



Basin Environmental Improvement Project Commission Accomplishment Report 2023

BEIPC Overview

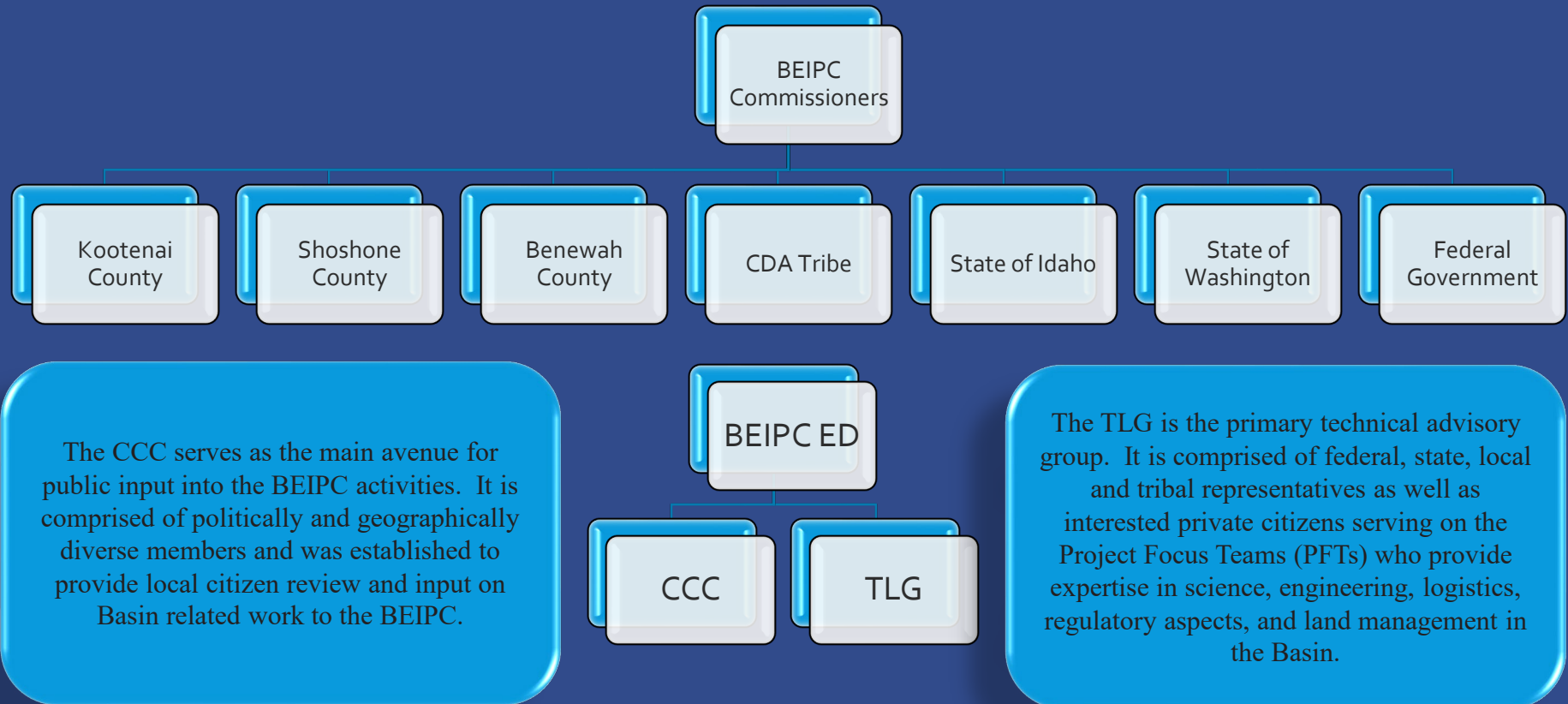
Legislation and the MOA creating the BEIPC authorized appointment of a seven-member board:

Name	Title	Representing
Leslie Duncan (Chair)	Kootenai County Commissioner	Kootenai County
Brook Beeler (Vice Chair)	Regional Director, Washington Dept. of Ecology	State of Washington
Alternate: Karl Rains		
Jess Byrne (Secretary/Treasurer)	Director, Idaho Department of Environmental Quality	State of Idaho
Alternate: Michael McCurdy		
Philip Lampert	Benewah County Commissioner	Benewah County
Dave Dose	Shoshone County Commissioner	Shoshone County
Alternate: Tracy Casady		
Caj Matheson	Tribal Council Member	Coeur d'Alene Tribe
Alternate: Scott Fields		
Casey Sixkiller	Regional Administrator EPA, Region 10	Federal Government
Alternate: Calvin Terada		

The Executive Director of the Basin Commission is Sharon Bosley

BEIPC Program Management

The BEIPC operates 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.



