manage water levels during spring tundra swan migration, and 4) USFWS hired a new restoration specialist to take on the oversight of this project.



- **Ongoing: Conservation of Agricultural to Wetlands Conversion Property Gleason's Marsh (USFWS sponsor with INLC)**

-Funds Originally Allocated in FY18: \$656,140

-Amount Expended in FY22: \$0

-FY22 Activities: 1) USFWS, EPA, the CDA Work Trust, IDFG, and Ducks Unlimited (DU) met onsite to discuss existing infrastructure, hydrology, contamination levels, and waterfowl use to help lay the groundwork for developing an integrated strategy to address remediation and restoration at Gleason's, and 2) USFWS secured the conservation easement with INLC.

- **Ongoing: Lake Creek Watershed Restoration (CDA Tribe sponsor)**

-Funds Originally Allocated in FY21: \$615,951

-Amount Expended in FY22: \$63,542

-FY22 Activities: 1) Large woody debris placement, 2) Upper Lake Creek upland and riparian plantings, 3) Upper Lake Creek stream channel enhancement, 4) West Fork Lake Creek riparian plantings, 5) Forest Road Treatments, 6) East Bozzard Creek culvert replacement, 7) Tribal staff monitored fish passage throughout FY22, and 8) Drafted and submitted a NOAA drought resilience grant, entitled "Wetlands to Combat Drought: Strengthening Drought Preparedness on the Coeur d'Alene Reservation through Wetland Restoration and Monitoring". The proposal identifies restoration project sites in the Lake Creek watershed that will (1) restore capacity of wetlands to mitigate drought, (2) enhance fish refugia, and (3) provide additional habitat for culturally important wetland plant and wildlife species. If the proposal is funded, requested funds would be leveraged with

Restoration Partnership funds and other funding to accomplish restoration projects identified in the upper watershed.

- **Ongoing: Prichard Creek Phase I: Conservation Easement and Restoration Planning (IDEQ sponsor with Idaho Forest Group and Trout Unlimited)**

- Funds Originally Allocated in FY21: \$1,908,450

- Amount Expended in FY22: \$120,293

- FY22 Activities: 1) Continued working on completing the conservation easement with Kaniksu Land Trust, 2) Initiated restoration planning and design, 3) Harvested and staged logs for future construction, and 4) Treated invasive Bohemian knotweed.

- **Ongoing: Red Ives Phase I Dam Removal Complete, started Phase II Planning (USFS sponsor)**

- Funds Originally Allocated in FY19: \$30,000

- Amount Expended in FY22: \$0 (utilized dedicated USFS funds).

- FY22 Activities: 1) Contracted large woody debris provider with wood placement scheduled for FY23, and 2) Initiated Phase II discussions.

Total Funds Expended in FY22: \$819,575

Challenges Ahead

A great deal of work was accomplished across the Upper and Lower Basin in 2022. The cleanup and restoration effort were focused on a mix of items; remediation of human health risks resulting from contaminated residential and commercial properties; extensive work by the CDA Trust in the EFNW Creek and Canyon Creek drainages and the Lower Basin on ecological remedies and related human health issues; and 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, but cleanup work in fish and wildlife habitat areas, and surface and ground water is moving forward with EPA working with the BEIPC, IDEQ, the CDA Trust, and other cooperating agencies and stakeholders. The Restoration Partnership also continued moving forward with implementation of natural resource restoration actions in the Basin.

Besides the RODA for 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 include management of the ICP by PHD; 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; and continued coordination with the CDA Tribe and State's efforts to address CDA Lake management issues

and the Restoration Partnership to implement natural resource restoration actions throughout the Basin.

An important activity completed in 2022 was the National Academies of Sciences, Engineering and Medicine Report concerning CDA Lake and future water quality conditions in the Lake.

The ASARCO bankruptcy settlement continues to be the major source of funding for the environmental remediation actions in the Basin. Careful action through the implementation of the Upper Basin RODA and Lower Basin OU-3 ROD, any additional needed amendments plus diligent work on the part of the Restoration Partnership utilizing their funding source is necessary to ensure that the available funds are expended in a judicious manner. 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 in the RODs and amendments, along with operation and maintenance of the implemented remedies, restoration of injured natural resources, and management of CDA Lake, the tributaries emptying into the Lake and surrounding lands continue to represent a significant challenge into the future.