2023 Accomplishment Report

Public Outreach & Citizen Involvement

- BEIPC
- EPA
- IDEQ & PHD

Environmental Cleanup Work

- Lead Health Intervention Program (LHIP)
- Basin Property Remediation Program including Private Drinking Water Supply
- Contaminated Waste Disposal and Management
- Upper Basin Remedies
- Lower Basin Remedies
- State of Washington Projects
- Recreational Sites
- Basin Environmental Monitoring

Other Activities and Responsibilities

- Lake Management Activities
- Restoration Partnership

Public Outreach & Citizen Involvement

BEIPC Community Involvement Activities

- Updated website, shared important information with partners and attended outreach events.
- Participated in regional stakeholder meetings providing updates on Basin work.

EPA Community Involvement Activities

- Produced many documents providing updates on work being done, sampling results, Basin tour, restoration work, tri-annual Basin Bulletin and much more.
- Updated website & Facebook pages for the Basin Cleanup.
- Provided staff at all Basin related meetings.

IDEQ and Panhandle Health District Community Involvement Activities

- Conducted annual blood lead screening and provided updates and trainings throughout the Basin.
- Hosted booths at local events throughout the year.
- Attended local meetings and provided trainings as needed.

Public Outreach & Citizen Involvement



Lead Health Intervention Program

Screening of children for elevated blood lead levels has been occurring annually in the CDA Basin since 1996.

Year	2018	2019	2020*	2021**	2022**	2023
Number of Children	88	84	4	19	40	94
Minimum (µg/dL)	1.4	1.9	1.9	<1	<1.0	1.0
Maximum (µg/dL)	9.0	14	6	7	30	7
Average (µg/dL)	2.4	2.5	3.5	1.9	4.2	2.0
Geometric Mean (µg/dL)	2.0	1.9	3.1	1.5	2.2	1.8

2023

3 additional
blood lead
testing events

Engaged with
350 people

Tested blood
lead level in 160
people in the
Basin

Tested blood
lead level in 164
people in the
Box

Basin Property Remediation Program

3,236 properties in “Box” have been remediated

3,935 properties in “Basin” have been remediated



Basin Activities

Maintained 6 reverse osmosis private water drinking filtration systems

Collected 55 soil samples on 2 residential properties

Collected 3 drinking water samples on one property

Remediated 4 residential and commercial properties

Waste Disposal and Management

Facilities are built to accommodate disposal of contaminated waste and are engineered to reliably contain materials and prevent contaminants to be released in concentrations that exceed state/federal standards



Waste Disposal and Management *Repositories*

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

Lower Burke Canyon

- Received 1,699 truckloads/9,500 CY waste from ICP
- 1,028,025 CY remaining capacity

Big Creek

- Received 480 truckloads/3,300 CY waste
- 83,022 CY capacity remaining

Big Creek Annex

- Received 90 truckloads/765 CY waste
- 168,696 CY remaining capacity

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- Received 4,472 truckloads/18,900 CY waste
- 468,000 CY remaining capacity

East Mission Flats

- Received 2,481 truckloads from ICP & 49 truckloads from BPRP/14,100CY waste
- 148,860 CY remaining capacity



Waste Disposal and Management

Waste Consolidation Areas

Located adjacent to or near specified remedial action source areas

Canyon Complex

- No waste placed in 2023

East Fork Ninemile

- Expanded increasing capacity 640,000CY
- Received 303,000 CY waste
- Generated 350,000 CY rock & 375,000 CY clean soil for remedial actions
- **Saved \$8.5 million in transportation costs locating near source areas!**



Lower Basin WCA

EPA is giving full consideration to the analyses performed by the PFT before deciding on the site for the Lower Basin WCA

Upper Basin Remedies

East Fork Ninemile

- **Dayrock**

- 147,500 CY contaminated waste removed
- 2,728 feet of stream channel were re-constructed

- **Tamarack**

- 155,500 CY contaminated waste removed
- 290 feet of tributary channel was re-constructed

Canyon Creek

- 1.7 acres of mine waste were regraded and capped at Star Complex
- 16 Dewatering wells installed
- Characterized Frisco Black Bear, Gem Complex, Standard-Mammoth, and Lower Canyon Creek riparian area.
- Continued surface and ground water monitoring.
- Completed Flynn Mine and Black Bear Fraction design



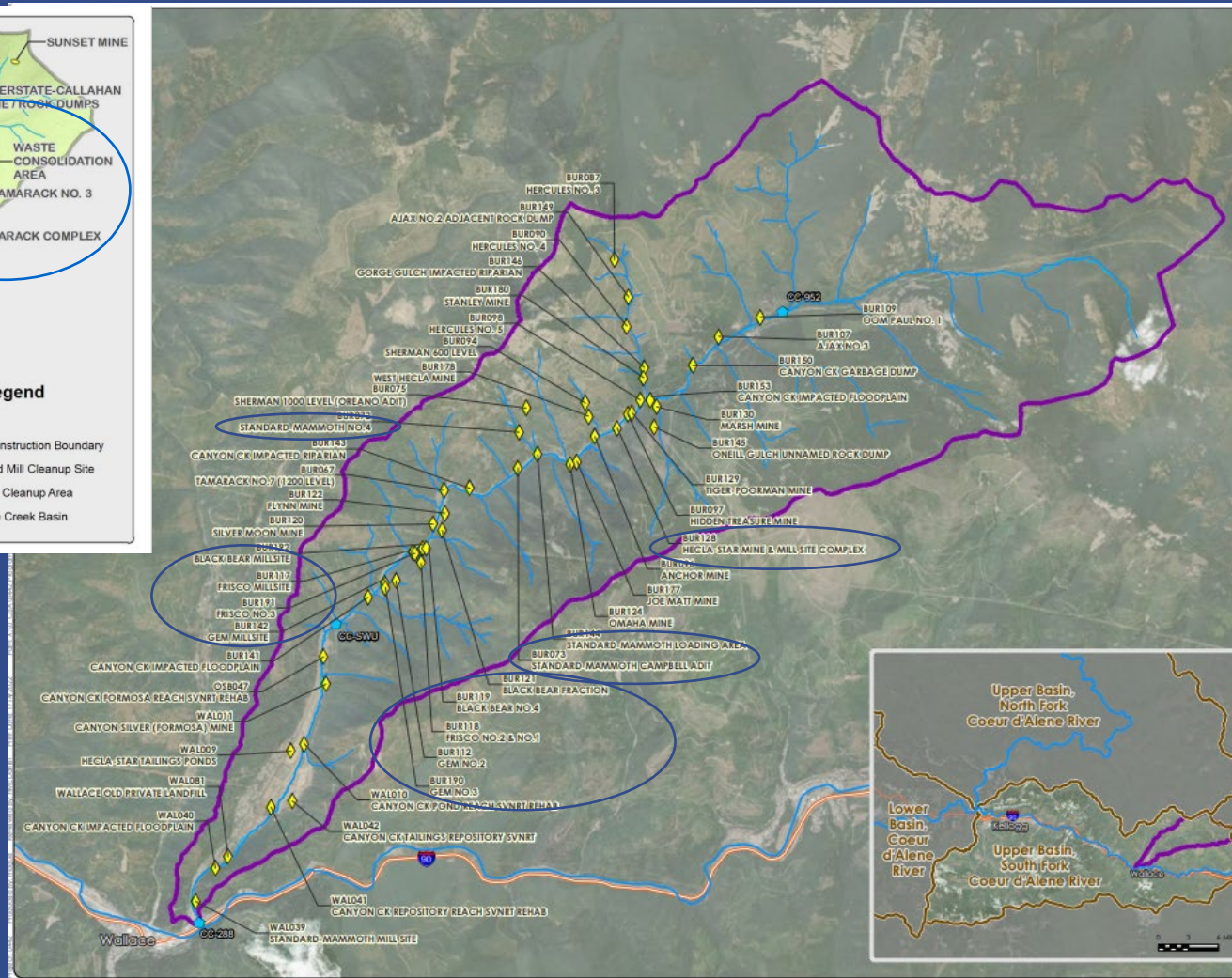
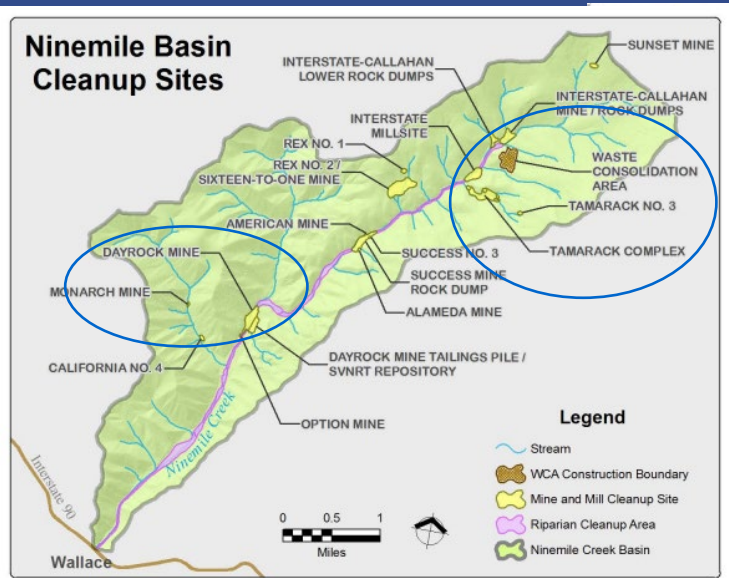
March 6th 2024



Annual Accomplishment Report 2023

Upper Basin Remedies

Ninemile Basin Cleanup Sites



Lower Basin Remedies



Gray's Meadow Remedial Action and Restoration

Cultural resource monitoring activities for both the Cave Lake and Lamb Peak Wetlands.

Localized dewatering of Cave Lake and Lamb Peak Wetlands.

Construction of two water control structures in Cave Lake Wetland.

Excavation and placement of contaminated soils.

Construction of restoration habitat features, including loafing islands and pond features.

Lower Basin Remedies



Lead Bioaccessibility

EPA is testing the application of jarosite-based remediation on contaminated soils. Remediation is accomplished by converting lead and arsenic into jarosite-group minerals that are stable at acidic conditions which could provide protection by reducing the absorption in the body via stomach acid.

Non-invasive field study on waterfowl to accurately track lead exposure

Lower Basin Remedies



River channel management

30% design completed
for the Dudley Reach
Scour Hole Pilot Project

River channel data
collection

- Sampling for suspended sediment in 78 locations
- Riverbank erosion pins monitoring & installation
- Soil sampling for metals

State of Washington Projects



Results will be available later in 2024

In 2023, Ecology completed a comprehensive sampling event for Spokane River beach sites. They sampled:

- Beach material
- Suspended sediment
- Surface water at 3 locations during different flows
- XRF'd beach material

Recreational Sites

Box Activities

- Outreach efforts continued
- Enhanced trail barrier installed on volunteer trail system near Shoshone county airport

Basin Activities

- Cleaned up informal recreation site at beach by Black Rock trailhead
- Riparian plantings installed on Tribally owned property near Cataldo bridge to discourage access.



Basin Environmental Monitoring

BEMP programmatic Plan

- Goal: Data collection plans to support site-wide management decisions

Site-specific Remedial Action effectiveness and performance monitoring

- Canyon Creek RA Effectiveness Monitoring Plan 2023
- Lower Basin RA Effectiveness Monitoring Plan 2024

Area-wide monitoring

- Surface water for years 1-5
- Suspended sediments for years 1-5
- Fish/benthic macroinvertebrates years 4-5

Basin-wide long-term monitoring



Basin Environmental Monitoring

Surface Water

20 sites sampled

- 4 sites in OU-2 sampled twice
- 16 sites in OU-3 were sampled from 4-12 times

Samples analyzed for:

- Nutrients
- Trace metals and ions
- Suspended sediments
- 20 samples analyzed mercury
- 16 samples analyzed to calculate Idaho copper criteria

Groundwater

Monitoring groundwater collection system at the CIA

- 72 sites sampled in May-high flow
 - 59 monitoring wells, 4 piezometers & 9 extraction wells
- 71 sites sampled in October-base flow
 - 59 monitoring wells, 3 piezometers & 9 extraction wells
- Water level monitoring with 60 in situ transducers

Samples analyzed for:

- Metals
- Phosphorus
- Other parameters

Suspended sediment

Characterize sediment being transported in the river system

Sampling done during high flow events(8,000 cfs) by boat

Biological Resources

USFWS conducted annual waterfowl survey in Lower Basin from early February to late April

Monitored wood ducks and tundra swans

Provides tools for monitoring ecological health and remedial action effectiveness

CIA Seepage Study

- 9 sites sampled pre/post CIA upgrade

86% reduced
zinc

81% reduced
dissolved
cadmium

88% reduced
phosphorus



IDEQ Lake Management Activities

Science Core Program

CDA Lake core monitoring
Aquatic plant survey
Draft conceptual lake model report. Final report in 2024
Science Coordination Team to address NAS recommendations
Pilot bay monitoring

Education & Outreach

Provided LMP updates to community
Participated in TCP, Our Gem Collaborative & Local Gem program with CDA Chamber
Provided Leading Idaho updates
Coordinated with U of I Bay Watchers
Participated in SEEP

Nutrient Inventory/Reduction

Analyzed water quality for 11 tributaries/10 smaller drainages (NAS recommendation)
In coordination with EPA, sampled phosphorus during high flow events on the CDA river
Implemented projects throughout the basin to reduce phosphorus load to CDA Lake through Leading Idaho initiative

Partnerships

Science Coordination Team: Alta Science, IDEQ, CDA Tribe, USGS, EPA & U of I
Lower Basin project prioritization with Avista Corp
CDA Chamber NRC, Our Gem, SEEP, 4-C, others
BAG & WAG meetings
Facilitated CLACs review and project selection for Leading Idaho
Worked with BEIPC

Coeur d'Alene Tribe Lake Activities

Science Core Program

CDA Lake monitoring & modeling.

Milfoil control with bottom barrier and mechanical harvester treatments.

Education & Outreach

Provided Lake updates to community

Participated in TCP, Our Gem Collaborative & Local Gem program with CDA Chamber
Coordinated with U of I Bay Watchers

Lake and River Water Quality Sampling

Continued to sample CDA river at Harrison, St Joe River, Chatcolet Lake, and CDA Lake
Analyzed WQ data and continued calibration of AEM₃D model for Lake

Partnerships

CDA Chamber NRC, Our Gem, 4-C, others
BAG & WAG meetings
Worked with BEIPC





Restoration Partnership

USDA, USFS, USFWS, BLM, CDA Tribe, IDFG and IDEQ

Total Funds Expended in FY23: \$1,342,633

Conservation easements along the CDA River (USFWS)

Native willow plant nursery management (Tribe)

Wetlands enhancement at Hepton Lake (Tribe)

Replacement of culturally significant plants in Hangman Creek watershed (Tribe)

CDA Lake monitoring and modeling (Tribe)

Gray's Meadow wetlands restoration (IDFG)

Gene Day Pond Public Access Improvements (IDFG)

O & M of Schlepp wetland (IDFG)

North Fork CDA River Conservation Easement (IDFG)

Cougar Bay Preserve Wetland Enhancement and Stream Restoration (BLM/USFWS)

Lake Creek Watershed Restoration (Tribe)

Prichard Creek Conservation Easement and Restoration (Trout Unlimited/Idaho Forest Group/IDEQ)

Red Ives Creek Restoration (USFS)

2023 Project Solicitation

10 projects selected

Fish passage and ecosystem function in Miesen Creek – IDFG

Benewah Creek Stream/Wetland Restoration- Tribe

Lake Creek conservation Easement - Tribe

Big Creek Fish Passage – Tribe

Upper St. Joe River Bull Trout Habitat Restoration – USFS

Little North Fork Coeur d'Alene River Watershed Enhancement- USFS

Fish Passage at Stream Crossings in the CDA Basin- IDFG

CDA Lake Monitoring and Modeling – Tribe

Paleolimnology study of Coeur d'Alene Lake - Tribe



March 6th 2024

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